

Presenting

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International Business Services Ltd.

PO Box 2462, Garibaldi Highlands, BC V0N 1T0, Canada

Phone +1 604 898-9500

Toll Free 1-877-439-7423

FAX +1 604 909-5205

info@iconridge.com

www.iconridge.com

DIN and Standard Parts

	Screws and Bolts		Sealing Rings
	Sheet and Drilling Screws		Other Fixing Elements
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	Other Screws		Hose Clamps
	Threaded Rods, Pins and Nipples		DIN and Standard Parts Stainless Steel A2, A4
	Nuts		
	DIN Packages		
	Washers, Rings		

Hexagon Head Bolt DIN 931 8.8, Plain Steel

- In compliance with ISO 4014
- With shank
- Strength class 8.8
- Plain Steel



Item no.	Dimension	QTY
1000 4 30	M 4 x 30	500
1000 4 35	M 4 x 35	500
1000 4 40	M 4 x 40	500
1000 4 45	M 4 x 45	500
1000 4 50	M 4 x 50	500
1000 5 30	M 5 x 30	500
1000 5 35	M 5 x 35	200
1000 5 40	M 5 x 40	200
1000 5 45	M 5 x 45	200
1000 5 50	M 5 x 50	200
1000 5 55	M 5 x 55	200
1000 5 60	M 5 x 60	200
1000 5 70	M 5 x 70	200
1000 5 80	M 5 x 80	200
1000 6 30	M 6 x 30	200
1000 6 35	M 6 x 35	200
1000 6 40	M 6 x 40	200
1000 6 45	M 6 x 45	200
1000 6 50	M 6 x 50	200
1000 6 55	M 6 x 55	200
1000 6 60	M 6 x 60	200
1000 6 65	M 6 x 65	200
1000 6 70	M 6 x 70	200
1000 6 75	M 6 x 75	200
1000 6 80	M 6 x 80	200
1000 6 85	M 6 x 85	100
1000 6 90	M 6 x 90	100
1000 6 100	M 6 x 100	100
1000 6 110	M 6 x 110	100
1000 6 120	M 6 x 120	100
1000 6 130	M 6 x 130	100
1000 6 140	M 6 x 140	100
1000 6 145	M 6 x 145	100
1000 6 150	M 6 x 150	100
1000 6 160	M 6 x 160	100
1000 6 180	M 6 x 180	100
1000 6 200	M 6 x 200	100
1000 8 35	M 8 x 35	200
1000 8 40	M 8 x 40	200
1000 8 45	M 8 x 45	200
1000 8 50	M 8 x 50	200
1000 8 55	M 8 x 55	200
1000 8 60	M 8 x 60	200
1000 8 65	M 8 x 65	200
1000 8 70	M 8 x 70	200
1000 8 75	M 8 x 75	200
1000 8 80	M 8 x 80	100
1000 8 85	M 8 x 85	100
1000 8 90	M 8 x 90	100
1000 8 95	M 8 x 95	100
1000 8 100	M 8 x 100	100
1000 8 110	M 8 x 110	100
1000 8 120	M 8 x 120	100
1000 8 130	M 8 x 130	100
1000 8 140	M 8 x 140	50
1000 8 150	M 8 x 150	50
1000 8 160	M 8 x 160	50
1000 8 180	M 8 x 180	50
1000 8 200	M 8 x 200	50
1000 8 240	M 8 x 240	50
1000 10 40	M 10 x 40	100
1000 10 45	M 10 x 45	100
1000 10 50	M 10 x 50	100
1000 10 55	M 10 x 55	100
1000 10 60	M 10 x 60	100
1000 10 65	M 10 x 65	100
1000 10 70	M 10 x 70	100
1000 10 75	M 10 x 75	100
1000 10 80	M 10 x 80	100

(d thread dia. x Length mm)

Item no.	Dimension	QTY
1000 10 85	M 10 x 85	100
1000 10 90	M 10 x 90	100
1000 10 95	M 10 x 95	100
1000 10 100	M 10 x 100	50
1000 10 110	M 10 x 110	50
1000 10 120	M 10 x 120	50
1000 10 130	M 10 x 130	50
1000 10 140	M 10 x 140	50
1000 10 150	M 10 x 150	50
1000 10 160	M 10 x 160	50
1000 10 170	M 10 x 170	50
1000 10 180	M 10 x 180	50
1000 10 200	M 10 x 200	50
1000 10 240	M 10 x 240	50
1000 12 45	M 12 x 45	50
1000 12 50	M 12 x 50	100
1000 12 55	M 12 x 55	50
1000 12 60	M 12 x 60	50
1000 12 65	M 12 x 65	50
1000 12 70	M 12 x 70	50
1000 12 75	M 12 x 75	50
1000 12 80	M 12 x 80	50
1000 12 85	M 12 x 85	50
1000 12 90	M 12 x 90	50
1000 12 95	M 12 x 95	50
1000 12 100	M 12 x 100	50
1000 12 110	M 12 x 110	50
1000 12 120	M 12 x 120	50
1000 12 130	M 12 x 130	50
1000 12 140	M 12 x 140	50
1000 12 150	M 12 x 150	25
1000 12 160	M 12 x 160	25
1000 12 180	M 12 x 180	25
1000 14 50	M 14 x 50	50
1000 14 55	M 14 x 55	50
1000 14 60	M 14 x 60	50
1000 14 65	M 14 x 65	50
1000 14 70	M 14 x 70	50
1000 14 75	M 14 x 75	50
1000 14 80	M 14 x 80	50
1000 14 90	M 14 x 90	50
1000 14 100	M 14 x 100	50
1000 14 110	M 14 x 110	25
1000 14 120	M 14 x 120	25
1000 14 130	M 14 x 130	25
1000 14 140	M 14 x 140	25
1000 14 150	M 14 x 150	25
1000 14 160	M 14 x 160	25
1000 14 180	M 14 x 180	25
1000 16 55	M 16 x 55	50
1000 16 60	M 16 x 60	25
1000 16 65	M 16 x 65	25
1000 16 70	M 16 x 70	25
1000 16 75	M 16 x 75	25
1000 16 80	M 16 x 80	25
1000 16 85	M 16 x 85	25
1000 16 90	M 16 x 90	25
1000 16 100	M 16 x 100	25
1000 16 110	M 16 x 110	25
1000 16 120	M 16 x 120	25
1000 16 130	M 16 x 130	25
1000 16 140	M 16 x 140	25
1000 16 150	M 16 x 150	10
1000 16 160	M 16 x 160	10
1000 16 170	M 16 x 170	10
1000 16 180	M 16 x 180	10
1000 16 200	M 16 x 200	10
1000 16 220	M 16 x 220	10
1000 16 240	M 16 x 240	10

Specifications



Thread	Head size	k	b	b	b
Dia.	mm	mm	L < 125	L 125 - 200	L > 200
M 4	7	2.8	14	-	-
M 5	8	3.5	16	22	-
M 6	10	4	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 24	36	15	54	60	73
M 30	46	18.7	66	72	85

Item no.	Dimension	QTY
1000 16 260	M 16 x 260	10
1000 16 280	M 16 x 280	10
1000 16 290	M 16 x 290	10
1000 16 300	M 16 x 300	10
1000 16 320	M 16 x 320	10
1000 18 60	M 18 x 60	25
1000 18 65	M 18 x 65	25
1000 18 70	M 18 x 70	25
1000 18 75	M 18 x 75	25
1000 18 80	M 18 x 80	25
1000 18 90	M 18 x 90	25
1000 18 100	M 18 x 100	25
1000 18 110	M 18 x 110	25
1000 18 120	M 18 x 120	25
1000 18 130	M 18 x 130	25
1000 18 140	M 18 x 140	25
1000 18 150	M 18 x 150	25
1000 18 160	M 18 x 160	25
1000 18 170	M 18 x 170	25
1000 18 180	M 18 x 180	25
1000 20 65	M 20 x 65	25
1000 20 70	M 20 x 70	25
1000 20 75	M 20 x 75	25
1000 20 80	M 20 x 80	10
1000 20 90	M 20 x 90	10
1000 20 100	M 20 x 100	10
1000 20 110	M 20 x 110	10
1000 20 120	M 20 x 120	10
1000 20 130	M 20 x 130	10
1000 20 140	M 20 x 140	10
1000 20 150	M 20 x 150	10
1000 20 160	M 20 x 160	10
1000 20 170	M 20 x 170	10
1000 20 180	M 20 x 180	10
1000 20 190	M 20 x 190	10
1000 20 200	M 20 x 200	10
1000 20 220	M 20 x 220	10
1000 20 240	M 20 x 240	10
1000 20 260	M 20 x 260	10
1000 20 280	M 20 x 280	10
1000 20 300	M 20 x 300	10
1000 20 320	M 20 x 320	10
1000 20 340	M 20 x 340	10
1000 20 360	M 20 x 360	10
1000 20 380	M 20 x 380	10

Continued on next page

Hexagon Head Bolt DIN 931 8.8, Plain Steel

- In compliance with ISO 4014
- With shank
- Strength class 8.8
- Plain Steel

Item no.	Dimension	QTY
1000 24 75	M 24 x 75	10
1000 24 80	M 24 x 80	10
1000 24 90	M 24 x 90	10
1000 24 100	M 24 x 100	10
1000 24 110	M 24 x 110	10
1000 24 120	M 24 x 120	10
1000 24 130	M 24 x 130	10
1000 24 140	M 24 x 140	10
1000 24 150	M 24 x 150	10
1000 24 160	M 24 x 160	10
1000 24 180	M 24 x 180	10
1000 24 200	M 24 x 200	10
1000 24 220	M 24 x 220	10
1000 24 240	M 24 x 240	10
1000 24 260	M 24 x 260	10
1000 24 280	M 24 x 280	10
1000 24 300	M 24 x 300	10
1000 24 360	M 24 x 360	10
1000 24 400	M 24 x 400	10
1000 24 420	M 24 x 420	5
1000 24 440	M 24 x 440	5
1000 24 460	M 24 x 460	5
1000 24 480	M 24 x 480	5
1000 30 80	M 30 x 80	10
1000 30 90	M 30 x 90	10
1000 30 100	M 30 x 100	10
1000 30 110	M 30 x 110	10
1000 30 120	M 30 x 120	10

(d thread dia. x Length mm)

Item no.	Dimension	QTY
1000 30 130	M 30 x 130	10
1000 30 140	M 30 x 140	10
1000 30 150	M 30 x 150	10
1000 30 160	M 30 x 160	10
1000 30 170	M 30 x 170	10
1000 30 180	M 30 x 180	10
1000 30 200	M 30 x 200	10
1000 30 220	M 30 x 220	5
1000 30 240	M 30 x 240	5
1000 30 260	M 30 x 260	5
1000 30 280	M 30 x 280	5
1000 30 300	M 30 x 300	5
1000 30 360	M 30 x 360	5
1000 36 100	M 36 x 100	10
1000 36 110	M 36 x 110	10
1000 36 120	M 36 x 120	10
1000 36 130	M 36 x 130	10
1000 36 140	M 36 x 140	5
1000 36 150	M 36 x 150	5
1000 36 160	M 36 x 160	5
1000 36 180	M 36 x 180	5
1000 36 200	M 36 x 200	5
1000 36 220	M 36 x 220	5
1000 36 240	M 36 x 240	5
1000 36 260	M 36 x 260	5
1000 36 280	M 36 x 280	5
1000 36 300	M 36 x 300	5
1000 36 320	M 36 x 320	5



Specifications

Thread	Head Dia.	Head size	k	b	b	
					L < 125	L 125 - 200
mm	mm	mm	mm	mm	mm	mm
M 4	7	2.8	14	-	-	-
M 5	8	3.5	16	22	-	-
M 6	10	4	18	24	-	-
M 8	13	5.3	22	28	41	-
M 10	17	6.4	26	32	45	-
M 12	18	7.5	30	36	49	-
M 14	22	8.8	34	40	53	-
M 16	24	10	38	44	57	-
M 18	27	11.5	42	48	61	-
M 20	30	12.5	46	52	65	-
M 24	36	15	54	60	73	-
M 30	46	18.7	66	72	85	-

Hex Head Bolt DIN 931 8.8, Zinc

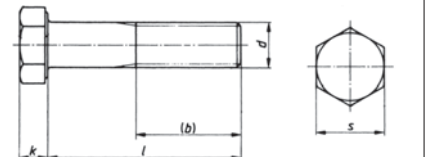
- In compliance with ISO 4014
- With shank
- Strength class 8.8
- Plain Steel

Item no.	Dimension	QTY
1001 4 30	M 4 x 30	500
1001 4 40	M 4 x 40	500
1001 4 50	M 4 x 50	500
1001 4 55	M 4 x 55	HW
1001 4 60	M 4 x 60	500
1001 4 70	M 4 x 70	100
1001 4 80	M 4 x 80	100
1001 5 30	M 5 x 30	500
1001 5 35	M 5 x 35	500
1001 5 40	M 5 x 40	200
1001 5 45	M 5 x 45	200
1001 5 50	M 5 x 50	200
1001 5 55	M 5 x 55	200
1001 5 60	M 5 x 60	200
1001 5 65	M 5 x 65	200
1001 5 70	M 5 x 70	200
1001 5 80	M 5 x 80	200
1001 5 90	M 5 x 90	200
1001 5 100	M 5 x 100	200
1001 6 30	M 6 x 30	200
1001 6 35	M 6 x 35	200
1001 6 40	M 6 x 40	200
1001 6 45	M 6 x 45	200
1001 6 50	M 6 x 50	200
1001 6 55	M 6 x 55	200
1001 6 60	M 6 x 60	200
1001 6 65	M 6 x 65	200
1001 6 70	M 6 x 70	200
1001 6 75	M 6 x 75	200
1001 6 80	M 6 x 80	200
1001 6 85	M 6 x 85	200
1001 6 90	M 6 x 90	100
1001 6 100	M 6 x 100	100
1001 6 110	M 6 x 110	100
1001 6 120	M 6 x 120	100
1001 6 130	M 6 x 130	100
1001 6 140	M 6 x 140	100
1001 6 150	M 6 x 150	100
1001 6 160	M 6 x 160	100
1001 6 180	M 6 x 180	100
1001 6 200	M 6 x 200	100
1001 8 35	M 8 x 35	100
1001 8 40	M 8 x 40	200
1001 8 45	M 8 x 45	200
1001 8 50	M 8 x 50	200
1001 8 55	M 8 x 55	200
1001 8 60	M 8 x 60	200
1001 8 65	M 8 x 65	200
1001 8 70	M 8 x 70	200
1001 8 75	M 8 x 75	100
1001 8 80	M 8 x 80	100
1001 8 85	M 8 x 85	100
1001 8 90	M 8 x 90	100
1001 8 95	M 8 x 95	100
1001 8 100	M 8 x 100	100
1001 8 110	M 8 x 110	100
1001 8 120	M 8 x 120	100
1001 8 130	M 8 x 130	100
1001 8 140	M 8 x 140	100
1001 8 150	M 8 x 150	50
1001 8 160	M 8 x 160	50
1001 8 170	M 8 x 170	50
1001 8 180	M 8 x 180	50
1001 8 200	M 8 x 200	50
1001 10 40	M 10 x 40	50
1001 10 45	M 10 x 45	100
1001 10 50	M 10 x 50	100
1001 10 55	M 10 x 55	100
1001 10 60	M 10 x 60	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1001 10 65	M 10 x 65	100
1001 10 70	M 10 x 70	100
1001 10 75	M 10 x 75	100
1001 10 80	M 10 x 80	50
1001 10 85	M 10 x 85	100
1001 10 90	M 10 x 90	100
1001 10 95	M 10 x 95	50
1001 10 100	M 10 x 100	50
1001 10 110	M 10 x 110	50
1001 10 120	M 10 x 120	50
1001 10 130	M 10 x 130	50
1001 10 140	M 10 x 140	50
1001 10 150	M 10 x 150	50
1001 10 160	M 10 x 160	50
1001 10 170	M 10 x 170	50
1001 10 180	M 10 x 180	50
1001 10 190	M 10 x 190	50
1001 10 200	M 10 x 200	10
1001 10 220	M 10 x 220	25
1001 10 240	M 10 x 240	25
1001 12 45	M 12 x 45	25
1001 12 50	M 12 x 50	100
1001 12 55	M 12 x 55	100
1001 12 60	M 12 x 60	50
1001 12 65	M 12 x 65	50
1001 12 70	M 12 x 70	50
1001 12 75	M 12 x 75	50
1001 12 80	M 12 x 80	50
1001 12 85	M 12 x 85	50
1001 12 90	M 12 x 90	50
1001 12 95	M 12 x 95	50
1001 12 100	M 12 x 100	50
1001 12 110	M 12 x 110	50
1001 12 120	M 12 x 120	50
1001 12 130	M 12 x 130	g 50
1001 12 140	M 12 x 140	25
1001 12 150	M 12 x 150	25
1001 12 160	M 12 x 160	25
1001 12 170	M 12 x 170	25
1001 12 180	M 12 x 180	25
1001 12 200	M 12 x 200	25
1001 12 220	M 12 x 220	25
1001 12 240	M 12 x 240	25
1001 14 50	M 14 x 50	25
1001 14 55	M 14 x 55	50
1001 14 60	M 14 x 60	50
1001 14 65	M 14 x 65	50
1001 14 70	M 14 x 70	50
1001 14 75	M 14 x 75	50
1001 14 80	M 14 x 80	50
1001 14 90	M 14 x 90	50
1001 14 100	M 14 x 100	25
1001 14 110	M 14 x 110	25
1001 14 120	M 14 x 120	25
1001 14 130	M 14 x 130	25
1001 14 140	M 14 x 140	25
1001 14 150	M 14 x 150	25
1001 14 160	M 14 x 160	25
1001 14 170	M 14 x 170	25
1001 14 180	M 14 x 180	25
1001 14 200	M 14 x 200	25
1001 14 220	M 14 x 220	5
1001 14 240	M 14 x 240	5
1001 16 50	M 16 x 50	5
1001 16 55	M 16 x 55	50
1001 16 60	M 16 x 60	50
1001 16 65	M 16 x 65	25
1001 16 70	M 16 x 70	25
1001 16 75	M 16 x 75	25

Specifications



Thread	Head	k	b	b	b
Dia. size	size		L < 125	L 125 - 200	L > 200
mm	mm	mm	mm	mm	mm
M 4	7	2.8	14	-	-
M 5	8	3.5	16	22	-
M 6	10	4.0	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10.0	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 24	36	15.0	54	60	73
M 30	46	18.7	66	72	85

Item no.	Dimension	QTY
1001 16 80	M 16 x 80	25
1001 16 85	M 16 x 85	25
1001 16 90	M 16 x 90	25
1001 16 100	M 16 x 100	25
1001 16 110	M 16 x 110	25
1001 16 120	M 16 x 120	25
1001 16 130	M 16 x 130	25
1001 16 140	M 16 x 140	25
1001 16 150	M 16 x 150	25
1001 16 160	M 16 x 160	10
1001 16 170	M 16 x 170	10
1001 16 180	M 16 x 180	25
1001 16 200	M 16 x 200	5
1001 16 220	M 16 x 220	5
1001 16 240	M 16 x 240	5
1001 16 260	M 16 x 260	5
1001 16 280	M 16 x 280	5
1001 16 300	M 16 x 300	5
1001 16 320	M 16 x 320	5
1001 18 60	M 18 x 60	10
1001 18 65	M 18 x 65	25
1001 18 70	M 18 x 70	25
1001 18 75	M 18 x 75	25
1001 18 80	M 18 x 80	25
1001 18 90	M 18 x 90	25
1001 18 100	M 18 x 100	25
1001 18 110	M 18 x 110	25
1001 18 120	M 18 x 120	5
1001 18 130	M 18 x 130	5
1001 18 140	M 18 x 140	5
1001 18 150	M 18 x 150	5
1001 18 160	M 18 x 160	5
1001 18 170	M 18 x 170	5
1001 18 180	M 18 x 180	5
1001 18 200	M 18 x 200	5
1001 20 65	M 20 x 65	5
1001 20 70	M 20 x 70	25
1001 20 75	M 20 x 75	25
1001 20 80	M 20 x 80	25
1001 20 85	M 20 x 85	25
1001 20 90	M 20 x 90	25
1001 20 100	M 20 x 100	25
1001 20 110	M 20 x 110	25
1001 20 120	M 20 x 120	5
1001 20 130	M 20 x 130	5

Continued on next page

Hex Head Bolt DIN 931 8.8, Zinc

- In compliance with ISO 4014
- With shank
- Strength class 8.8
- Plain Steel

Item no.	Dimension	QTY
1001 20 140	M 20 x 140	5
1001 20 150	M 20 x 150	10
1001 20 160	M 20 x 160	10
1001 20 170	M 20 x 170	10
1001 20 180	M 20 x 180	5
1001 20 190	M 20 x 190	10
1001 20 200	M 20 x 200	10
1001 20 210	M 20 x 210	10
1001 20 220	M 20 x 220	5
1001 20 230	M 20 x 230	5
1001 20 240	M 20 x 240	10
1001 20 260	M 20 x 260	5
1001 20 280	M 20 x 280	5
1001 20 300	M 20 x 300	5
1001 20 320	M 20 x 320	5
1001 20 360	M 20 x 360	5
1001 20 380	M 20 x 380	5
1001 24 75	M 24 x 75	5
1001 24 80	M 24 x 80	10
1001 24 85	M 24 x 85	10
1001 24 90	M 24 x 90	10
1001 24 100	M 24 x 100	10
1001 24 110	M 24 x 110	10
1001 24 120	M 24 x 120	10
1001 24 130	M 24 x 130	10

(d thread dia. x length mm)

Item no.	Dimension	QTY
1001 24 140	M 24 x 140	10
1001 24 150	M 24 x 150	10
1001 24 160	M 24 x 160	5
1001 24 180	M 24 x 180	5
1001 24 200	M 24 x 200	5
1001 24 220	M 24 x 220	5
1001 24 240	M 24 x 240	5
1001 24 260	M 24 x 260	5
1001 24 280	M 24 x 280	5
1001 24 300	M 24 x 300	5
1001 24 320	M 24 x 320	5
1001 24 400	M 24 x 400	5
1001 24 420	M 24 x 420	5
1001 24 440	M 24 x 440	5
1001 24 460	M 24 x 460	5
1001 24 480	M 24 x 480	5
1001 30 90	M 30 x 90	5
1001 30 100	M 30 x 100	5
1001 30 110	M 30 x 110	5
1001 30 120	M 30 x 120	5
1001 30 130	M 30 x 130	5
1001 30 140	M 30 x 140	5
1001 30 150	M 30 x 150	5
1001 30 160	M 30 x 160	5
1001 30 190	M 30 x 190	5
1001 30 200	M 30 x 200	5



Specifications

Thread	Head	k	b	b	b
Dia. size	size	L < 125	L 125 - 200	L > 200	
mm	mm	mm	mm	mm	mm
M 4	7	2.8	14	-	-
M 5	8	3.5	16	22	-
M 6	10	4.0	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10.0	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 24	36	15.0	54	60	73
M 30	46	18.7	66	72	85

Hex Head Bolt DIN 931 10.9, Plain Steel

- In compliance with ISO 4014
- With shank
- Strength class 10.9
- Plain Steel

Item no.	Dimension	QTY
1003 8 35	M 8 x 35	200
1003 8 40	M 8 x 40	200
1003 8 45	M 8 x 45	200
1003 8 50	M 8 x 50	200
1003 8 55	M 8 x 55	200
1003 8 60	M 8 x 60	200
1003 8 65	M 8 x 65	100
1003 8 70	M 8 x 70	100
1003 8 75	M 8 x 75	100
1003 8 80	M 8 x 80	100
1003 8 90	M 8 x 90	100
1003 8 100	M 8 x 100	100
1003 8 110	M 8 x 110	100
1003 8 120	M 8 x 120	100
1003 8 130	M 8 x 130	100
1003 8 140	M 8 x 140	100
1003 8 150	M 8 x 150	100
1003 10 40	M 10 x 40	100
1003 10 45	M 10 x 45	100
1003 10 50	M 10 x 50	100
1003 10 55	M 10 x 55	100
1003 10 60	M 10 x 60	100
1003 10 65	M 10 x 65	100
1003 10 70	M 10 x 70	100
1003 10 75	M 10 x 75	100
1003 10 80	M 10 x 80	100
1003 10 90	M 10 x 90	50
1003 10 100	M 10 x 100	50
1003 10 110	M 10 x 110	50
1003 10 120	M 10 x 120	50
1003 10 130	M 10 x 130	50
1003 10 140	M 10 x 140	50
1003 10 150	M 10 x 150	50
1003 12 40	M 12 x 40	100

(d thread dia. x Length mm)

Item no.	Dimension	QTY
1003 12 45	M 12 x 45	100
1003 12 50	M 12 x 50	100
1003 12 55	M 12 x 55	50
1003 12 60	M 12 x 60	50
1003 12 65	M 12 x 65	50
1003 12 70	M 12 x 70	50
1003 12 75	M 12 x 75	50
1003 12 80	M 12 x 80	50
1003 12 85	M 12 x 85	50
1003 12 90	M 12 x 90	50
1003 12 100	M 12 x 100	50
1003 12 110	M 12 x 110	50
1003 12 120	M 12 x 120	50
1003 12 130	M 12 x 130	25
1003 12 140	M 12 x 140	25
1003 12 150	M 12 x 150	25
1003 12 210	M 12 x 210	25
1003 14 50	M 14 x 50	50
1003 14 60	M 14 x 60	50
1003 14 70	M 14 x 70	50
1003 14 80	M 14 x 80	50
1003 14 100	M 14 x 100	25
1003 14 140	M 14 x 140	25
1003 16 55	M 16 x 55	50
1003 16 60	M 16 x 60	50
1003 16 65	M 16 x 65	25
1003 16 70	M 16 x 70	25
1003 16 75	M 16 x 75	25
1003 16 80	M 16 x 80	25
1003 16 85	M 16 x 85	25
1003 16 90	M 16 x 90	25
1003 16 100	M 16 x 100	25
1003 16 110	M 16 x 110	25
1003 16 120	M 16 x 120	25



Specifications

Thread	Head	k	b	b	b
Dia. size	size	L < 125	L 125 - 200	L > 200	
mm	mm	mm	mm	mm	mm
M 6	10	4.0	18	24	-
M 8	13	5.3	22	28	-
M 10	17	6.4	26	32	-
M 12	18	7.5	30	36	-
M 14	22	8.8	34	40	-
M 16	24	10.0	38	44	-
M 20	30	12.5	46	52	-
M 24	36	15.0	54	60	73
M 27	46	18.7	66	72	79

Item no.	Dimension	QTY
1003 16 130	M 16 x 130	25
1003 16 140	M 16 x 140	5
1003 16 150	M 16 x 150	5
1003 20 65	M 20 x 65	25
1003 20 70	M 20 x 70	25
1003 20 75	M 20 x 75	25
1003 20 80	M 20 x 80	5
1003 20 85	M 20 x 85	5
1003 20 90	M 20 x 90	5
1003 20 100	M 20 x 100	5
1003 20 110	M 20 x 110	5
1003 20 120	M 20 x 120	5
1003 20 130	M 20 x 130	5
1003 20 140	M 20 x 140	5
1003 20 150	M 20 x 150	5
1003 20 190	M 20 x 190	5
1003 24 140	M 24 x 140	10
1003 24 220	M 24 x 220	5
1003 27 110	M 27 x 110	5
1003 27 280	M 27 x 280	5

Hex Head Bolts DIN 933 8.8, Plain Steel

- In compliance with ISO 4017
- With thread up to head
- Strength class 8.8
- Plain Steel

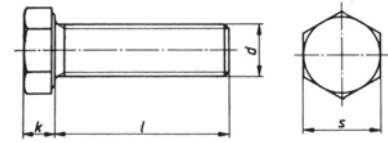


Item no.	Dimension	QTY
1010 4 6	M 4 x 6	500
1010 4 10	M 4 x 10	500
1010 4 12	M 4 x 12	500
1010 4 16	M 4 x 16	500
1010 4 20	M 4 x 20	500
1010 4 25	M 4 x 25	500
1010 4 30	M 4 x 30	500
1010 4 35	M 4 x 35	500
1010 4 45	M 4 x 45	500
1010 4 50	M 4 x 50	500
1010 5 8	M 5 x 8	500
1010 5 10	M 5 x 10	500
1010 5 12	M 5 x 12	500
1010 5 16	M 5 x 16	500
1010 5 18	M 5 x 18	500
1010 5 20	M 5 x 20	500
1010 5 22	M 5 x 22	500
1010 5 25	M 5 x 25	500
1010 5 30	M 5 x 30	500
1010 5 35	M 5 x 35	200
1010 5 40	M 5 x 40	200
1010 5 45	M 5 x 45	200
1010 5 50	M 5 x 50	200
1010 5 55	M 5 x 55	100
1010 5 60	M 5 x 60	200
1010 5 65	M 5 x 65	100
1010 5 70	M 5 x 70	200
1010 5 80	M 5 x 80	200
1010 5 90	M 5 x 90	100
1010 6 8	M 6 x 8	500
1010 6 10	M 6 x 10	500
1010 6 12	M 6 x 12	500
1010 6 16	M 6 x 16	200
1010 6 18	M 6 x 18	200
1010 6 20	M 6 x 20	200
1010 6 22	M 6 x 22	200
1010 6 25	M 6 x 25	200
1010 6 30	M 6 x 30	200
1010 6 35	M 6 x 35	200
1010 6 40	M 6 x 40	200
1010 6 45	M 6 x 45	200
1010 6 50	M 6 x 50	200
1010 6 55	M 6 x 55	200
1010 6 60	M 6 x 60	200
1010 6 65	M 6 x 65	200
1010 6 70	M 6 x 70	200
1010 6 75	M 6 x 75	200
1010 6 80	M 6 x 80	200
1010 6 90	M 6 x 90	200
1010 6 100	M 6 x 100	200
1010 6 110	M 6 x 110	200
1010 6 120	M 6 x 120	200
1010 6 130	M 6 x 130	200
1010 8 10	M 8 x 10	200
1010 8 12	M 8 x 12	200
1010 8 16	M 8 x 16	200
1010 8 18	M 8 x 18	200
1010 8 20	M 8 x 20	200
1010 8 22	M 8 x 22	200
1010 8 25	M 8 x 25	200
1010 8 30	M 8 x 30	200
1010 8 35	M 8 x 35	200
1010 8 40	M 8 x 40	200
1010 8 45	M 8 x 45	200
1010 8 50	M 8 x 50	200
1010 8 55	M 8 x 55	200
1010 8 60	M 8 x 60	200
1010 8 65	M 8 x 65	200
1010 8 70	M 8 x 70	200

(d thread dia. x length mm)

Item no.	Dimension	QTY
1010 8 75	M 8 x 75	200
1010 8 80	M 8 x 80	200
1010 8 90	M 8 x 90	100
1010 8 100	M 8 x 100	100
1010 8 110	M 8 x 110	100
1010 8 120	M 8 x 120	100
1010 8 130	M 8 x 130	100
1010 10 10	M 10 x 10	200
1010 10 12	M 10 x 12	200
1010 10 16	M 10 x 16	200
1010 10 18	M 10 x 18	200
1010 10 20	M 10 x 20	200
1010 10 25	M 10 x 25	200
1010 10 30	M 10 x 30	200
1010 10 35	M 10 x 35	100
1010 10 40	M 10 x 40	100
1010 10 45	M 10 x 45	100
1010 10 50	M 10 x 50	100
1010 10 55	M 10 x 55	100
1010 10 60	M 10 x 60	100
1010 10 65	M 10 x 65	100
1010 10 70	M 10 x 70	100
1010 10 75	M 10 x 75	100
1010 10 80	M 10 x 80	100
1010 10 90	M 10 x 90	100
1010 10 100	M 10 x 100	100
1010 10 110	M 10 x 110	50
1010 10 120	M 10 x 120	50
1010 10 130	M 10 x 130	50
1010 12 16	M 12 x 16	100
1010 12 20	M 12 x 20	100
1010 12 25	M 12 x 25	100
1010 12 30	M 12 x 30	100
1010 12 35	M 12 x 35	100
1010 12 40	M 12 x 40	100
1010 12 45	M 12 x 45	100
1010 12 50	M 12 x 50	100
1010 12 55	M 12 x 55	100
1010 12 60	M 12 x 60	100
1010 12 65	M 12 x 65	50
1010 12 70	M 12 x 70	50
1010 12 75	M 12 x 75	50
1010 12 80	M 12 x 80	50
1010 12 90	M 12 x 90	50
1010 12 100	M 12 x 100	50
1010 12 110	M 12 x 110	50
1010 12 120	M 12 x 120	50
1010 12 130	M 12 x 130	50
1010 14 20	M 14 x 20	100
1010 14 25	M 14 x 25	100
1010 14 30	M 14 x 30	100
1010 14 35	M 14 x 35	100
1010 14 40	M 14 x 40	100
1010 14 45	M 14 x 45	50
1010 14 50	M 14 x 50	50
1010 14 55	M 14 x 55	50
1010 14 60	M 14 x 60	50
1010 14 65	M 14 x 65	50
1010 14 70	M 14 x 70	50
1010 14 80	M 14 x 80	50
1010 14 90	M 14 x 90	50
1010 14 100	M 14 x 100	50
1010 14 110	M 14 x 110	25
1010 16 20	M 16 x 20	50
1010 16 25	M 16 x 25	50
1010 16 30	M 16 x 30	50
1010 16 35	M 16 x 35	50
1010 16 40	M 16 x 40	50
1010 16 45	M 16 x 45	50

Specifications



Thread Dia.	Head size	k
mm	mm	mm
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0

Item no.	Dimension	QTY
1010 16 50	M 16 x 50	50
1010 16 55	M 16 x 55	50
1010 16 60	M 16 x 60	50
1010 16 65	M 16 x 65	25
1010 16 70	M 16 x 70	25
1010 16 75	M 16 x 75	25
1010 16 80	M 16 x 80	25
1010 16 85	M 16 x 85	25
1010 16 90	M 16 x 90	25
1010 16 100	M 16 x 100	25
1010 16 110	M 16 x 110	25
1010 16 120	M 16 x 120	25
1010 16 130	M 16 x 130	25
1010 16 140	M 16 x 140	25
1010 16 150	M 16 x 150	25
1010 16 160	M 16 x 160	25
1010 18 30	M 18 x 30	50
1010 18 35	M 18 x 35	50
1010 18 40	M 18 x 40	50
1010 18 45	M 18 x 45	50
1010 18 50	M 18 x 50	50
1010 18 55	M 18 x 55	25
1010 18 60	M 18 x 60	25
1010 18 65	M 18 x 65	25
1010 18 70	M 18 x 70	25
1010 18 80	M 18 x 80	25
1010 18 90	M 18 x 90	25
1010 20 30	M 20 x 30	25
1010 20 35	M 20 x 35	25
1010 20 40	M 20 x 40	25
1010 20 45	M 20 x 45	25
1010 20 50	M 20 x 50	25
1010 20 55	M 20 x 55	25
1010 20 60	M 20 x 60	25
1010 20 65	M 20 x 65	25
1010 20 70	M 20 x 70	25
1010 20 75	M 20 x 75	25
1010 20 80	M 20 x 80	25
1010 20 90	M 20 x 90	25
1010 20 100	M 20 x 100	25
1010 20 110	M 20 x 110	25
1010 20 120	M 20 x 120	25
1010 20 130	M 20 x 130	25
1010 20 140	M 20 x 140	25
1010 20 150	M 20 x 150	25

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Hex Head Bolts DIN 933 8.8, Plain Steel

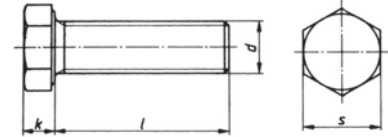
- In compliance with ISO 4017
- With thread up to head
- Strength class 8.8
- Plain Steel

Item no.	Dimension	QTY
1010 20 160	M 20 x 160	25
1010 22 40	M 22 x 40	25
1010 22 45	M 22 x 45	25
1010 22 50	M 22 x 50	25
1010 22 55	M 22 x 55	25
1010 22 60	M 22 x 60	25
1010 22 65	M 22 x 65	25
1010 22 70	M 22 x 70	25
1010 22 80	M 22 x 80	25
1010 24 30	M 24 x 30	25
1010 24 40	M 24 x 40	25
1010 24 45	M 24 x 45	25
1010 24 50	M 24 x 50	25
1010 24 55	M 24 x 55	25
1010 24 60	M 24 x 60	25
1010 24 65	M 24 x 65	25
1010 24 70	M 24 x 70	25
1010 24 75	M 24 x 75	25
1010 24 80	M 24 x 80	25
1010 24 90	M 24 x 90	10
1010 24 100	M 24 x 100	10
1010 24 110	M 24 x 110	10
1010 24 120	M 24 x 120	10
1010 24 130	M 24 x 130	10
1010 24 140	M 24 x 140	10
1010 24 150	M 24 x 150	10
1010 24 160	M 24 x 160	10

(d thread dia. x length mm)



Specifications



Thread	Head size	k
Dia. mm	mm	mm
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0

Hex Head Bolts DIN 933 8.8, Galvanized

- In compliance with ISO 4017
- With thread up to head
- Strength class 8.8
- Galvanized steel

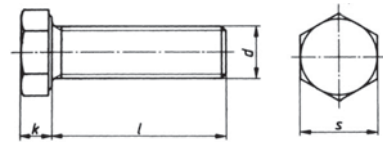


Item no.	Dimension	QTY
1011 3 5	M 3 x 5	200
1011 3 6	M 3 x 6	200
1011 3 8	M 3 x 8	200
1011 3 10	M 3 x 10	200
1011 3 12	M 3 x 12	200
1011 3 14	M 3 x 14	200
1011 3 16	M 3 x 16	200
1011 3 18	M 3 x 18	200
1011 3 20	M 3 x 20	200
1011 3 22	M 3 x 22	100
1011 3 25	M 3 x 25	100
1011 3 30	M 3 x 30	100
1011 3 35	M 3 x 35	100
1011 3 40	M 3 x 40	100
1011 3 50	M 3 x 50	100
1011 4 6	M 4 x 6	500
1011 4 8	M 4 x 8	500
1011 4 10	M 4 x 10	500
1011 4 12	M 4 x 12	W 500
1011 4 16	M 4 x 16	W 500
1011 4 20	M 4 x 20	W 500
1011 4 25	M 4 x 25	W 500
1011 4 30	M 4 x 30	HW 500
1011 4 35	M 4 x 35	HW 500
1011 4 40	M 4 x 40	HW 500
1011 4 45	M 4 x 45	HW 500
1011 4 50	M 4 x 50	HW 500
1011 5 6	M 5 x 6	HW 500
1011 5 8	M 5 x 8	HW 500
1011 5 10	M 5 x 10	HW 500
1011 5 12	M 5 x 12	HW 500
1011 5 16	M 5 x 16	HW 500
1011 5 18	M 5 x 18	HW 500
1011 5 20	M 5 x 20	HW 500
1011 5 25	M 5 x 25	HW 500
1011 5 30	M 5 x 30	HW 500
1011 5 35	M 5 x 35	HW 500
1011 5 40	M 5 x 40	HW 500
1011 5 45	M 5 x 45	HW 500
1011 5 50	M 5 x 50	HW 500
1011 5 60	M 5 x 60	200
1011 5 70	M 5 x 70	200
1011 6 8	M 6 x 8	HW 500
1011 6 10	M 6 x 10	HW 500
1011 6 12	M 6 x 12	HW 500
1011 6 16	M 6 x 16	HW 500
1011 6 18	M 6 x 18	HW 500
1011 6 20	M 6 x 20	HW 500
1011 6 22	M 6 x 22	HW 500
1011 6 25	M 6 x 25	HW 500
1011 6 30	M 6 x 30	H 200
1011 6 35	M 6 x 35	H 200
1011 6 40	M 6 x 40	H 200
1011 6 45	M 6 x 45	H 200
1011 6 50	M 6 x 50	H 200
1011 6 60	M 6 x 60	H 200
1011 6 65	M 6 x 65	H 200
1011 6 70	M 6 x 70	H 200
1011 6 75	M 6 x 75	H 200
1011 6 80	M 6 x 80	H 200
1011 6 90	M 6 x 90	100
1011 6 100	M 6 x 100	100
1011 6 110	M 6 x 110	100
1011 6 120	M 6 x 120	100
1011 7 16	M 7 x 16	200
1011 7 20	M 7 x 20	H 200
1011 7 25	M 7 x 25	H 200
1011 7 30	M 7 x 30	H 200
1011 7 35	M 7 x 35	H 200

(d thread dia. x length mm)

Item no.	Dimension	QTY
1011 7 40	M 7 x 40	H 200
1011 7 45	M 7 x 45	H 200
1011 7 50	M 7 x 50	H 200
1011 8 10	M 8 x 10	HW 500
1011 8 12	M 8 x 12	HW 500
1011 8 14	M 8 x 14	HW 500
1011 8 16	M 8 x 16	HW 500
1011 8 18	M 8 x 18	HW 500
1011 8 20	M 8 x 20	HW 500
1011 8 22	M 8 x 22	HW 500
1011 8 25	M 8 x 25	HW 500
1011 8 30	M 8 x 30	HW 500
1011 8 35	M 8 x 35	HW 500
1011 8 40	M 8 x 40	HW 500
1011 8 45	M 8 x 45	H 200
1011 8 50	M 8 x 50	H 200
1011 8 55	M 8 x 55	H 200
1011 8 60	M 8 x 60	H 200
1011 8 65	M 8 x 65	H 200
1011 8 70	M 8 x 70	H 200
1011 8 75	M 8 x 75	H 200
1011 8 80	M 8 x 80	100
1011 8 90	M 8 x 90	100
1011 8 100	M 8 x 100	100
1011 8 110	M 8 x 110	100
1011 8 115	M 8 x 115	100
1011 8 120	M 8 x 120	f 100
1011 8 130	M 8 x 130	100
1011 8 140	M 8 x 140	100
1011 8 150	M 8 x 150	100
1011 8 160	M 8 x 160	50
1011 8 180	M 8 x 180	50
1011 10 12	M 10 x 12	H 200
1011 10 16	M 10 x 16	H 200
1011 10 18	M 10 x 18	H 200
1011 10 20	M 10 x 20	H 200
1011 10 22	M 10 x 22	H 200
1011 10 25	M 10 x 25	H 200
1011 10 30	M 10 x 30	H 200
1011 10 35	M 10 x 35	H 200
1011 10 40	M 10 x 40	H 200
1011 10 45	M 10 x 45	100
1011 10 50	M 10 x 50	100
1011 10 55	M 10 x 55	100
1011 10 60	M 10 x 60	100
1011 10 65	M 10 x 65	100
1011 10 70	M 10 x 70	100
1011 10 75	M 10 x 75	100
1011 10 80	M 10 x 80	100
1011 10 85	M 10 x 85	100
1011 10 90	M 10 x 90	100
1011 10 100	M 10 x 100	100
1011 10 110	M 10 x 110	50
1011 10 120	M 10 x 120	50
1011 10 130	M 10 x 130	50
1011 10 140	M 10 x 140	50
1011 10 150	M 10 x 150	50
1011 10 160	M 10 x 160	50
1011 12 16	M 12 x 16	100
1011 12 18	M 12 x 18	100
1011 12 20	M 12 x 20	100
1011 12 22	M 12 x 22	100
1011 12 25	M 12 x 25	100
1011 12 30	M 12 x 30	100
1011 12 35	M 12 x 35	100
1011 12 40	M 12 x 40	100
1011 12 45	M 12 x 45	100
1011 12 50	M 12 x 50	100
1011 12 55	M 12 x 55	100

Specifications



Thread Dia.	Head size	k
mm	mm	mm
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 7	11	5.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 27	41	17.0
M 30	46	18.7

Item no.	Dimension	QTY
1011 12 60	M 12 x 60	100
1011 12 65	M 12 x 65	50
1011 12 70	M 12 x 70	50
1011 12 75	M 12 x 75	50
1011 12 80	M 12 x 80	50
1011 12 90	M 12 x 90	50
1011 12 100	M 12 x 100	50
1011 12 110	M 12 x 110	50
1011 12 120	M 12 x 120	g 50
1011 12 130	M 12 x 130	50
1011 12 140	M 12 x 140	50
1011 12 150	M 12 x 150	50
1011 12 160	M 12 x 160	25
1011 12 180	M 12 x 180	25
1011 14 20	M 14 x 20	100
1011 14 25	M 14 x 25	100
1011 14 30	M 14 x 30	100
1011 14 35	M 14 x 35	100
1011 14 40	M 14 x 40	100
1011 14 45	M 14 x 45	50
1011 14 50	M 14 x 50	50
1011 14 55	M 14 x 55	50
1011 14 60	M 14 x 60	50
1011 14 65	M 14 x 65	50
1011 14 70	M 14 x 70	25
1011 14 80	M 14 x 80	25
1011 14 90	M 14 x 90	25
1011 14 100	M 14 x 100	25
1011 14 120	M 14 x 120	50
1011 16 20	M 16 x 20	50
1011 16 25	M 16 x 25	50
1011 16 30	M 16 x 30	50
1011 16 35	M 16 x 35	50
1011 16 40	M 16 x 40	50
1011 16 45	M 16 x 45	50
1011 16 50	M 16 x 50	50
1011 16 55	M 16 x 55	50
1011 16 60	M 16 x 60	50
1011 16 65	M 16 x 65	25
1011 16 70	M 16 x 70	25
1011 16 75	M 16 x 75	25
1011 16 80	M 16 x 80	25
1011 16 85	M 16 x 85	25

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Hex Head Bolts DIN 933 8.8, Galvanized

- In compliance with ISO 4017
- With thread up to head
- Strength class 8.8
- Galvanized steel

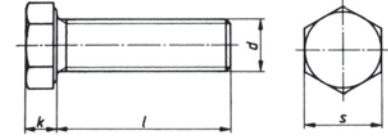


Item no.	Dimension	QTY
1011 16 90	M 16 x 90	25
1011 16 95	M 16 x 95	25
1011 16 100	M 16 x 100	25
1011 16 110	M 16 x 110	25
1011 16 120	M 16 x 120	25
1011 16 130	M 16 x 130	25
1011 16 140	M 16 x 140	25
1011 16 150	M 16 x 150	25
1011 16 160	M 16 x 160	25
1011 16 200	M 16 x 200	25
1011 18 30	M 18 x 30	50
1011 18 35	M 18 x 35	50
1011 18 40	M 18 x 40	50
1011 18 45	M 18 x 45	50
1011 18 50	M 18 x 50	50
1011 18 55	M 18 x 55	25
1011 18 60	M 18 x 60	25
1011 18 65	M 18 x 65	25
1011 18 70	M 18 x 70	25
1011 18 80	M 18 x 80	25
1011 18 90	M 18 x 90	25
1011 20 25	M 20 x 25	25
1011 20 30	M 20 x 30	25
1011 20 35	M 20 x 35	25
1011 20 40	M 20 x 40	25
1011 20 45	M 20 x 45	25
1011 20 50	M 20 x 50	25
1011 20 55	M 20 x 55	25
1011 20 60	M 20 x 60	10
1011 20 65	M 20 x 65	25
1011 20 70	M 20 x 70	25
1011 20 75	M 20 x 75	25

(d thread dia. x length mm)

Item no.	Dimension	QTY
1011 20 80	M 20 x 80	25
1011 20 90	M 20 x 90	25
1011 20 100	M 20 x 100	25
1011 20 110	M 20 x 110	25
1011 20 120	M 20 x 120	25
1011 20 130	M 20 x 130	25
1011 20 140	M 20 x 140	25
1011 20 150	M 20 x 150	25
1011 20 160	M 20 x 160	25
1011 20 180	M 20 x 180	10
1011 20 200	M 20 x 200	25
1011 22 40	M 22 x 40	25
1011 22 50	M 22 x 50	25
1011 22 55	M 22 x 55	25
1011 22 60	M 22 x 60	25
1011 22 65	M 22 x 65	25
1011 22 70	M 22 x 70	25
1011 22 80	M 22 x 80	25
1011 24 30	M 24 x 30	25
1011 24 35	M 24 x 35	25
1011 24 40	M 24 x 40	25
1011 24 45	M 24 x 45	25
1011 24 50	M 24 x 50	25
1011 24 55	M 24 x 55	25
1011 24 60	M 24 x 60	25
1011 24 65	M 24 x 65	25
1011 24 70	M 24 x 70	10
1011 24 75	M 24 x 75	25
1011 24 80	M 24 x 80	25
1011 24 90	M 24 x 90	25
1011 24 100	M 24 x 100	10
1011 24 110	M 24 x 110	10

Specifications



Thread	Head size	k
Dia. mm	mm	mm
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 7	11	5.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 27	41	17.0
M 30	46	18.7

Hex Head Bolts DIN 933 10.9, Plain Steel

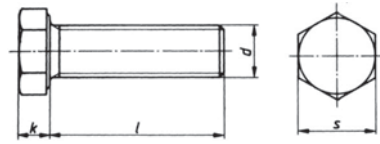
- In compliance with ISO 4017
- With thread up to head
- Strength class 10.9
- Plain Steel

Item no.	Dimension	QTY
1013 6 12	M 6 x 12	200
1013 6 16	M 6 x 16	200
1013 6 20	M 6 x 20	200
1013 6 25	M 6 x 25	200
1013 6 30	M 6 x 30	200
1013 6 35	M 6 x 35	200
1013 6 40	M 6 x 40	200
1013 6 45	M 6 x 45	200
1013 6 50	M 6 x 50	200
1013 6 60	M 6 x 60	200
1013 6 70	M 6 x 70	200
1013 6 80	M 6 x 80	200
1013 8 16	M 8 x 16	200
1013 8 20	M 8 x 20	200
1013 8 25	M 8 x 25	200
1013 8 30	M 8 x 30	200
1013 8 35	M 8 x 35	200
1013 8 40	M 8 x 40	200
1013 8 45	M 8 x 45	200
1013 8 50	M 8 x 50	200
1013 8 60	M 8 x 60	200
1013 8 70	M 8 x 70	200
1013 8 80	M 8 x 80	200
1013 8 90	M 8 x 90	200
1013 8 100	M 8 x 100	200
1013 10 16	M 10 x 16	200
1013 10 20	M 10 x 20	200
1013 10 25	M 10 x 25	200
1013 10 30	M 10 x 30	200
1013 10 35	M 10 x 35	100
1013 10 40	M 10 x 40	100
1013 10 45	M 10 x 45	100
1013 10 50	M 10 x 50	100
1013 10 60	M 10 x 60	100
1013 10 70	M 10 x 70	100
1013 10 80	M 10 x 80	100
1013 10 90	M 10 x 90	100
1013 10 100	M 10 x 100	100
1013 10 110	M 10 x 110	100
1013 10 120	M 10 x 120	100
1013 10 130	M 10 x 130	50
1013 10 140	M 10 x 140	50
1013 10 150	M 10 x 150	50
1013 12 20	M 12 x 20	100
1013 12 25	M 12 x 25	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1013 12 30	M 12 x 30	100
1013 12 35	M 12 x 35	100
1013 12 40	M 12 x 40	100
1013 12 45	M 12 x 45	100
1013 12 50	M 12 x 50	100
1013 12 60	M 12 x 60	100
1013 12 70	M 12 x 70	100
1013 12 80	M 12 x 80	50
1013 12 90	M 12 x 90	50
1013 12 100	M 12 x 100	50
1013 12 110	M 12 x 110	50
1013 12 120	M 12 x 120	50
1013 12 130	M 12 x 130	50
1013 12 140	M 12 x 140	50
1013 12 150	M 12 x 150	50
1013 14 30	M 14 x 30	100
1013 14 35	M 14 x 35	100
1013 14 40	M 14 x 40	100
1013 14 45	M 14 x 45	50
1013 14 50	M 14 x 50	50
1013 14 60	M 14 x 60	50
1013 14 70	M 14 x 70	50
1013 14 80	M 14 x 80	50
1013 14 90	M 14 x 90	50
1013 14 100	M 14 x 100	50
1013 16 30	M 16 x 30	50
1013 16 35	M 16 x 35	50
1013 16 40	M 16 x 40	50
1013 16 45	M 16 x 45	50
1013 16 50	M 16 x 50	50
1013 16 60	M 16 x 60	50
1013 16 70	M 16 x 70	50
1013 16 80	M 16 x 80	50
1013 16 90	M 16 x 90	50
1013 16 100	M 16 x 100	50
1013 16 110	M 16 x 110	50
1013 16 120	M 16 x 120	50
1013 16 130	M 16 x 130	50
1013 16 140	M 16 x 140	50
1013 16 150	M 16 x 150	25
1013 18 70	M 18 x 70	50
1013 20 40	M 20 x 40	25
1013 20 60	M 20 x 60	25
1013 24 70	M 24 x 70	25

Specifications



Thread	Head size	k
Dia.	mm	mm
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 24	36	15.0

Inch Size Hex Head Bolts DIN 931 UNC, Galvanized

- In compliance with ISO 4014
- Strength class 8.8
- Galvanized steel

Item no.	Dimension	QTY
1020 14 1	UNC 1/4 x 1	50
1020 14 114	UNC 1/4 x 1 1/4	50
1020 14 112	UNC 1/4 x 1 1/2	50
1020 14 2	UNC 1/4 x 2	50
1020 14 214	UNC 1/4 x 2 1/4	50
1020 14 3	UNC 1/4 x 3	50
1020 516 214	UNC 5/16x2 1/4	50
1020 516 212	UNC 5/16x2 1/2	50
1020 516 234	UNC 5/16x2 3/4	50
1020 516 3	UNC 5/16 x 3	50
1020 38 114	UNC 3/8 x 1 1/4	200
1020 38 112	UNC 3/8 x 1 1/2	50
1020 38 134	UNC 3/8 x 1 3/4	50

(d thread dia. x length mm)

Item no.	Dimension	QTY
1020 38 2	UNC 3/8 x 2	50
1020 38 214	UNC 3/8 x 2 1/4	50
1020 38 212	UNC 3/8 x 2 1/2	50
1020 38 234	UNC 3/8 x 2 3/4	50
1020 38 3	UNC 3/8 x 3	50
1020 716 4	UNC 7/16 x 4	50
1020 12 134	UNC 1/2 x 1 3/4	50
1020 12 214	UNC 1/2 x 2 1/4	50
1020 12 212	UNC 1/2 x 2 1/2	50
1020 12 3	UNC 1/2 x 3	50
1020 58 114	UNC 5/8 x 1 1/4	50
1020 58 312	UNC 5/8 x 3 1/2	50

Specifications



Thread	Head size	k	b	b	Gear no.
Dia.	Inch	mm	L < 152	L > 152	at 1 Inch
1/4"	7/16"	4.0	19	-	20
5/16"	1/2"	5.2	22	-	18
3/8"	9/16"	6.0	25	-	16
7/16"	5/8"	7.1	28	-	14
1/2"	3/4"	7.9	32	38	13
5/8"	15/16"	9.9	38	44	11

Inch Size Hex Head Bolts DIN 931 UNF, Galvanized

- In compliance with ISO 4014
- Strength class 8.8
- Fine thread
- Galvanized steel



Item no.	Dimension	QTY
1022 14 1	UNF 1/4 x 1	50
1022 14 114	UNF 1/4 x 1 1/4	50
1022 516 114	UNF 5/16x1 1/4	50
1022 516 112	UNF 5/16x1 1/2	50
1022 516 134	UNF 5/16x1 3/4	50
1022 516 2	UNF 5/16 x 2	50
1022 516 214	UNF 5/16x2 1/4	50
1022 516 212	UNF 5/16x2 1/2	50
1022 38 112	UNF 3/8 x 1 1/2	50
1022 38 134	UNF 3/8 x 1 3/4	50

(d thread dia. x length mm)

Item no.	Dimension	QTY
1022 38 2	UNF 3/8 x 2	50
1022 38 214	UNF 3/8 x 2 1/4	50
1022 38 212	UNF 3/8 x 2 1/2	50
1022 38 4	UNF 3/8 x 4	50
1022 716 112	UNF 7/16x1 1/2	50
1022 716 134	UNF 7/16x1 3/4	50
1022 12 134	UNF 1/2 x 1 3/4	50
1022 916 234	UNF 9/16x2 3/4	50
1022 34 312	UNF 3/4 x 3 1/2	50

Specifications

Thread		Head size	k	b	b	Threads
Dia.	Inch	Inch	mm	L < 152	L > 152	per Inch
1/4"	7/16"	4.0	19	-	-	28
5/16"	1/2"	5.2	22	-	-	24
3/8"	9/16"	6.0	25	-	-	24
7/16"	5/8"	7.1	28	-	-	20
1/2"	3/4"	7.9	32	38	20	20
9/16"	13/16"	9.1	35	41	18	18
3/4"	1 1/8"	11.9	44	51	16	16

Inch Size Hex Head Bolts DIN 933 UNC, Galvanized

- In compliance with ISO 4017
- Strength class 8.8
- Galvanized steel



Item no.	Dimension	QTY
1025 14 12	UNC 1/4 x 1/2	50
1025 14 34	UNC 1/4 x 3/4	50
1025 516 12	UNC 5/16 x 1/2	50
1025 516 58	UNC 5/16 x 5/8	50
1025 516 34	UNC 5/16 x 3/4	50
1025 38 58	UNC 3/8 x 5/8	50
1025 38 34	UNC 3/8 x 3/4	50
1025 38 1	UNC 3/8 x 1	50

(d thread dia. x length mm)

Item no.	Dimension	QTY
1025 38 114	UNC 3/8 x 1 1/4	50
1025 12 34	UNC 1/2 x 3/4	50
1025 716 1	UNC 7/16 x 1	50
1025 12 1	UNC 1/2 x 1	50
1025 12 114	UNC 1/2 x 1 1/4	50
1025 12 112	UNC 1/2 x 1 1/2	50
1025 34 2	UNC 3/4 x 2	50

Specifications

Thread		Head size	k	Threads
Dia.	Inch	Inch	mm	per Inch
1/4"	7/16"	4.0	20	20
5/16"	1/2"	5.2	18	18
3/8"	9/16"	6.0	16	16
7/16"	5/8"	7.1	14	14
1/2"	3/4"	7.9	13	13
3/4"	1 1/8"	11.9	10	10

Inch Size Hex Head Bolts DIN 933 UNF, Galvanized

- In compliance with ISO 4017
- Strength class 8.8
- Fine thread
- Galvanized steel



Item no.	Dimension	QTY
1027 14 12	UNF 1/4 x 1/2	50
1027 14 58	UNF 1/4 x 5/8	50
1027 14 34	UNF 1/4 x 3/4	50
1027 14 78	UNF 1/4 x 7/8	50
1027 14 1	UNF 1/4 x 1	50
1027 14 114	UNF 1/4 x 1 1/4	50
1027 14 112	UNF 1/4 x 1 1/2	50
1027 14 134	UNF 1/4 x 1 3/4	50
1027 14 2	UNF 1/4 x 2	50
1027 516 12	UNF 5/16 x 1/2	50
1027 516 58	UNF 5/16 x 5/8	50
1027 516 34	UNF 5/16 x 3/4	50

(d thread dia. x length mm)

Item no.	Dimension	QTY
1027 516 78	UNF 5/16 x 7/8	50
1027 516 1	UNF 5/16 x 1	50
1027 38 58	UNF 3/8 x 5/8	50
1027 38 34	UNF 3/8 x 3/4	50
1027 38 78	UNF 3/8 x 7/8	50
1027 38 114	UNF 3/8 x 1 1/4	50
1027 716 1	UNF 7/16 x 1	50
1027 716 114	UNF 7/16x1 1/4	50
1027 12 34	UNF 1/2 x 3/4	50
1027 12 1	UNF 1/2 x 1	50
1027 12 114	UNF 1/2 x 1 1/4	50
1027 916 112	UNF 9/16x1 1/2	50

Specifications

Thread		Head size	k	Threads
Dia.	Inch	Inch	mm	per Inch
1/4"	7/16"	4.0	28	28
5/16"	1/2"	5.2	24	24
3/8"	9/16"	6.0	24	24
7/16"	5/8"	7.1	20	20
1/2"	3/4"	7.9	20	20
9/16"	13/16"	9.1	18	18

Hex Head Bolts DIN 960 10.9, Galvanized

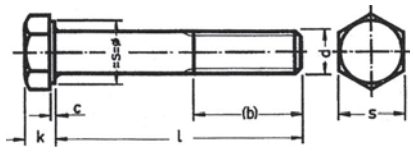
- In compliance with ISO 8765
- With shank - fine thread
- Strength class 10.9
- Galvanized steel

Item no.	Dimension	QTY
1031 10 1 40	M 10 x 1 x 40	200
1031 10 1 70	M 10 x 1 x 70	200
1031 10 1 80	M 10 x 1 x 80	200
1031 12 15 45	M 12 x 1,5 x 45	100
1031 12 15 50	M 12 x 1,5 x 50	100
1031 12 15 55	M 12 x 1,5 x 55	100
1031 12 15 60	M 12 x 1,5 x 60	100
1031 12 15 65	M 12 x 1,5 x 65	50
1031 12 15 70	M 12 x 1,5 x 70	50
1031 12 15 80	M 12 x 1,5 x 80	50
1031 12 15 100	M 12x1,5x100	50
1031 12 15 110	M 12x1,5x110	50
1031 12 15 120	M 12x1,5x120	50
1031 14 15 50	M 14 x 1,5 x 50	50
1031 14 15 55	M 14 x 1,5 x 55	50
1031 14 15 60	M 14 x 1,5 x 60	50
1031 14 15 65	M 14 x 1,5 x 65	50
1031 14 15 70	M 14 x 1,5 x 70	50
1031 14 15 75	M 14 x 1,5 x 75	50
1031 14 15 80	M 14 x 1,5 x 80	50
1031 14 15 90	M 14 x 1,5 x 90	50

(d thread dia. x pitch x length mm)

Item no.	Dimension	QTY
1031 14 15 100	M 14x1,5x100	50
1031 14 15 120	M 14x1,5x120	50
1031 16 15 55	M 16 x 1,5 x 55	50
1031 16 15 60	M 16 x 1,5 x 60	50
1031 16 15 65	M 16 x 1,5 x 65	25
1031 16 15 70	M 16 x 1,5 x 70	25
1031 16 15 80	M 16 x 1,5 x 80	25
1031 16 15 90	M 16 x 1,5 x 90	25
1031 16 15 100	M 16x1,5x100	25
1031 16 15 110	M 16x1,5x110	25
1031 16 15 120	M 16x1,5x120	25
1031 16 15 140	M 16x1,5x140	25
1031 16 15 150	M 16x1,5x150	25
1031 18 15 55	M 18 x 1,5 x 55	25
1031 18 15 65	M 18 x 1,5 x 65	25
1031 18 15 70	M 18 x 1,5 x 70	25
1031 18 15 100	M 18x1,5x100	25
1031 18 15 120	M 18x1,5x120	25
1031 20 15 70	M 20 x 1,5 x 70	25
1031 20 15 90	M 20 x 1,5 x 90	25
1031 20 15 110	M 20x1,5x110	25
1031 20 15 140	M 20x1,5x140	25

Specifications



Thread Dia.	Head size	k	c	b	b
mm	mm	mm	mm	L < 125	L 125 - 200
M 10	17	6.4	0.6	26	-
M 12	19	7.5	0.6	30	-
M 14	22	8.8	0.8	34	-
M 16	24	10.0	0.8	38	44
M 18	27	11.5	0.8	42	-
M 20	30	12.5	0.8	46	-

Hex Head Bolts DIN 961 10.9, Galvanized

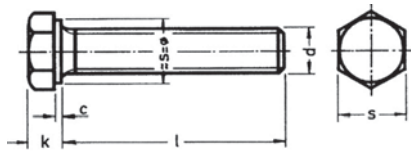
- In compliance with ISO 8676
- With thread up to head - fine thread
- Strength class 10.9
- Galvanized steel

Item no.	Dimension	QTY
1041 8 1 10	M 8 x 1 x 10	200
1041 8 1 20	M 8 x 1 x 20	200
1041 8 1 25	M 8 x 1 x 25	200
1041 8 1 30	M 8 x 1 x 30	100
1041 8 1 35	M 8 x 1 x 35	100
1041 8 1 40	M 8 x 1 x 40	100
1041 10 1 20	M 10 x 1 x 20	100
1041 10 1 25	M 10 x 1 x 25	100
1041 10 1 30	M 10 x 1 x 30	100
1041 10 1 40	M 10 x 1 x 40	100
1041 10 125 20	M 10x1,25x20	100
1041 10 125 30	M 10x1,25x30	100
1041 10 125 40	M 10x1,25x40	100
1041 12 15 25	M 12 x 1,5 x 25	100
1041 12 15 30	M 12 x 1,5 x 30	100
1041 12 15 35	M 12 x 1,5 x 35	100
1041 12 15 40	M 12 x 1,5 x 40	100

(d thread dia. x pitch x length mm)

Item no.	Dimension	QTY
1041 12 15 45	M 12 x 1,5 x 45	100
1041 12 15 50	M 12 x 1,5 x 50	100
1041 14 15 30	M 14 x 1,5 x 30	100
1041 14 15 35	M 14 x 1,5 x 35	100
1041 14 15 40	M 14 x 1,5 x 40	100
1041 14 15 45	M 14 x 1,5 x 45	50
1041 14 15 50	M 14 x 1,5 x 50	50
1041 16 15 30	M 16 x 1,5 x 30	50
1041 16 15 35	M 16 x 1,5 x 35	50
1041 16 15 40	M 16 x 1,5 x 40	50
1041 16 15 45	M 16 x 1,5 x 45	50
1041 16 15 50	M 16 x 1,5 x 50	50
1041 18 15 40	M 18 x 1,5 x 40	50
1041 18 15 45	M 18 x 1,5 x 45	50
1041 18 15 50	M 18 x 1,5 x 50	50
1041 20 15 45	M 20 x 1,5 x 45	25
1041 20 15 60	M 20 x 1,5 x 60	25

Specifications



Thread Dia.	Head size	k	c
mm	mm	mm	mm
M 8	13	5.3	0.6
M 10	17	6.4	0.6
M 12	19	7.5	0.6
M 14	22	8.8	0.6
M 16	24	10.0	0.8
M 18	27	11.5	0.8
M 20	30	12.5	0.8

Universal Joint Bolts 10.9, yellow galvanized

- With shank - fine thread
- Strength class 10.9
- Steel yellow galvanized

Item no.	Dimension	QTY
1070 8 1 25	M 8 x 1 x 25	50
1070 10 1 26	M 10 x 1 x 26	50
1070 10 1 30	M 10 x 1 x 30	50
1070 12 15 30	M 12 x 1,5 x 30	50
1070 12 15 35	M 12 x 1,5 x 35	50
1070 12 15 40	M 12 x 1,5 x 40	50

(d thread dia. x pitch x length mm)

Item no.	Dimension	QTY
1070 14 15 35	M 14 x 1,5 x 35	50
1070 14 15 40	M 14 x 1,5 x 40	50
1070 14 15 45	M 14 x 1,5 x 45	50
1070 16 15 40	M 16 x 1,5 x 40	50
1070 16 15 45	M 16 x 1,5 x 45	50
1070 16 15 50	M 16 x 1,5 x 50	50

Specifications



Thread Dia.	Head size
mm	mm
M 8	13
M 10	17
M 12	19
M 14	22
M 16	24

Self-locking Bolts 8.8, Galvanized

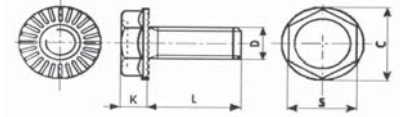
- Strength class 8.8
- Galvanized steel

Item no.	Dimension	QTY
1071 5 12	M 5 x 12	H 500
1071 5 16	M 5 x 16	H 500
1071 6 10	M 6 x 10	H 500
1071 6 12	M 6 x 12	H 500
1071 6 14	M 6 x 14	H 500
1071 6 16	M 6 x 16	H 500
1071 6 20	M 6 x 20	H 500
1071 6 25	M 6 x 25	H 500
1071 6 30	M 6 x 30	H 500
1071 8 12	M 8 x 12	f 500
1071 8 16	M 8 x 16	f 500
1071 8 20	M 8 x 20	f 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1071 8 25	M 8 x 25	f 500
1071 8 30	M 8 x 30	f 500
1071 8 35	M 8 x 35	f 500
1071 8 40	M 8 x 40	f 500
1071 10 16	M 10 x 16	g 50
1071 10 20	M 10 x 20	g 50
1071 10 25	M 10 x 25	g 50
1071 10 30	M 10 x 30	g 50
1071 10 35	M 10 x 35	g 50
1071 10 40	M 10 x 40	g 50
1071 12 20	M 12 x 20	g 50

Specifications



Thread Dia.	Head size	c	k
mm	mm	mm	mm
M 5	8	11.0	4.8
M 6	10	13.0	5.5
M 8	13	16.5	7.4
M 10	15	22.2	9.1
M 12	16	25.0	11.3

Self-locking Bolts 10.9 Galvanized

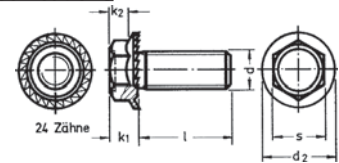
- Strength class 10.9
- Galvanized steel

Item no.	Dimension	QTY
1074 6 10	M 6 x 10	100
1074 6 16	M 6 x 16	100
1074 6 20	M 6 x 20	100
1074 6 25	M 6 x 25	100
1074 6 30	M 6 x 30	100
1074 8 12	M 8 x 12	100
1074 8 16	M 8 x 16	100
1074 8 20	M 8 x 20	100
1074 8 25	M 8 x 25	100
1074 8 30	M 8 x 30	100
1074 8 35	M 8 x 35	100
1074 8 40	M 8 x 40	100
1074 10 16	M 10 x 16	50
1074 10 20	M 10 x 20	50
1074 10 25	M 10 x 25	50
1074 10 30	M 10 x 30	50
1074 10 35	M 10 x 35	50

(d thread dia. x length mm)

Item no.	Dimension	QTY
1074 10 40	M 10 x 40	50
1074 12 20	M 12 x 20	50
1074 12 25	M 12 x 25	50
1074 12 30	M 12 x 30	50
1074 12 35	M 12 x 35	50
1074 12 40	M 12 x 40	50
1074 12 45	M 12 x 45	50
1074 12 50	M 12 x 50	50
1074 16 25	M 16 x 25	25
1074 16 30	M 16 x 30	25
1074 16 35	M 16 x 35	25
1074 16 40	M 16 x 40	25
1074 16 45	M 16 x 45	25
1074 16 50	M 16 x 50	25
1074 16 60	M 16 x 60	25
1074 16 70	M 16 x 70	25

Specifications



Thread Dia.	Head size	d2	k1	k2
mm	mm	mm	mm	mm
M 6	10	14.25	5.5	3,8
M 8	13	18.25	7.0	5,0
M 10	17	21.00	7.9	5,6
M 12	19	24.00	8.7	5,9
M 16	24	31.00	11.2	7,4

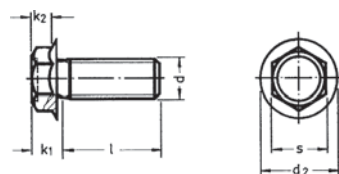
Hex Head Bolts with Collar 10.9, Dacromet Coated

- Strength class 10.9
- Dacromet coated
- Genuine Mercedes bolts

Item no.	Dimension	QTY
1076 12 15 30	M 12 x 1,5 x 30	100
1076 12 15 35	M 12 x 1,5 x 35	100
1076 12 15 40	M 12 x 1,5 x 40	100
1076 12 15 45	M 12 x 1,5 x 45	100
1076 12 15 50	M 12 x 1,5 x 50	100
1076 14 15 30	M 14 x 1,5 x 30	100
1076 14 15 35	M 14 x 1,5 x 35	100
1076 14 15 40	M 14 x 1,5 x 40	100
1076 14 15 45	M 14 x 1,5 x 45	100
1076 14 15 50	M 14 x 1,5 x 50	100
1076 14 15 60	M 14 x 1,5 x 60	100

(d thread dia. x pitch x length mm)

Specifications



Thread Dia.	Head size	d2	k1	k2
mm	mm	mm	mm	mm
M 12	18	21.8	11.5	5.2
M 14	21	26.0	12.8	5.6

Hex Head Bolts with Nuts DIN 601 4.6, Galvanized



- In compliance with ISO 4016
- With shank and hex nut DIN 555
- Strength class 4.6
- Galvanized steel

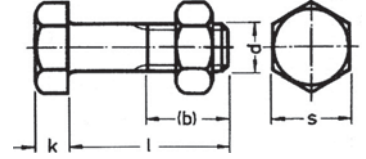


Item no.	Dimension	QTY
1051 5 10	M 5 x 10	200
1051 5 16	M 5 x 16	200
1051 5 20	M 5 x 20	200
1051 5 25	M 5 x 25	200
1051 5 30	M 5 x 30	200
1051 5 35	M 5 x 35	200
1051 5 40	M 5 x 40	200
1051 5 45	M 5 x 45	200
1051 5 50	M 5 x 50	200
1051 5 60	M 5 x 60	200
1051 5 70	M 5 x 70	200
1051 6 10	M 6 x 10	200
1051 6 16	M 6 x 16	200
1051 6 20	M 6 x 20	200
1051 6 25	M 6 x 25	200
1051 6 30	M 6 x 30	200
1051 6 35	M 6 x 35	200
1051 6 40	M 6 x 40	200
1051 6 45	M 6 x 45	200
1051 6 50	M 6 x 50	200
1051 6 55	M 6 x 55	100
1051 6 60	M 6 x 60	100
1051 6 70	M 6 x 70	100
1051 6 80	M 6 x 80	100
1051 6 90	M 6 x 90	100
1051 6 100	M 6 x 100	50
1051 6 110	M 6 x 110	50
1051 6 120	M 6 x 120	50
1051 8 16	M 8 x 16	200
1051 8 20	M 8 x 20	200
1051 8 25	M 8 x 25	200
1051 8 30	M 8 x 30	200
1051 8 35	M 8 x 35	200
1051 8 40	M 8 x 40	200
1051 8 45	M 8 x 45	200
1051 8 50	M 8 x 50	200
1051 8 55	M 8 x 55	200
1051 8 60	M 8 x 60	200
1051 8 65	M 8 x 65	200
1051 8 70	M 8 x 70	200
1051 8 80	M 8 x 80	200
1051 8 90	M 8 x 90	100
1051 8 100	M 8 x 100	100
1051 8 110	M 8 x 110	50
1051 8 120	M 8 x 120	100
1051 8 140	M 8 x 140	50
1051 8 160	M 8 x 160	25
1051 8 180	M 8 x 180	25
1051 8 200	M 8 x 200	25
1051 10 16	M 10 x 16	200
1051 10 20	M 10 x 20	200
1051 10 25	M 10 x 25	200
1051 10 30	M 10 x 30	200
1051 10 35	M 10 x 35	100
1051 10 40	M 10 x 40	100
1051 10 45	M 10 x 45	100
1051 10 50	M 10 x 50	100
1051 10 55	M 10 x 55	100
1051 10 60	M 10 x 60	100
1051 10 65	M 10 x 65	100
1051 10 70	M 10 x 70	100
1051 10 80	M 10 x 80	100
1051 10 90	M 10 x 90	100
1051 10 100	M 10 x 100	100
1051 10 110	M 10 x 110	50
1051 10 120	M 10 x 120	50
1051 10 130	M 10 x 130	50
1051 10 140	M 10 x 140	50
1051 10 150	M 10 x 150	50

(d thread dia. x Length mm)

Item no.	Dimension	QTY
1051 10 160	M 10 x 160	25
1051 10 180	M 10 x 180	25
1051 10 200	M 10 x 200	50
1051 10 220	M 10 x 220	25
1051 10 240	M 10 x 240	25
1051 10 260	M 10 x 260	25
1051 10 280	M 10 x 280	25
1051 12 20	M 12 x 20	100
1051 12 25	M 12 x 25	100
1051 12 30	M 12 x 30	100
1051 12 35	M 12 x 35	100
1051 12 40	M 12 x 40	100
1051 12 45	M 12 x 45	100
1051 12 50	M 12 x 50	100
1051 12 55	M 12 x 55	100
1051 12 60	M 12 x 60	100
1051 12 65	M 12 x 65	50
1051 12 70	M 12 x 70	50
1051 12 75	M 12 x 75	50
1051 12 80	M 12 x 80	50
1051 12 90	M 12 x 90	50
1051 12 100	M 12 x 100	50
1051 12 110	M 12 x 110	50
1051 12 120	M 12 x 120	50
1051 12 130	M 12 x 130	50
1051 12 140	M 12 x 140	50
1051 12 150	M 12 x 150	50
1051 12 160	M 12 x 160	25
1051 12 180	M 12 x 180	25
1051 12 190	M 12 x 190	25
1051 12 200	M 12 x 200	25
1051 12 220	M 12 x 220	25
1051 12 240	M 12 x 240	25
1051 12 260	M 12 x 260	25
1051 12 280	M 12 x 280	25
1051 12 300	M 12 x 300	25
1051 12 320	M 12 x 320	25
1051 12 340	M 12 x 340	25
1051 12 360	M 12 x 360	25
1051 12 380	M 12 x 380	25
1051 12 400	M 12 x 400	25
1051 12 420	M 12 x 420	25
1051 12 440	M 12 x 440	25
1051 12 460	M 12 x 460	25
1051 12 480	M 12 x 480	25
1051 12 500	M 12 x 500	25
1051 12 520	M 12 x 520	z 25
1051 12 540	M 12 x 540	10
1051 12 560	M 12 x 560	25
1051 12 580	M 12 x 580	25
1051 12 600	M 12 x 600	25
1051 14 30	M 14 x 30	100
1051 14 35	M 14 x 35	100
1051 14 40	M 14 x 40	100
1051 14 50	M 14 x 50	50
1051 14 60	M 14 x 60	50
1051 14 70	M 14 x 70	50
1051 14 80	M 14 x 80	50
1051 14 100	M 14 x 100	50
1051 16 30	M 16 x 30	50
1051 16 35	M 16 x 35	50
1051 16 40	M 16 x 40	50
1051 16 45	M 16 x 45	50
1051 16 50	M 16 x 50	50
1051 16 55	M 16 x 55	50
1051 16 60	M 16 x 60	50
1051 16 65	M 16 x 65	25
1051 16 70	M 16 x 70	25
1051 16 75	M 16 x 75	25

Specifications



Thread	Head size	k	b	b	b
Dia. mm	mm	mm	L < 125	L 125 - 200	L > 200
M 5	8	3.5	16	-	-
M 6	10	4.0	18	-	-
M 8	13	5.3	22	28	-
M 10	17	6.4	26	32	45
M 12	19	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10.0	38	44	57
M 20	30	12.5	46	52	65
M 24	36	15.0	54	60	73

Item no.	Dimension	QTY
1051 16 80	M 16 x 80	25
1051 16 90	M 16 x 90	25
1051 16 100	M 16 x 100	25
1051 16 110	M 16 x 110	25
1051 16 120	M 16 x 120	25
1051 16 130	M 16 x 130	25
1051 16 140	M 16 x 140	25
1051 16 150	M 16 x 150	25
1051 16 160	M 16 x 160	25
1051 16 180	M 16 x 180	25
1051 16 200	M 16 x 200	25
1051 16 220	M 16 x 220	25
1051 16 240	M 16 x 240	25
1051 16 260	M 16 x 260	25
1051 16 280	M 16 x 280	25
1051 16 300	M 16 x 300	10
1051 16 320	M 16 x 320	10
1051 16 340	M 16 x 340	10
1051 16 360	M 16 x 360	10
1051 16 380	M 16 x 380	25
1051 16 400	M 16 x 400	10
1051 16 420	M 16 x 420	10
1051 16 440	M 16 x 440	10
1051 16 460	M 16 x 460	10
1051 16 480	M 16 x 480	10
1051 16 500	M 16 x 500	10
1051 16 520	M 16 x 520	10
1051 16 540	M 16 x 540	10
1051 16 560	M 16 x 560	10
1051 16 580	M 16 x 580	10
1051 16 600	M 16 x 600	10
1051 20 35	M 20 x 35	25
1051 20 40	M 20 x 40	25
1051 20 45	M 20 x 45	25
1051 20 50	M 20 x 50	25
1051 20 55	M 20 x 55	25
1051 20 60	M 20 x 60	25
1051 20 65	M 20 x 65	25
1051 20 70	M 20 x 70	25
1051 20 75	M 20 x 75	25
1051 20 80	M 20 x 80	25
1051 20 90	M 20 x 90	25
1051 20 100	M 20 x 100	25
1051 20 110	M 20 x 110	25
1051 20 120	M 20 x 120	25
1051 20 130	M 20 x 130	25
1051 20 140	M 20 x 140	25
1051 20 150	M 20 x 150	25
1051 20 160	M 20 x 160	10

Continued on next page

Hex Head Bolts with Nuts DIN 601 4.6, Galvanized



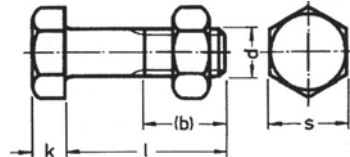
- In compliance with ISO 4016
- With shank and hex nut DIN 555
- Strength class 4.6
- Galvanized steel

Item no.	Dimension	QTY
1051 20 180	M 20 x 180	10
1051 20 200	M 20 x 200	10
1051 20 220	M 20 x 220	10
1051 20 240	M 20 x 240	10
1051 20 260	M 20 x 260	10
1051 20 280	M 20 x 280	10
1051 20 300	M 20 x 300	10
1051 20 320	M 20 x 320	10
1051 20 340	M 20 x 340	10
1051 20 360	M 20 x 360	10
1051 20 380	M 20 x 380	10
1051 20 400	M 20 x 400	10
1051 20 420	M 20 x 420	10
1051 20 440	M 20 x 440	15
1051 20 460	M 20 x 460	10
1051 20 480	M 20 x 480	10
1051 20 500	M 20 x 500	10
1051 20 520	M 20 x 520	5
1051 20 540	M 20 x 540	10
1051 20 560	M 20 x 560	10
1051 20 580	M 20 x 580	10
1051 20 600	M 20 x 600	10
1051 24 45	M 24 x 45	25
1051 24 50	M 24 x 50	25

(d thread dia. x Length mm)

Item no.	Dimension	QTY
1051 24 55	M 24 x 55	25
1051 24 60	M 24 x 60	25
1051 24 70	M 24 x 70	25
1051 24 80	M 24 x 80	25
1051 24 90	M 24 x 90	10
1051 24 100	M 24 x 100	10
1051 24 120	M 24 x 120	10
1051 24 140	M 24 x 140	10
1051 24 160	M 24 x 160	10
1051 24 180	M 24 x 180	10
1051 24 200	M 24 x 200	10
1051 24 220	M 24 x 220	10
1051 24 240	M 24 x 240	10
1051 24 260	M 24 x 260	10
1051 24 280	M 24 x 280	10
1051 24 300	M 24 x 300	10
1051 24 320	M 24 x 320	10
1051 24 340	M 24 x 340	10
1051 24 360	M 24 x 360	10
1051 24 380	M 24 x 380	10
1051 24 420	M 24 x 420	10
1051 24 440	M 24 x 440	10
1051 24 460	M 24 x 460	10

Specifications



Thread Dia.	Head size mm	k mm	b mm	L < 125 mm	L 125 - 200 mm	b mm
M 5	8	3.5	16	-	-	-
M 6	10	4.0	18	-	-	-
M 8	13	5.3	22	28	-	-
M 10	17	6.4	26	32	45	-
M 12	19	7.5	30	36	49	-
M 14	22	8.8	34	40	53	-
M 16	24	10.0	38	44	57	-
M 20	30	12.5	46	52	65	-
M 24	36	15.0	54	60	73	-

Slotted Mushroom Head Cap Screws, Galvanized



- Galvanized steel

Item no.	Dimension	QTY
1110 6 20	M 6 x 20	100
1110 6 25	M 6 x 25	100
1110 6 30	M 6 x 30	100
1110 6 35	M 6 x 35	100
1110 6 40	M 6 x 40	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1110 6 50	M 6 x 50	100
1110 8 20	M 8 x 20	100
1110 8 25	M 8 x 25	100
1110 8 30	M 8 x 30	100
1110 8 35	M 8 x 35	100

Item no.	Dimension	QTY
1110 8 40	M 8 x 40	100
1110 8 45	M 8 x 45	100
1110 8 50	M 8 x 50	100
1110 8 60	M 8 x 60	100

Studs DIN 835 8.8, Plain Steel

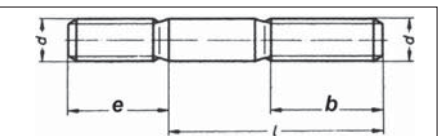
- Strength class 8.8
- Plain Steel

Item no.	Dimension	QTY
1810 8 30	M 8 x 30	100

(d thread Dia. x length mm)

Specifications

Thread Dia.	b mm	e mm
M 8	22	16



Studs DIN 939 5.8, Plain Steel

- Strength class 5.8
- Plain Steel

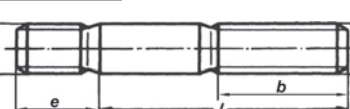
Item no.	Dimension	QTY
1800 6 20	M 6 x 20	100
1800 6 25	M 6 x 25	100
1800 6 30	M 6 x 30	100
1800 8 20	M 8 x 20	100
1800 8 25	M 8 x 25	100
1800 8 30	M 8 x 30	100
1800 8 35	M 8 x 35	100
1800 8 40	M 8 x 40	100
1800 8 45	M 8 x 45	100
1800 8 50	M 8 x 50	100
1800 8 55	M 8 x 55	100
1800 8 60	M 8 x 60	100
1800 8 70	M 8 x 70	100
1800 8 80	M 8 x 80	100
1800 10 25	M 10 x 25	100
1800 10 30	M 10 x 30	100
1800 10 35	M 10 x 35	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1800 10 40	M 10 x 40	100
1800 10 45	M 10 x 45	100
1800 10 50	M 10 x 50	100
1800 10 60	M 10 x 60	100
1800 10 65	M 10 x 65	100
1800 10 70	M 10 x 70	100
1800 10 80	M 10 x 80	50
1800 12 25	M 12 x 25	100
1800 12 30	M 12 x 30	100
1800 12 35	M 12 x 35	100
1800 12 40	M 12 x 40	50
1800 12 45	M 12 x 45	50
1800 12 50	M 12 x 50	50
1800 12 55	M 12 x 55	25
1800 12 60	M 12 x 60	25
1800 12 70	M 12 x 70	25
1800 12 80	M 12 x 80	25



Specifications



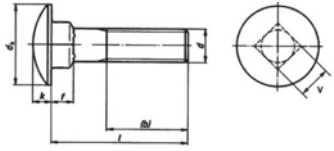
Thread Dia.	b mm	e mm
M 6	18	7.5
M 8	22	10.0
M 10	26	12.0
M 12	30	15.0
M 20	46	25.0

Item no.	Dimension	QTY
1800 20 60	M 20 x 60	25
1800 20 70	M 20 x 70	25
1800 20 80	M 20 x 80	25

Carriage Bolts DIN 603, DIN 4.8 Galvanized

- In compliance with ISO 8677
- With hex nut
- Standard description: Pan-head bolts with square shoulder
- Strength class 4.8
- **Galvanized steel**



Specifications					
					
Thread	dk	k	b	b	b
Dia.			L < 125	L 125 - 200	L > 200
mm	mm	mm	mm	mm	mm
M 5	13.55	3.3	16	22	-
M 6	16.55	3.88	18	24	-
M 8	20.65	4.88	22	28	41
M 10	24.65	5.38	26	32	45
M 12	30.65	6.95	30	36	49
M 16	38.80	8.95	38	44	57

Item no.	Dimension	QTY
1101 5 16	M 5 x 16	200
1101 5 20	M 5 x 20	200
1101 5 25	M 5 x 25	200
1101 5 30	M 5 x 30	200
1101 5 35	M 5 x 35	200
1101 5 40	M 5 x 40	200
1101 5 45	M 5 x 45	200
1101 5 50	M 5 x 50	200
1101 5 55	M 5 x 55	200
1101 5 60	M 5 x 60	200
1101 5 65	M 5 x 65	200
1101 5 70	M 5 x 70	200
1101 5 80	M 5 x 80	200
1101 6 16	M 6 x 16	200
1101 6 20	M 6 x 20	200
1101 6 25	M 6 x 25	200
1101 6 30	M 6 x 30	200
1101 6 35	M 6 x 35	200
1101 6 40	M 6 x 40	200
1101 6 45	M 6 x 45	200
1101 6 50	M 6 x 50	200
1101 6 55	M 6 x 55	200
1101 6 60	M 6 x 60	200
1101 6 65	M 6 x 65	200
1101 6 70	M 6 x 70	200
1101 6 75	M 6 x 75	100
1101 6 80	M 6 x 80	100
1101 6 90	M 6 x 90	100
1101 6 100	M 6 x 100	100
1101 6 110	M 6 x 110	100
1101 6 120	M 6 x 120	100
1101 6 130	M 6 x 130	100
1101 6 140	M 6 x 140	100
1101 6 150	M 6 x 150	100
1101 8 16	M 8 x 16	200
1101 8 20	M 8 x 20	200
1101 8 25	M 8 x 25	200
1101 8 30	M 8 x 30	200
1101 8 35	M 8 x 35	200
1101 8 40	M 8 x 40	200
1101 8 45	M 8 x 45	200
1101 8 50	M 8 x 50	200
1101 8 55	M 8 x 55	100
1101 8 60	M 8 x 60	100
1101 8 65	M 8 x 65	100
1101 8 70	M 8 x 70	100
1101 8 75	M 8 x 75	100
1101 8 80	M 8 x 80	100
1101 8 90	M 8 x 90	100
1101 8 100	M 8 x 100	100
1101 8 110	M 8 x 110	100
1101 8 120	M 8 x 120	100
1101 8 130	M 8 x 130	100
1101 8 140	M 8 x 140	100

Item no.	Dimension	QTY
1101 8 150	M 8 x 150	100
1101 8 160	M 8 x 160	100
1101 8 180	M 8 x 180	50
1101 8 200	M 8 x 200	50
1101 10 20	M 10 x 20	200
1101 10 25	M 10 x 25	200
1101 10 30	M 10 x 30	100
1101 10 35	M 10 x 35	100
1101 10 40	M 10 x 40	100
1101 10 45	M 10 x 45	100
1101 10 50	M 10 x 50	100
1101 10 55	M 10 x 55	100
1101 10 60	M 10 x 60	100
1101 10 65	M 10 x 65	100
1101 10 70	M 10 x 70	50
1101 10 75	M 10 x 75	50
1101 10 80	M 10 x 80	50
1101 10 90	M 10 x 90	50
1101 10 100	M 10 x 100	50
1101 10 110	M 10 x 110	50
1101 10 120	M 10 x 120	50
1101 10 130	M 10 x 130	50
1101 10 140	M 10 x 140	50
1101 10 150	M 10 x 150	50
1101 10 160	M 10 x 160	50
1101 10 170	M 10 x 170	50
1101 10 180	M 10 x 180	50
1101 10 190	M 10 x 190	25
1101 10 200	M 10 x 200	25
1101 10 220	M 10 x 220	25
1101 10 240	M 10 x 240	25
1101 10 260	M 10 x 260	25
1101 10 280	M 10 x 280	25
1101 10 300	M 10 x 300	25
1101 12 20	M 12 x 20	100
1101 12 25	M 12 x 25	100
1101 12 30	M 12 x 30	100
1101 12 35	M 12 x 35	100
1101 12 40	M 12 x 40	100
1101 12 45	M 12 x 45	50
1101 12 50	M 12 x 50	50
1101 12 55	M 12 x 55	50
1101 12 60	M 12 x 60	50
1101 12 65	M 12 x 65	50
1101 12 70	M 12 x 70	50
1101 12 80	M 12 x 80	50
1101 12 90	M 12 x 90	50
1101 12 100	M 12 x 100	50
1101 12 110	M 12 x 110	25
1101 12 120	M 12 x 120	25
1101 12 130	M 12 x 130	25
1101 12 140	M 12 x 140	25
1101 12 150	M 12 x 150	25

Item no.	Dimension	QTY
1101 12 160	M 12 x 160	25
1101 12 170	M 12 x 170	25
1101 12 180	M 12 x 180	25
1101 12 200	M 12 x 200	25
1101 12 220	M 12 x 220	25
1101 12 240	M 12 x 240	25
1101 12 260	M 12 x 260	25
1101 12 280	M 12 x 280	25
1101 12 300	M 12 x 300	25
1101 12 320	M 12 x 320	25
1101 16 35	M 16 x 35	25
1101 16 40	M 16 x 40	25
1101 16 45	M 16 x 45	25
1101 16 50	M 16 x 50	50
1101 16 55	M 16 x 55	25
1101 16 60	M 16 x 60	25
1101 16 70	M 16 x 70	25
1101 16 80	M 16 x 80	25
1101 16 90	M 16 x 90	25
1101 16 100	M 16 x 100	25
1101 16 110	M 16 x 110	25
1101 16 120	M 16 x 120	25
1101 16 130	M 16 x 130	25
1101 16 140	M 16 x 140	25
1101 16 150	M 16 x 150	25
1101 16 160	M 16 x 160	25
1101 16 180	M 16 x 180	25
1101 16 200	M 16 x 200	25
1101 16 220	M 16 x 220	25
1101 16 240	M 16 x 240	25
1101 16 260	M 16 x 260	25
1101 16 280	M 16 x 280	25
1101 16 300	M 16 x 300	10
1101 16 320	M 16 x 320	10
1101 16 340	M 16 x 340	10
1101 16 360	M 16 x 360	z 25
1101 16 400	M 16 x 400	10

(d thread dia. x length mm)

Wheel Lug Bolts 10.9, Galvanized

- Dacromet coated, Strength class 10.9
- **Galvanized steel**

Item no.	Dimension	QTY
1121 12 15 20	M 12 x 1,5 x 20	50

(d thread dia. x Length mm)



Plugs DIN 910, Plain Steel

- With cylindrical thread
- With collar and hex head
- Plain Steel

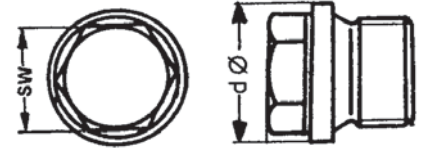


Technical Data

Article No.	Dimension	QTY
1130 10 1	M 10 x 1	10
1130 12 15	M 12 x 1,5	10
1130 14 15	M 14 x 1,5	10
1130 16 15	M 16 x 1,5	10
1130 18 15	M 18 x 1,5	10
1130 20 15	M 20 x 1,5	10
1130 22 15	M 22 x 1,5	10
1130 24 15	M 24 x 1,5	10
1130 26 15	M 26 x 1,5	10

(d thread dia. x length mm)

Thread Dia.	c	s	d2	i	l
mm	mm	mm	mm	mm	mm
M 10	3	10	14	8	17
M 12	3	13	17	12	21
M 14	3	13	19	12	21
M 16	3	17	21	12	21
M 18	4	17	23	12	24
M 20	4	19	25	14	26
M 22	4	19	27	14	26
M 24	4	22	29	14	27
M 26	4	24	31	16	30



Oil Drain Plugs

- Specially designed for the automobile industry
- Art. No. 1139 3 12: with captive sealing washer
- Art. No. 1139 3 14 1: with rubber sealing washer (2641 13)
- Art. No. 1139 4 12: with rubber sealing washer (2668 11 21)
- Art. No. 1139 4 14: with O-ring (2650 2 18)
- Art. No. 1139 5 14 1: with captive sealing washer

Article No.	Dimension	QTY
1139 1 12	M 12x1,5x18	z 25
1139 2 12	M 12x1,5x12	z 25
1139 2 14 1	M 14x1,5x24	z 25
1139 3 12	M 12x1,75x28,5	z 25
1139 3 14	M 14x1,5x16	z 25
1139 3 14 1	M 14x1,5x21	z 25
1139 4 12	M 12x1,75x21	z 25
1139 4 14	M 14x1,5x10	z 25
1139 4 14 1	M 14x1,5x12	z 25
1139 4 16	M 16x1,5x9	z 25
1139 4 18	M 18x1,5x10	z 25
1139 5 14	M 14x1,5x11	z 25
1139 5 14 1	M 14x1,5x21	z 25
1139 6 12	M 12x1,25x13	z 25

(d Thread Dia. x pitch thread x length mm)

Technical Data

Car type	Head size mm
BMW	17
Daimler-Benz	13
Daimler-Benz	13
Ford	15
Ford	13
Ford	13
Opel	15
Opel	TX 45
Opel (VW to year of constr.98)	19
Opel	22
Opel	l.-6Kt.8
VW/Audi	19
VW/Audi	19
Nissan	14



Assortment - Sump Oil Drain Plug

Article No.	Article Description	QTY
9000 1139	ASS. SUMP OIL DRAIN PLUGS	1
9000R 1139	TRAY SUMP OIL DRAIN PLUGS	1

Contents:

Article No.	Article Description	Quantity
1139 1 12	BMW OIL DRAIN PLUG 12X1.5X18	5
1139 2 12	DB OIL DRAIN PLUG 12X1.5X12	5
1139 2 14 1	DB OIL DRAIN PL. M14X1.5X24SW13	5
1139 3 14	FORD OIL DRAIN PLUG M14X1.5X16	5
1139 3 14 1	FORD OIL DRAIN PLUG M14X1.5X21	5
1139 4 14	OPEL O.DRA.PLUG M14X1.5X10TX45	5
1139 4 14 1	OPEL OIL D.PLUG M14X1.5X12SW19	5
1139 4 16	OPEL OIL DRAIN PLUG M16X1.5X9	5
1139 4 18	OPEL OIL DRAIN PLUG M8X1.5X10	5
1139 5 14	VW/AUDI OIL DR.PLUG M14X1.5X11	5
1139 5 14 1	VW/A.OIL DRAIN PLUG M14X1.5X21	5
1139 6 12	NISS.OIL DR.PL.M12X1.25X12SW14	5
2600 12 18	SEAL.RING 7603 A CO 12X18X1.5	5
2600 14 20	SEAL.RING 7603 A CO 14X20X1.5	20
2600 16 22	SEAL.RING 7603 A CO 16X22X1.5	5
2620 12 18	SEAL.RING 7603 A AL 12X18X1.5	5
2641 14	FD-SEA.RING ST/RUB.14.7X24X1.5	5
2667 11 17	NISSAN SEALING RING CU 11X17X3	5



Hex Socket Cap Screws DIN 912 8.8, Plain Steel

- In compliance with ISO 4762
- With socket head
- Strength class 8.8
- Plain Steel

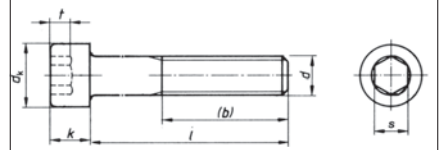


Item no.	Dimension	QTY
1150 3 6	M 3 x 6	H 500
1150 3 8	M 3 x 8	H 500
1150 3 10	M 3 x 10	H 500
1150 3 12	M 3 x 12	H 500
1150 3 14	M 3 x 14	H 500
1150 3 16	M 3 x 16	H 500
1150 3 18	M 3 x 18	H 500
1150 3 20	M 3 x 20	H 500
1150 3 22	M 3 x 22	H 500
1150 3 25	M 3 x 25	H 500
1150 3 30	M 3 x 30	H 500
1150 3 35	M 3 x 35	H 500
1150 3 40	M 3 x 40	H 500
1150 3 45	M 3 x 45	H 500
1150 3 50	M 3 x 50	H 500
1150 4 6	M 4 x 6	H 500
1150 4 8	M 4 x 8	H 500
1150 4 10	M 4 x 10	H 500
1150 4 12	M 4 x 12	H 500
1150 4 14	M 4 x 14	H 500
1150 4 16	M 4 x 16	H 500
1150 4 18	M 4 x 18	H 500
1150 4 20	M 4 x 20	H 500
1150 4 25	M 4 x 25	H 500
1150 4 28	M 4 x 28	H 500
1150 4 30	M 4 x 30	H 500
1150 4 35	M 4 x 35	H 200
1150 4 40	M 4 x 40	H 200
1150 4 45	M 4 x 45	H 200
1150 4 50	M 4 x 50	H 200
1150 4 55	M 4 x 55	H 200
1150 4 60	M 4 x 60	H 200
1150 4 65	M 4 x 65	H 200
1150 4 70	M 4 x 70	H 200
1150 4 80	M 4 x 80	H 200
1150 4 100	M 4 x 100	H 200
1150 5 6	M 5 x 6	H 500
1150 5 8	M 5 x 8	H 500
1150 5 10	M 5 x 10	H 500
1150 5 12	M 5 x 12	H 500
1150 5 14	M 5 x 14	H 500
1150 5 16	M 5 x 16	H 500
1150 5 18	M 5 x 18	H 500
1150 5 20	M 5 x 20	H 500
1150 5 22	M 5 x 22	H 500
1150 5 25	M 5 x 25	H 500
1150 5 30	M 5 x 30	H 500
1150 5 35	M 5 x 35	H 200
1150 5 40	M 5 x 40	H 200
1150 5 45	M 5 x 45	H 200
1150 5 50	M 5 x 50	H 200
1150 5 55	M 5 x 55	H 200
1150 5 60	M 5 x 60	H 200
1150 5 65	M 5 x 65	H 200
1150 5 70	M 5 x 70	H 200
1150 5 75	M 5 x 75	H 200
1150 5 80	M 5 x 80	H 200
1150 5 85	M 5 x 85	H 200
1150 5 90	M 5 x 90	H 200
1150 5 100	M 5 x 100	100
1150 5 110	M 5 x 110	100
1150 5 120	M 5 x 120	100
1150 5 130	M 5 x 130	100
1150 5 140	M 5 x 140	100
1150 5 150	M 5 x 150	100
1150 5 160	M 5 x 160	100
1150 5 170	M 5 x 170	100
1150 5 180	M 5 x 180	100
1150 5 200	M 5 x 200	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1150 6 8	M 6 x 8	H 500
1150 6 10	M 6 x 10	H 500
1150 6 12	M 6 x 12	H 500
1150 6 14	M 6 x 14	H 500
1150 6 16	M 6 x 16	H 500
1150 6 18	M 6 x 18	H 500
1150 6 20	M 6 x 20	H 500
1150 6 22	M 6 x 22	H 500
1150 6 25	M 6 x 25	H 500
1150 6 30	M 6 x 30	H 500
1150 6 35	M 6 x 35	H 200
1150 6 40	M 6 x 40	H 200
1150 6 45	M 6 x 45	H 200
1150 6 50	M 6 x 50	H 200
1150 6 55	M 6 x 55	H 200
1150 6 60	M 6 x 60	H 200
1150 6 65	M 6 x 65	H 200
1150 6 70	M 6 x 70	H 200
1150 6 75	M 6 x 75	H 200
1150 6 80	M 6 x 80	H 200
1150 6 85	M 6 x 85	100
1150 6 90	M 6 x 90	100
1150 6 100	M 6 x 100	100
1150 6 110	M 6 x 110	100
1150 6 120	M 6 x 120	100
1150 6 130	M 6 x 130	100
1150 6 140	M 6 x 140	100
1150 6 150	M 6 x 150	100
1150 6 160	M 6 x 160	100
1150 6 180	M 6 x 180	100
1150 6 200	M 6 x 200	100
1150 8 8	M 8 x 8	H 200
1150 8 10	M 8 x 10	H 200
1150 8 12	M 8 x 12	H 200
1150 8 14	M 8 x 14	H 200
1150 8 16	M 8 x 16	H 200
1150 8 20	M 8 x 20	H 200
1150 8 22	M 8 x 22	H 200
1150 8 25	M 8 x 25	H 200
1150 8 30	M 8 x 30	H 200
1150 8 35	M 8 x 35	H 200
1150 8 40	M 8 x 40	H 200
1150 8 45	M 8 x 45	100
1150 8 50	M 8 x 50	100
1150 8 55	M 8 x 55	100
1150 8 60	M 8 x 60	100
1150 8 65	M 8 x 65	100
1150 8 70	M 8 x 70	100
1150 8 75	M 8 x 75	100
1150 8 80	M 8 x 80	100
1150 8 85	M 8 x 85	100
1150 8 90	M 8 x 90	100
1150 8 100	M 8 x 100	100
1150 8 110	M 8 x 110	100
1150 8 120	M 8 x 120	100
1150 8 140	M 8 x 140	100
1150 8 150	M 8 x 150	100
1150 8 160	M 8 x 160	100
1150 8 170	M 8 x 170	100
1150 8 180	M 8 x 180	100
1150 8 200	M 8 x 200	100
1150 10 10	M 10 x 10	H 200
1150 10 12	M 10 x 12	H 200
1150 10 16	M 10 x 16	H 200
1150 10 18	M 10 x 18	H 200
1150 10 20	M 10 x 20	H 200
1150 10 22	M 10 x 22	H 200
1150 10 25	M 10 x 25	H 200
1150 10 30	M 10 x 30	H 200

Specifications



Thread	b	dk	k	s	t
Dia.	mm	max	max	mm	min
M 3	18	5.5	3	2.5	1.3
M 4	20	7	4	3	2.0
M 5	22	8.5	5	4	2.5
M 6	24	10	6	5	3.0
M 8	28	13	8	6	4.0
M 10	32	16	10	8	5.0
M 12	36	18	12	10	6.7
M 14	40	21	14	12	7.0
M 16	44	24	16	14	8.0
M 20	52	30	20	17	10.0
M 24	60	36	24	19	12.0

Item no.	Dimension	QTY
1150 10 35	M 10 x 35	100
1150 10 40	M 10 x 40	100
1150 10 45	M 10 x 45	100
1150 10 50	M 10 x 50	100
1150 10 55	M 10 x 55	100
1150 10 60	M 10 x 60	100
1150 10 65	M 10 x 65	100
1150 10 70	M 10 x 70	100
1150 10 75	M 10 x 75	100
1150 10 80	M 10 x 80	100
1150 10 85	M 10 x 85	100
1150 10 90	M 10 x 90	100
1150 10 95	M 10 x 95	100
1150 10 100	M 10 x 100	50
1150 10 105	M 10 x 105	50
1150 10 110	M 10 x 110	50
1150 10 120	M 10 x 120	50
1150 10 130	M 10 x 130	50
1150 10 140	M 10 x 140	50
1150 10 150	M 10 x 150	50
1150 10 160	M 10 x 160	50
1150 10 170	M 10 x 170	50
1150 10 180	M 10 x 180	50
1150 10 200	M 10 x 200	50
1150 12 16	M 12 x 16	100
1150 12 20	M 12 x 20	100
1150 12 25	M 12 x 25	100
1150 12 30	M 12 x 30	100
1150 12 35	M 12 x 35	100
1150 12 40	M 12 x 40	100
1150 12 45	M 12 x 45	100
1150 12 50	M 12 x 50	100
1150 12 55	M 12 x 55	100
1150 12 60	M 12 x 60	100
1150 12 65	M 12 x 65	50
1150 12 70	M 12 x 70	50
1150 12 75	M 12 x 75	50
1150 12 80	M 12 x 80	50
1150 12 85	M 12 x 85	50
1150 12 90	M 12 x 90	50
1150 12 95	M 12 x 95	50
1150 12 100	M 12 x 100	50
1150 12 110	M 12 x 110	50
1150 12 120	M 12 x 120	50
1150 12 130	M 12 x 130	10

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Hex Socket Cap Screws DIN 912 8.8, Plain Steel

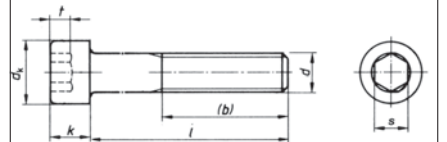
- In compliance with ISO 4762
- With socket head
- Strength class 8.8
- Plain Steel



Item no.	Dimension	QTY
1150 12 140	M 12 x 140	25
1150 12 150	M 12 x 150	25
1150 12 160	M 12 x 160	25
1150 12 170	M 12 x 170	25
1150 12 180	M 12 x 180	25
1150 12 200	M 12 x 200	25
1150 12 230	M 12 x 230	25
1150 14 20	M 14 x 20	100
1150 14 25	M 14 x 25	100
1150 14 30	M 14 x 30	100
1150 14 35	M 14 x 35	100
1150 14 40	M 14 x 40	100
1150 14 45	M 14 x 45	100
1150 14 50	M 14 x 50	100
1150 14 55	M 14 x 55	100
1150 14 60	M 14 x 60	100
1150 14 65	M 14 x 65	50
1150 14 70	M 14 x 70	50
1150 14 75	M 14 x 75	50
1150 14 80	M 14 x 80	50
1150 14 90	M 14 x 90	50
1150 14 100	M 14 x 100	50
1150 14 120	M 14 x 120	50
1150 14 130	M 14 x 130	50
1150 14 140	M 14 x 140	50
1150 14 150	M 14 x 150	50
1150 14 160	M 14 x 160	50
1150 14 180	M 14 x 180	50
1150 14 200	M 14 x 200	50
1150 16 20	M 16 x 20	50
1150 16 25	M 16 x 25	50
1150 16 30	M 16 x 30	50
1150 16 35	M 16 x 35	50
1150 16 40	M 16 x 40	50
1150 16 45	M 16 x 45	50
1150 16 50	M 16 x 50	50
1150 16 55	M 16 x 55	50
1150 16 60	M 16 x 60	25
1150 16 65	M 16 x 65	25
1150 16 70	M 16 x 70	25
1150 16 75	M 16 x 75	25
1150 16 80	M 16 x 80	25
1150 16 90	M 16 x 90	25
1150 16 100	M 16 x 100	25
1150 16 110	M 16 x 110	25
1150 16 120	M 16 x 120	25
1150 16 130	M 16 x 130	25
1150 16 140	M 16 x 140	25
1150 16 150	M 16 x 150	25
1150 16 160	M 16 x 160	25
1150 16 170	M 16 x 170	25
1150 16 180	M 16 x 180	25
1150 16 200	M 16 x 200	25
1150 16 210	M 16 x 210	25
1150 16 220	M 16 x 220	25
1150 16 230	M 16 x 230	25
1150 16 240	M 16 x 240	25

Item no.	Dimension	QTY
1150 16 260	M 16 x 260	25
1150 20 30	M 20 x 30	50
1150 20 35	M 20 x 35	50
1150 20 40	M 20 x 40	50
1150 20 45	M 20 x 45	50
1150 20 50	M 20 x 50	50
1150 20 55	M 20 x 55	50
1150 20 60	M 20 x 60	50
1150 20 65	M 20 x 65	50
1150 20 70	M 20 x 70	50
1150 20 75	M 20 x 75	50
1150 20 80	M 20 x 80	50
1150 20 90	M 20 x 90	50
1150 20 100	M 20 x 100	50
1150 20 110	M 20 x 110	50
1150 20 120	M 20 x 120	25
1150 20 130	M 20 x 130	25
1150 20 140	M 20 x 140	25
1150 20 150	M 20 x 150	25
1150 20 160	M 20 x 160	25
1150 20 170	M 20 x 170	10
1150 20 180	M 20 x 180	10
1150 20 200	M 20 x 200	10
1150 20 220	M 20 x 220	10
1150 20 240	M 20 x 240	10
1150 20 260	M 20 x 260	10
1150 20 280	M 20 x 280	10
1150 20 300	M 20 x 300	10
1150 24 45	M 24 x 45	25
1150 24 50	M 24 x 50	25
1150 24 55	M 24 x 55	25
1150 24 60	M 24 x 60	25
1150 24 65	M 24 x 65	25
1150 24 70	M 24 x 70	10
1150 24 80	M 24 x 80	10
1150 24 90	M 24 x 90	10
1150 24 100	M 24 x 100	10
1150 24 110	M 24 x 110	10
1150 24 120	M 24 x 120	10
1150 24 130	M 24 x 130	10
1150 24 140	M 24 x 140	10
1150 24 150	M 24 x 150	10
1150 24 160	M 24 x 160	10
1150 24 180	M 24 x 180	10
1150 24 200	M 24 x 200	10
1150 24 220	M 24 x 220	10
1150 24 230	M 24 x 230	10
1150 24 240	M 24 x 240	10
1150 24 250	M 24 x 250	10
1150 24 260	M 24 x 260	10
1150 24 280	M 24 x 280	10
1150 24 290	M 24 x 290	10
1150 24 300	M 24 x 300	10

Specifications



d	b	dk	k	s	t
Thread-Ø		max	max		min
mm	mm	mm	mm	mm	mm
M 3	18	5.5	3	2,5	1,3
M 4	20	7	4	3	2,0
M 5	22	8.5	5	4	2,5
M 6	24	10	6	5	3,0
M 8	28	13	8	6	4,0
M 10	32	16	10	8	5,0
M 12	36	18	12	10	6,7
M 14	40	21	14	12	7,0
M 16	44	24	16	14	8,0
M 20	52	30	20	17	10,0
M 24	60	36	24	19	12,0

(d thread dia. x length mm)

Hex Socket Cap Screws DIN 912 8.8, Plain Steel

- In compliance with ISO 4762
- With socket head
- Strength class 8.8
- Plain Steel

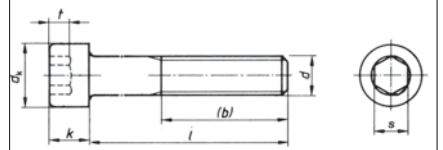


Item no.	Dimension	QTY
1151 3 4	M 3 x 4	H 500
1151 3 5	M 3 x 5	500
1151 3 6	M 3 x 6	H 500
1151 3 8	M 3 x 8	H 500
1151 3 10	M 3 x 10	H 500
1151 3 12	M 3 x 12	H 500
1151 3 14	M 3 x 14	500
1151 3 16	M 3 x 16	H 500
1151 3 18	M 3 x 18	H 200
1151 3 20	M 3 x 20	500
1151 3 22	M 3 x 22	500
1151 3 25	M 3 x 25	H 200
1151 3 30	M 3 x 30	H 200
1151 3 35	M 3 x 35	500
1151 3 40	M 3 x 40	H 200
1151 3 45	M 3 x 45	500
1151 3 50	M 3 x 50	500
1151 4 5	M 4 x 5	H 500
1151 4 6	M 4 x 6	H 500
1151 4 8	M 4 x 8	H 500
1151 4 10	M 4 x 10	H 500
1151 4 12	M 4 x 12	H 500
1151 4 14	M 4 x 14	H 500
1151 4 16	M 4 x 16	H 500
1151 4 18	M 4 x 18	H 500
1151 4 20	M 4 x 20	H 500
1151 4 22	M 4 x 22	H 500
1151 4 25	M 4 x 25	H 500
1151 4 30	M 4 x 30	H 500
1151 4 35	M 4 x 35	H 200
1151 4 40	M 4 x 40	H 200
1151 4 45	M 4 x 45	H 200
1151 4 50	M 4 x 50	H 200
1151 4 55	M 4 x 55	200
1151 4 60	M 4 x 60	H 200
1151 4 65	M 4 x 65	200
1151 4 70	M 4 x 70	H 200
1151 4 80	M 4 x 80	H 200
1151 5 6	M 5 x 6	H 500
1151 5 8	M 5 x 8	H 500
1151 5 10	M 5 x 10	H 500
1151 5 12	M 5 x 12	H 500
1151 5 14	M 5 x 14	H 500
1151 5 16	M 5 x 16	H 500
1151 5 18	M 5 x 18	H 500
1151 5 20	M 5 x 20	H 500
1151 5 25	M 5 x 25	H 500
1151 5 30	M 5 x 30	H 500
1151 5 35	M 5 x 35	H 200
1151 5 40	M 5 x 40	H 200
1151 5 45	M 5 x 45	H 200
1151 5 50	M 5 x 50	H 200
1151 5 55	M 5 x 55	H 200
1151 5 60	M 5 x 60	H 200
1151 5 65	M 5 x 65	H 200
1151 5 70	M 5 x 70	H 200
1151 5 75	M 5 x 75	100
1151 5 80	M 5 x 80	100
1151 5 90	M 5 x 90	100
1151 5 100	M 5 x 100	100
1151 5 110	M 5 x 110	100
1151 5 120	M 5 x 120	100
1151 5 130	M 5 x 130	100
1151 5 140	M 5 x 140	100
1151 5 150	M 5 x 150	100
1151 5 160	M 5 x 160	100
1151 5 180	M 5 x 180	100
1151 6 8	M 6 x 8	H 500
1151 6 10	M 6 x 10	H 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1151 6 12	M 6 x 12	H 500
1151 6 14	M 6 x 14	H 500
1151 6 16	M 6 x 16	H 500
1151 6 18	M 6 x 18	H 500
1151 6 20	M 6 x 20	H 500
1151 6 22	M 6 x 22	H 500
1151 6 25	M 6 x 25	H 500
1151 6 30	M 6 x 30	H 500
1151 6 35	M 6 x 35	H 200
1151 6 40	M 6 x 40	H 200
1151 6 45	M 6 x 45	H 200
1151 6 50	M 6 x 50	H 200
1151 6 55	M 6 x 55	H 200
1151 6 60	M 6 x 60	H 200
1151 6 65	M 6 x 65	H 200
1151 6 70	M 6 x 70	H 200
1151 6 75	M 6 x 75	H 200
1151 6 80	M 6 x 80	H 200
1151 6 85	M 6 x 85	H 200
1151 6 90	M 6 x 90	H 200
1151 6 100	M 6 x 100	H 200
1151 6 110	M 6 x 110	100
1151 6 120	M 6 x 120	100
1151 6 130	M 6 x 130	100
1151 6 140	M 6 x 140	100
1151 6 145	M 6 x 145	100
1151 6 150	M 6 x 150	100
1151 6 160	M 6 x 160	100
1151 6 170	M 6 x 170	100
1151 6 180	M 6 x 180	100
1151 8 10	M 8 x 10	H 200
1151 8 12	M 8 x 12	H 200
1151 8 14	M 8 x 14	200
1151 8 16	M 8 x 16	H 200
1151 8 18	M 8 x 18	H 200
1151 8 20	M 8 x 20	H 200
1151 8 22	M 8 x 22	H 200
1151 8 25	M 8 x 25	H 200
1151 8 30	M 8 x 30	H 200
1151 8 35	M 8 x 35	H 200
1151 8 40	M 8 x 40	H 200
1151 8 45	M 8 x 45	100
1151 8 50	M 8 x 50	100
1151 8 55	M 8 x 55	100
1151 8 60	M 8 x 60	100
1151 8 65	M 8 x 65	100
1151 8 70	M 8 x 70	100
1151 8 75	M 8 x 75	100
1151 8 80	M 8 x 80	100
1151 8 85	M 8 x 85	100
1151 8 90	M 8 x 90	100
1151 8 100	M 8 x 100	100
1151 8 110	M 8 x 110	100
1151 8 120	M 8 x 120	100
1151 8 130	M 8 x 130	100
1151 8 140	M 8 x 140	100
1151 8 150	M 8 x 150	100
1151 8 160	M 8 x 160	50
1151 8 180	M 8 x 180	100
1151 10 12	M 10 x 12	H 200
1151 10 16	M 10 x 16	H 200
1151 10 20	M 10 x 20	H 200
1151 10 22	M 10 x 22	200
1151 10 25	M 10 x 25	H 200
1151 10 30	M 10 x 30	H 200
1151 10 35	M 10 x 35	100
1151 10 40	M 10 x 40	100
1151 10 45	M 10 x 45	100
1151 10 50	M 10 x 50	100

Specifications



Thread	b	dk	k	s	t
Dia.	mm	max	max	mm	min
M 3	18	5.5	3	2.5	1.3
M 4	20	7.0	4	3.0	2.0
M 5	22	8.5	5	4.0	2.5
M 6	24	10.0	6	5.0	3.0
M 8	28	13.0	8	6.0	4.0
M 10	32	16.0	10	8.0	5.0
M 12	36	18.0	12	10.0	6.7
M 14	40	21.0	14	12.0	7.0
M 16	44	24.0	16	14.0	8.0
M 20	52	30.0	20	17.0	10.0

Item no.	Dimension	QTY
1151 10 55	M 10 x 55	100
1151 10 60	M 10 x 60	100
1151 10 65	M 10 x 65	100
1151 10 70	M 10 x 70	100
1151 10 75	M 10 x 75	100
1151 10 80	M 10 x 80	100
1151 10 85	M 10 x 85	100
1151 10 90	M 10 x 90	50
1151 10 100	M 10 x 100	50
1151 10 110	M 10 x 110	50
1151 10 120	M 10 x 120	50
1151 10 130	M 10 x 130	50
1151 10 140	M 10 x 140	50
1151 10 150	M 10 x 150	50
1151 10 160	M 10 x 160	50
1151 10 180	M 10 x 180	50
1151 12 16	M 12 x 16	100
1151 12 20	M 12 x 20	100
1151 12 22	M 12 x 22	100
1151 12 25	M 12 x 25	100
1151 12 30	M 12 x 30	100
1151 12 35	M 12 x 35	100
1151 12 40	M 12 x 40	100
1151 12 45	M 12 x 45	100
1151 12 50	M 12 x 50	100
1151 12 55	M 12 x 55	100
1151 12 60	M 12 x 60	100
1151 12 65	M 12 x 65	50
1151 12 70	M 12 x 70	50
1151 12 75	M 12 x 75	50
1151 12 80	M 12 x 80	50
1151 12 90	M 12 x 90	50
1151 12 100	M 12 x 100	50
1151 12 110	M 12 x 110	50
1151 12 120	M 12 x 120	50
1151 12 130	M 12 x 130	50
1151 12 140	M 12 x 140	50
1151 12 150	M 12 x 150	50
1151 12 160	M 12 x 160	25
1151 12 170	M 12 x 170	25
1151 12 180	M 12 x 180	25
1151 12 200	M 12 x 200	25
1151 14 20	M 14 x 20	100
1151 14 25	M 14 x 25	100
1151 14 30	M 14 x 30	100
1151 14 35	M 14 x 35	100
1151 14 40	M 14 x 40	100

Continued on next page

Hex Socket Cap Screws DIN 912 8.8, Plain Steel

- In compliance with ISO 4762
- With socket head
- Strength class 8.8
- Plain Steel



Item no.	Dimension	QTY
1151 14 45	M 14 x 45	100
1151 14 50	M 14 x 50	100
1151 14 60	M 14 x 60	100
1151 14 70	M 14 x 70	50
1151 14 80	M 14 x 80	50
1151 14 90	M 14 x 90	50
1151 14 100	M 14 x 100	50
1151 14 110	M 14 x 110	50
1151 14 130	M 14 x 130	50
1151 14 140	M 14 x 140	50
1151 16 20	M 16 x 20	50
1151 16 25	M 16 x 25	50
1151 16 30	M 16 x 30	50
1151 16 35	M 16 x 35	50
1151 16 40	M 16 x 40	50
1151 16 45	M 16 x 45	50
1151 16 50	M 16 x 50	50
1151 16 55	M 16 x 55	50
1151 16 60	M 16 x 60	50
1151 16 65	M 16 x 65	25
1151 16 70	M 16 x 70	25
1151 16 75	M 16 x 75	25
1151 16 80	M 16 x 80	25
1151 16 85	M 16 x 85	25

(d thread dia. x length mm)

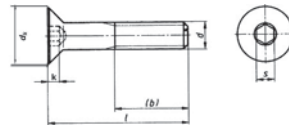
Item no.	Dimension	QTY
1151 16 90	M 16 x 90	25
1151 16 100	M 16 x 100	25
1151 16 110	M 16 x 110	25
1151 16 120	M 16 x 120	25
1151 16 130	M 16 x 130	25
1151 16 140	M 16 x 140	25
1151 16 180	M 16 x 180	25
1151 20 30	M 20 x 30	25
1151 20 35	M 20 x 35	25
1151 20 40	M 20 x 40	25
1151 20 45	M 20 x 45	25
1151 20 50	M 20 x 50	25
1151 20 55	M 20 x 55	25
1151 20 60	M 20 x 60	25
1151 20 65	M 20 x 65	25
1151 20 70	M 20 x 70	25
1151 20 75	M 20 x 75	25
1151 20 80	M 20 x 80	25
1151 20 90	M 20 x 90	25
1151 20 100	M 20 x 100	25
1151 20 110	M 20 x 110	25
1151 20 120	M 20 x 120	25
1151 20 140	M 20 x 140	25

Specifications

Thread Dia.	b	dk max	k max	s	t min
mm	mm	mm	mm	mm	mm
M 3	18	5.5	3	2.5	1.3
M 4	20	7.0	4	3.0	2.0
M 5	22	8.5	5	4.0	2.5
M 6	24	10.0	6	5.0	3.0
M 8	28	13.0	8	6.0	4.0
M 10	32	16.0	10	8.0	5.0
M 12	36	18.0	12	10.0	6.7
M 14	40	21.0	14	12.0	7.0
M 16	44	24.0	16	14.0	8.0
M 20	52	30.0	20	17.0	10.0

Hex Socket CSK Cap Screws DIN7991 8.8, Plain Steel

- In compliance with 10462
- With countersunk head
- Strength class 8.8
- Plain Steel



Item no.	Dimension	QTY
1160 3 6	M 3 x 6	100
1160 3 8	M 3 x 8	100
1160 3 10	M 3 x 10	100
1160 3 12	M 3 x 12	100
1160 3 16	M 3 x 16	100
1160 3 25	M 3 x 25	100
1160 4 6	M 4 x 6	100
1160 4 8	M 4 x 8	100
1160 4 10	M 4 x 10	100
1160 4 12	M 4 x 12	100
1160 4 16	M 4 x 16	100
1160 4 20	M 4 x 20	100
1160 4 25	M 4 x 25	100
1160 4 30	M 4 x 30	100
1160 4 35	M 4 x 35	100
1160 4 40	M 4 x 40	100
1160 5 10	M 5 x 10	100
1160 5 12	M 5 x 12	100
1160 5 16	M 5 x 16	100
1160 5 20	M 5 x 20	100
1160 5 25	M 5 x 25	100
1160 5 30	M 5 x 30	100
1160 5 35	M 5 x 35	100
1160 5 40	M 5 x 40	100
1160 6 8	M 6 x 8	100
1160 6 10	M 6 x 10	100
1160 6 12	M 6 x 12	100
1160 6 16	M 6 x 16	100
1160 6 20	M 6 x 20	100
1160 6 25	M 6 x 25	100
1160 6 30	M 6 x 30	100
1160 6 35	M 6 x 35	100
1160 6 40	M 6 x 40	100
1160 6 50	M 6 x 50	100
1160 6 55	M 6 x 55	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1160 6 60	M 6 x 60	100
1160 6 80	M 6 x 80	100
1160 8 10	M 8 x 10	100
1160 8 12	M 8 x 12	100
1160 8 16	M 8 x 16	100
1160 8 20	M 8 x 20	100
1160 8 25	M 8 x 25	100
1160 8 30	M 8 x 30	100
1160 8 35	M 8 x 35	100
1160 8 40	M 8 x 40	100
1160 8 45	M 8 x 45	100
1160 8 50	M 8 x 50	100
1160 8 55	M 8 x 55	100
1160 8 60	M 8 x 60	100
1160 8 70	M 8 x 70	100
1160 8 80	M 8 x 80	100
1160 8 90	M 8 x 90	100
1160 10 12	M 10 x 12	200
1160 10 16	M 10 x 16	100
1160 10 20	M 10 x 20	100
1160 10 25	M 10 x 25	100
1160 10 30	M 10 x 30	100
1160 10 35	M 10 x 35	100
1160 10 40	M 10 x 40	100
1160 10 45	M 10 x 45	100
1160 10 50	M 10 x 50	100
1160 10 60	M 10 x 60	100
1160 10 70	M 10 x 70	50
1160 10 100	M 10 x 100	50
1160 12 20	M 12 x 20	100
1160 12 25	M 12 x 25	100
1160 12 30	M 12 x 30	100
1160 12 35	M 12 x 35	100
1160 12 40	M 12 x 40	100
1160 12 45	M 12 x 45	100

Specifications

Thread Dia.	b	dk max	k max	s
mm	mm	mm	mm	mm
M 3	12	6	1.7	2
M 4	14	8	2.3	2.5
M 5	16	10	2.8	3
M 6	18	12	3.3	4
M 8	22	16	4.4	5
M 10	26	20	5.5	6
M 12	30	24	6.5	8
M 16	38	30	7.5	10
M 20	46	36	8.5	12

Item no.	Dimension	QTY
1160 12 50	M 12 x 50	100
1160 12 55	M 12 x 55	100
1160 12 60	M 12 x 60	100
1160 12 70	M 12 x 70	50
1160 12 80	M 12 x 80	50
1160 12 90	M 12 x 90	50
1160 16 25	M 16 x 25	50
1160 16 30	M 16 x 30	50
1160 16 35	M 16 x 35	50
1160 16 40	M 16 x 40	50
1160 16 45	M 16 x 45	50
1160 16 50	M 16 x 50	50
1160 16 60	M 16 x 60	50
1160 16 70	M 16 x 70	25
1160 16 80	M 16 x 80	25
1160 16 100	M 16 x 100	25
1160 20 55	M 20 x 55	25
1160 20 60	M 20 x 60	25
1160 20 80	M 20 x 80	25
1160 20 100	M 20 x 100	25

Hex Socket CSK Screws DIN 7991 8.8, Zinc

- In compliance with 10462
- Countersunk head
- Strength class 8.8
- Galvanized steel

Item no.	Dimension	QTY
1161 3 4	3 x 4	H 200
1161 3 5	3 x 5	H 200
1161 3 6	M 3 x 6	100
1161 3 8	M 3 x 8	100
1161 3 10	M 3 x 10	100
1161 3 12	M 3 x 12	100
1161 3 16	M 3 x 16	100
1161 4 6	M 4 x 6	100
1161 4 8	M 4 x 8	100
1161 4 10	M 4 x 10	100
1161 4 12	M 4 x 12	100
1161 4 16	M 4 x 16	100
1161 4 20	M 4 x 20	100
1161 4 25	M 4 x 25	100
1161 4 30	M 4 x 30	100
1161 4 40	M 4 x 40	100
1161 5 8	M 5 x 8	100
1161 5 10	M 5 x 10	100
1161 5 12	M 5 x 12	100
1161 5 16	M 5 x 16	100
1161 5 20	M 5 x 20	100
1161 5 25	M 5 x 25	100
1161 5 30	M 5 x 30	100
1161 5 35	M 5 x 35	100
1161 5 40	M 5 x 40	100
1161 5 45	M 5 x 45	100
1161 5 50	M 5 x 50	100
1161 5 60	M 5 x 60	100
1161 6 8	M 6 x 8	100
1161 6 10	M 6 x 10	100
1161 6 12	M 6 x 12	100
1161 6 16	M 6 x 16	100
1161 6 20	M 6 x 20	100
1161 6 25	M 6 x 25	100
1161 6 30	M 6 x 30	100
1161 6 35	M 6 x 35	100
1161 6 40	M 6 x 40	100
1161 6 45	M 6 x 45	100
1161 6 50	M 6 x 50	100
1161 6 60	M 6 x 60	100
1161 6 70	M 6 x 70	100
1161 8 10	M 8 x 10	100
1161 8 12	M 8 x 12	100
1161 8 14	M 8 x 14	100
1161 8 16	M 8 x 16	100
1161 8 20	M 8 x 20	100
1161 8 22	M 8 x 22	100
1161 8 25	M 8 x 25	100
1161 8 30	M 8 x 30	100
1161 8 35	M 8 x 35	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1161 8 40	M 8 x 40	100
1161 8 45	M 8 x 45	100
1161 8 50	M 8 x 50	100
1161 8 55	8 x 55	gf 100
1161 8 60	M 8 x 60	100
1161 8 70	M 8 x 70	100
1161 8 80	M 8 x 80	100
1161 8 90	M 8 x 90	100
1161 8 100	M 8 x 100	100
1161 8 110	8 x 110	g 50
1161 8 120	8 x 120	g 50
1161 10 12	M 10 x 12	200
1161 10 16	M 10 x 16	100
1161 10 20	M 10 x 20	100
1161 10 25	M 10 x 25	100
1161 10 30	M 10 x 30	100
1161 10 35	M 10 x 35	100
1161 10 40	M 10 x 40	100
1161 10 45	M 10 x 45	100
1161 10 50	M 10 x 50	100
1161 10 55	M 10 x 55	100
1161 10 60	M 10 x 60	100
1161 10 70	M 10 x 70	50
1161 10 80	M 10 x 80	50
1161 10 90	M 10 x 90	f 100
1161 10 100	M 10 x 100	50
1161 12 20	M 12 x 20	100
1161 12 25	M 12 x 25	100
1161 12 30	M 12 x 30	100
1161 12 35	M 12 x 35	100
1161 12 40	M 12 x 40	100
1161 12 45	M 12 x 45	100
1161 12 50	M 12 x 50	100
1161 12 60	M 12 x 60	100
1161 12 70	M 12 x 70	50
1161 12 80	M 12 x 80	50
1161 12 90	M 12 x 90	50
1161 12 100	M 12 x 100	50
1161 12 140	M 12 x 140	25
1161 16 30	M 16 x 30	50
1161 16 40	M 16 x 40	50
1161 16 45	M 16 x 45	50
1161 16 50	M 16 x 50	50
1161 16 60	M 16 x 60	50
1161 16 70	M 16 x 70	25
1161 16 80	M 16 x 80	25
1161 20 50	M 20 x 50	25
1161 20 60	M 20 x 60	25
1161 20 80	M 20 x 80	25



Specifications

Thread	b	dk max	k max	s
Dia. mm	mm	mm	mm	mm
M 3	12	6	1.7	2
M 4	14	8	2.3	2.5
M 5	16	10	2.8	3
M 6	18	12	3.3	4
M 8	22	16	4.4	5
M 10	26	20	5.5	6
M 12	30	24	6.5	8
M 16	38	30	7.5	10
M 20	46	36	8.5	12

Flat Head Domed Socket Screw ISO 7380 10.9 - Zinc

- Strength class: 10.9
- Galvanized steel

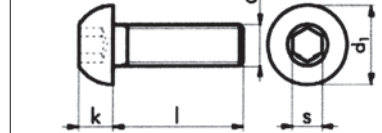
Item no.	Dimension	QTY
1170 4 6	M 4 x 6	100
1170 4 8	M 4 x 8	100
1170 4 10	M 4 x 10	100
1170 4 12	M 4 x 12	100
1170 4 14	M 4 x 14	100
1170 4 16	M 4 x 16	100
1170 4 18	M 4 x 18	100
1170 4 20	M 4 x 20	100
1170 4 25	M 4 x 25	100
1170 4 30	M 4 x 30	100
1170 4 35	M 4 x 35	100
1170 4 40	M 4 x 40	100
1170 5 6	M 5 x 6	100
1170 5 8	M 5 x 8	100
1170 5 10	M 5 x 10	100
1170 5 12	M 5 x 12	100
1170 5 16	M 5 x 16	100
1170 5 20	M 5 x 20	100
1170 5 25	M 5 x 25	100
1170 5 30	M 5 x 30	100
1170 5 35	M 5 x 35	100
1170 5 40	M 5 x 40	100
1170 5 45	M 5 x 45	100
1170 5 50	M 5 x 50	100
1170 6 8	M 6 x 8	100
1170 6 10	M 6 x 10	100
1170 6 12	M 6 x 12	100
1170 6 14	M 6 x 14	100
1170 6 16	M 6 x 16	100
1170 6 20	M 6 x 20	100
1170 6 25	M 6 x 25	100
1170 6 30	M 6 x 30	100

(d thread dia. x length in mm)

Item no.	Dimension	QTY
1170 6 35	M 6 x 35	100
1170 6 40	M 6 x 40	100
1170 6 45	M 6 x 45	100
1170 6 50	M 6 x 50	100
1170 8 10	M 8 x 10	100
1170 8 12	M 8 x 12	100
1170 8 14	M 8 x 14	100
1170 8 16	M 8 x 16	100
1170 8 18	M 8 x 18	100
1170 8 20	M 8 x 20	100
1170 8 25	M 8 x 25	100
1170 8 30	M 8 x 30	100
1170 8 35	M 8 x 35	100
1170 8 40	M 8 x 40	100
1170 8 45	M 8 x 45	100
1170 8 50	M 8 x 50	100
1170 8 60	M 8 x 60	100
1170 10 16	M 10 x 16	100
1170 10 20	M 10 x 20	100
1170 10 25	M 10 x 25	100
1170 10 30	M 10 x 30	100
1170 10 35	M 10 x 35	100
1170 10 40	M 10 x 40	100
1170 10 45	M 10 x 45	100
1170 12 20	M 12 x 20	f 100
1170 12 25	M 12 x 25	f 100
1170 12 30	M 12 x 30	f 100
1170 12 35	M 12 x 35	f 100
1170 12 40	M 12 x 40	f 100
1170 12 45	M 12 x 45	f 100
1170 12 50	M 12 x 50	f 100



Specifications



Thread	d1	K	S
Dia.			
mm	mm	mm	mm
M 5	9.5	2.7	3
M 6	10.5	3.2	4
M 8	14.0	3.2	5

Hex Oval-head Screw, Flange ISO 7380

- Tensile strength: 10.9
- Steel zinc coated

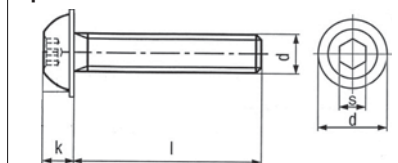
Item no.	Dimension	QTY
1171 4 6	M 4 x 6	100
1171 4 8	M 4 x 8	100
1171 4 10	M 4 x 10	100
1171 4 12	M 4 x 12	100
1171 4 14	M 4 x 14	100
1171 4 16	M 4 x 16	100
1171 4 18	M 4 x 18	100
1171 4 20	M 4 x 20	100
1171 4 25	M 4 x 25	100
1171 4 30	M 4 x 30	100
1171 4 35	M 4 x 35	100
1171 5 6	M 5 x 6	100
1171 5 8	M 5 x 8	100
1171 5 10	M 5 x 10	100
1171 5 12	M 5 x 12	100
1171 5 14	M 5 x 14	100
1171 5 16	M 5 x 16	100
1171 5 18	M 5 x 18	100
1171 5 20	M 5 x 20	100
1171 5 25	M 5 x 25	100
1171 5 30	M 5 x 30	100
1171 5 35	M 5 x 35	100
1171 6 8	M 6 x 8	100
1171 6 10	M 6 x 10	100
1171 6 12	M 6 x 12	100
1171 6 14	M 6 x 14	100
1171 6 16	M 6 x 16	100

(d thread dia. x length in mm)

Item no.	Dimension	QTY
1171 6 18	M 6 x 18	100
1171 6 20	M 6 x 20	100
1171 6 25	M 6 x 25	100
1171 6 30	M 6 x 30	100
1171 6 35	M 6 x 35	100
1171 6 40	M 6 x 40	100
1171 6 45	M 6 x 45	100
1171 6 50	M 6 x 50	100
1171 6 55	M 6 x 55	100
1171 6 60	M 6 x 60	100
1171 8 8	M 8 x 8	100
1171 8 10	M 8 x 10	100
1171 8 12	M 8 x 12	100
1171 8 14	M 8 x 14	100
1171 8 16	M 8 x 16	100
1171 8 18	M 8 x 18	100
1171 8 20	M 8 x 20	100
1171 8 25	M 8 x 25	100
1171 8 30	M 8 x 30	100
1171 8 35	M 8 x 35	100
1171 8 40	M 8 x 40	100
1171 8 45	M 8 x 45	100
1171 8 50	M 8 x 50	100
1171 8 60	M 8 x 60	100
1171 10 25	M 10 x 25	100
1171 10 30	M 10 x 30	100
1171 10 35	M 10 x 35	100



Specifications



Thread	d1	K	S
Dia.			
mm	mm	mm	mm
M 4	9,4	2,2	2,5
M 5	11,8	2,75	3
M 6	13,6	3,3	4
M 8	17,8	4,4	5
M 10	21,9	5,5	6

Hex Socket Head Cap Screw DIN 6912 8.8 Plain Steel

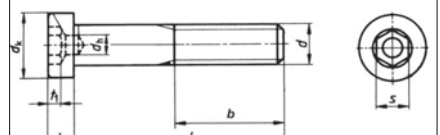
- Low profile
- With flat cylindrical head and hexagon socket
- Strength class 8.8
- Plain Steel



Item no.	Dimension	QTY
1180 4 6	M 4 x 6	500
1180 4 8	M 4 x 8	500
1180 4 10	M 4 x 10	500
1180 4 12	M 4 x 12	500
1180 4 16	M 4 x 16	500
1180 4 20	M 4 x 20	500
1180 4 25	M 4 x 25	500
1180 4 30	M 4 x 30	500
1180 4 35	M 4 x 35	500
1180 4 40	M 4 x 40	500
1180 5 6	M 5 x 6	500
1180 5 10	M 5 x 10	500
1180 5 12	M 5 x 12	500
1180 5 16	M 5 x 16	500
1180 5 20	M 5 x 20	500
1180 5 25	M 5 x 25	500
1180 5 30	M 5 x 30	500
1180 5 35	M 5 x 35	200
1180 5 40	M 5 x 40	200
1180 5 45	M 5 x 45	200
1180 5 50	M 5 x 50	200
1180 5 55	M 5 x 55	200
1180 5 60	M 5 x 60	200
1180 6 8	M 6 x 8	500
1180 6 10	M 6 x 10	500
1180 6 12	M 6 x 12	500
1180 6 16	M 6 x 16	500
1180 6 20	M 6 x 20	500
1180 6 22	M 6 x 22	500
1180 6 25	M 6 x 25	500
1180 6 30	M 6 x 30	500
1180 6 40	M 6 x 40	200
1180 6 45	M 6 x 45	200
1180 6 50	M 6 x 50	200
1180 6 55	M 6 x 55	200
1180 6 60	M 6 x 60	200
1180 6 70	M 6 x 70	200
1180 6 80	M 6 x 80	200
1180 6 90	M 6 x 90	200
1180 6 100	M 6 x 100	200
1180 6 110	M 6 x 110	200
1180 6 120	M 6 x 120	200
1180 8 10	M 8 x 10	200
1180 8 12	M 8 x 12	200
1180 8 14	M 8 x 14	200
1180 8 16	M 8 x 16	200
1180 8 20	M 8 x 20	200
1180 8 22	M 8 x 22	200
1180 8 25	M 8 x 25	200
1180 8 30	M 8 x 30	200
1180 8 35	M 8 x 35	200
1180 8 40	M 8 x 40	200
1180 8 45	M 8 x 45	200
1180 8 50	M 8 x 50	200
1180 8 55	M 8 x 55	200
1180 8 60	M 8 x 60	200
1180 8 70	M 8 x 70	200
1180 8 80	M 8 x 80	200
1180 8 90	M 8 x 90	200
1180 8 100	M 8 x 100	200

(d thread dia. x length mm)

Item no.	Dimension	QTY
1180 8 110	M 8 x 110	200
1180 8 120	M 8 x 120	200
1180 10 16	M 10 x 16	H 200
1180 10 20	M 10 x 20	200
1180 10 25	M 10 x 25	200
1180 10 30	M 10 x 30	100
1180 10 35	M 10 x 35	100
1180 10 40	M 10 x 40	100
1180 10 45	M 10 x 45	100
1180 10 50	M 10 x 50	100
1180 10 55	M 10 x 55	100
1180 10 60	M 10 x 60	100
1180 10 65	M 10 x 65	100
1180 10 70	M 10 x 70	100
1180 10 80	M 10 x 80	100
1180 10 90	M 10 x 90	100
1180 10 100	M 10 x 100	100
1180 10 110	M 10 x 110	100
1180 10 120	M 10 x 120	100
1180 10 130	M 10 x 130	100
1180 10 140	M 10 x 140	100
1180 12 20	M 12 x 20	100
1180 12 25	M 12 x 25	100
1180 12 30	M 12 x 30	100
1180 12 35	M 12 x 35	100
1180 12 40	M 12 x 40	100
1180 12 45	M 12 x 45	100
1180 12 50	M 12 x 50	100
1180 12 55	M 12 x 55	100
1180 12 60	M 12 x 60	100
1180 12 70	M 12 x 70	50
1180 12 80	M 12 x 80	50
1180 12 90	M 12 x 90	50
1180 12 100	M 12 x 100	50
1180 12 110	M 12 x 110	50
1180 12 120	M 12 x 120	50
1180 12 130	M 12 x 130	50
1180 12 140	M 12 x 140	50
1180 12 150	M 12 x 150	50
1180 12 160	M 12 x 160	50
1180 16 25	M 16 x 25	50
1180 16 30	M 16 x 30	50
1180 16 35	M 16 x 35	50
1180 16 40	M 16 x 40	50
1180 16 45	M 16 x 45	50
1180 16 50	M 16 x 50	50
1180 16 55	M 16 x 55	50
1180 16 60	M 16 x 60	50
1180 16 65	M 16 x 65	50
1180 16 70	M 16 x 70	25
1180 16 80	M 16 x 80	25
1180 16 90	M 16 x 90	25
1180 16 100	M 16 x 100	25
1180 16 110	M 16 x 110	25
1180 16 120	M 16 x 120	25
1180 16 130	M 16 x 130	25
1180 16 140	M 16 x 140	25
1180 16 150	M 16 x 150	25
1180 16 160	M 16 x 160	25

Specifications						
						
Thread	Head size	dh min.	dk max.	k max.	t1 min.	b
mm	mm	mm	mm	mm	mm	mm
M 4	3	2	7	2.80	1.48	14
M 5	4	2.5	8.5	3.50	1.88	16
M 6	5	3	10	4.00	2.38	18
M 8	6	4	13	5.00	2.88	22
M 10	8	5	16	6.50	3.35	26
M 12	10	6	18	7.50	3.85	30
M 16	14	8	24	10.00	5.35	38

Socket Head Cap Screws DIN6912 8.8, Galvanized

- With flat cylindrical head and hexagon socket
- Strength class 8.8
- Galvanized steel

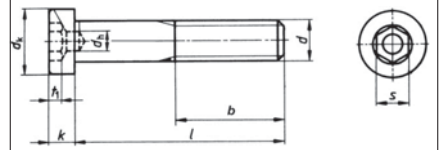


Item no.	Dimension	QTY
1181 4 8	M 4 x 8	500
1181 4 10	M 4 x 10	500
1181 4 12	M 4 x 12	500
1181 4 16	M 4 x 16	500
1181 4 20	M 4 x 20	500
1181 4 25	M 4 x 25	500
1181 4 30	M 4 x 30	500
1181 4 35	M 4 x 35	500
1181 4 40	M 4 x 40	500
1181 5 6	M 5 x 6	500
1181 5 10	M 5 x 10	500
1181 5 12	M 5 x 12	500
1181 5 16	M 5 x 16	500
1181 5 20	M 5 x 20	500
1181 5 25	M 5 x 25	500
1181 5 30	M 5 x 30	500
1181 5 35	M 5 x 35	200
1181 5 40	M 5 x 40	200
1181 5 45	M 5 x 45	200
1181 5 50	M 5 x 50	200
1181 5 60	M 5 x 60	200
1181 6 10	M 6 x 10	500
1181 6 12	M 6 x 12	500
1181 6 16	M 6 x 16	500
1181 6 20	M 6 x 20	500
1181 6 25	M 6 x 25	500
1181 6 30	M 6 x 30	500
1181 6 35	M 6 x 35	200
1181 6 40	M 6 x 40	200
1181 6 45	M 6 x 45	200
1181 6 50	M 6 x 50	200
1181 6 55	M 6 x 55	200
1181 6 60	M 6 x 60	200
1181 6 70	M 6 x 70	200
1181 8 12	M 8 x 12	200
1181 8 16	M 8 x 16	200
1181 8 20	M 8 x 20	200
1181 8 25	M 8 x 25	200
1181 8 30	M 8 x 30	200
1181 8 35	M 8 x 35	200
1181 8 40	M 8 x 40	200
1181 8 45	M 8 x 45	200
1181 8 50	M 8 x 50	g 200

(d thread Dia. x length mm)

Item no.	Dimension	QTY
1181 8 55	M 8 x 55	200
1181 8 60	M 8 x 60	200
1181 8 70	M 8 x 70	200
1181 8 80	M 8 x 80	200
1181 8 90	M 8 x 90	100
1181 8 100	M 8 x 100	50
1181 10 16	M 10 x 16	200
1181 10 20	M 10 x 20	200
1181 10 25	M 10 x 25	200
1181 10 30	M 10 x 30	100
1181 10 35	M 10 x 35	100
1181 10 40	M 10 x 40	100
1181 10 45	M 10 x 45	100
1181 10 50	M 10 x 50	100
1181 10 55	M 10 x 55	100
1181 10 60	M 10 x 60	100
1181 10 70	M 10 x 70	100
1181 10 80	M 10 x 80	100
1181 10 90	M 10 x 90	100
1181 10 100	M 10 x 100	25
1181 12 20	M 12 x 20	100
1181 12 25	M 12 x 25	100
1181 12 30	M 12 x 30	100
1181 12 35	M 12 x 35	100
1181 12 40	M 12 x 40	100
1181 12 45	M 12 x 45	100
1181 12 50	M 12 x 50	100
1181 12 60	M 12 x 60	100
1181 12 70	M 12 x 70	50
1181 12 80	M 12 x 80	50
1181 12 90	M 12 x 90	50
1181 12 100	M 12 x 100	25
1181 16 25	M 16 x 25	50
1181 16 30	M 16 x 30	50
1181 16 35	M 16 x 35	50
1181 16 40	M 16 x 40	50
1181 16 45	M 16 x 45	50
1181 16 50	M 16 x 50	50
1181 16 60	M 16 x 60	50
1181 16 70	M 16 x 70	50
1181 16 80	M 16 x 80	50
1181 16 90	M 16 x 90	50
1181 16 100	M 16 x 100	25

Specifications



Thread	Head	dh	dk	k	t1	b
Dia.	size	min.	max.	max.	min.	
mm	mm	mm	mm	mm	mm	mm
M 4	3	2	7	2.80	1.48	14
M 5	4	2.5	8.5	3.50	1.88	16
M 6	5	3	10	4.00	2.38	18
M 8	6	4	13	5.00	2.88	22
M 10	8	5	16	6.50	3.35	26
M 12	10	6	18	7.50	3.85	30
M 16	14	8	24	10.00	5.35	38

Slotted Cheese Head Screws DIN 84 4.8, Galvanized

- In compliance with ISO 1207
- Strength class 4.8
- Galvanized steel

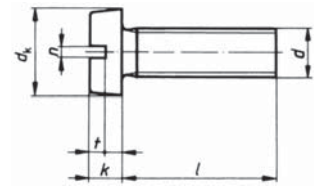


Item no.	Dimension	QTY
1201 2 4	M 2 x 4	200
1201 2 5	M 2 x 5	200
1201 2 6	M 2 x 6	200
1201 2 8	M 2 x 8	200
1201 2 10	M 2 x 10	200
1201 2 12	M 2 x 12	200
1201 2 16	M 2 x 16	200
1201 2 20	M 2 x 20	200
1201 25 3	M 2,5 x 3	200
1201 25 4	M 2,5 x 4	200
1201 25 5	M 2,5 x 5	200
1201 25 6	M 2,5 x 6	200
1201 25 8	M 2,5 x 8	200
1201 25 10	M 2,5 x 10	200
1201 25 12	M 2,5 x 12	200
1201 25 16	M 2,5 x 16	200
1201 25 20	M 2,5 x 20	200
1201 25 25	M 2,5 x 25	200
1201 3 4	M 3 x 4	200
1201 3 5	M 3 x 5	HR 500
1201 3 6	M 3 x 6	HR 500
1201 3 8	M 3 x 8	HR 500
1201 3 10	M 3 x 10	HR 500
1201 3 12	M 3 x 12	HR 500
1201 3 16	M 3 x 16	HR 500
1201 3 18	M 3 x 18	HR 500
1201 3 20	M 3 x 20	HR 500
1201 3 25	M 3 x 25	HR 500
1201 3 30	M 3 x 30	HR 500
1201 3 35	M 3 x 35	HR 500
1201 3 40	M 3 x 40	HR 500
1201 3 45	M 3 x 45	HR 500
1201 3 50	M 3 x 50	HR 500
1201 3 60	M 3 x 60	200
1201 4 4	M 4 x 4	HR 500
1201 4 5	M 4 x 5	HR 500
1201 4 6	M 4 x 6	HR 500
1201 4 8	M 4 x 8	HR 500
1201 4 10	M 4 x 10	HR 500
1201 4 12	M 4 x 12	HR 500
1201 4 16	M 4 x 16	HR 500
1201 4 20	M 4 x 20	HR 500
1201 4 25	M 4 x 25	HR 500
1201 4 30	M 4 x 30	HR 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1201 4 35	M 4 x 35	HR 500
1201 4 40	M 4 x 40	HR 500
1201 4 45	M 4 x 45	HR 500
1201 4 50	M 4 x 50	HR 500
1201 4 55	M 4 x 55	HR 500
1201 4 60	M 4 x 60	100
1201 4 70	M 4 x 70	100
1201 4 80	M 4 x 80	100
1201 4 90	M 4 x 90	100
1201 4 100	M 4 x 100	100
1201 5 6	M 5 x 6	HR 500
1201 5 8	M 5 x 8	HR 500
1201 5 10	M 5 x 10	HR 500
1201 5 12	M 5 x 12	HR 500
1201 5 16	M 5 x 16	HR 500
1201 5 18	M 5 x 18	HR 500
1201 5 20	M 5 x 20	HR 500
1201 5 25	M 5 x 25	HR 500
1201 5 30	M 5 x 30	HR 500
1201 5 35	M 5 x 35	HR 500
1201 5 40	M 5 x 40	HR 500
1201 5 45	M 5 x 45	HR 500
1201 5 50	M 5 x 50	HR 500
1201 5 55	M 5 x 55	400
1201 5 60	M 5 x 60	H 300
1201 5 65	M 5 x 65	H 300
1201 5 70	M 5 x 70	H 300
1201 5 80	M 5 x 80	H 300
1201 5 90	M 5 x 90	100
1201 5 100	M 5 x 100	100
1201 6 6	M 6 x 6	HR 500
1201 6 8	M 6 x 8	HR 500
1201 6 10	M 6 x 10	HR 500
1201 6 12	M 6 x 12	HR 500
1201 6 16	M 6 x 16	HR 500
1201 6 18	M 6 x 18	HR 500
1201 6 20	M 6 x 20	HR 500
1201 6 25	M 6 x 25	HR 500
1201 6 30	M 6 x 30	HR 500
1201 6 35	M 6 x 35	HR 500
1201 6 40	M 6 x 40	HR 500
1201 6 45	M 6 x 45	HR 500
1201 6 50	M 6 x 50	HR 500
1201 6 55	M 6 x 55	H 300

Specifications



Thread	dk	k	n	t
Dia.	mm	mm	max.	min.
M 2	3.8	1.3	0.70	0.60
M 2.5	4.5	1.6	0.80	0.70
M 3	5.5	2.0	1.00	0.85
M 4	7.0	2.6	1.51	1.10
M 5	8.5	3.3	1.51	1.30
M 6	10.0	3.9	1.91	1.60
M 8	13.0	5.0	2.31	2.00
M 10	16.0	6.0	2.81	2.40

Item no.	Dimension	QTY
1201 6 60	M 6 x 60	H 300
1201 6 65	M 6 x 65	H 300
1201 6 70	M 6 x 70	H 300
1201 6 80	M 6 x 80	H 300
1201 6 90	M 6 x 90	100
1201 6 100	M 6 x 100	100
1201 8 10	M 8 x 10	100
1201 8 12	M 8 x 12	100
1201 8 16	M 8 x 16	100
1201 8 20	M 8 x 20	HR 500
1201 8 25	M 8 x 25	HR 500
1201 8 30	M 8 x 30	HR 500
1201 8 35	M 8 x 35	HR 500
1201 8 40	M 8 x 40	HR 500
1201 8 45	M 8 x 45	HR 500
1201 8 50	M 8 x 50	HR 500
1201 8 60	M 8 x 60	H 300
1201 8 70	M 8 x 70	100
1201 8 80	M 8 x 80	100
1201 8 100	M 8 x 100	100
1201 10 20	M 10 x 20	100
1201 10 25	M 10 x 25	100
1201 10 30	M 10 x 30	100
1201 10 40	M 10 x 40	100

Slotted Cheese HD Screws DIN84, Galvan. Assortment

- M4x10 - M6x25 = 1.150 pieces

Item no.	Item description	QTY
9000 1201	ASS.SLT CHEESE HD SCREWS 84 GA1	
9000R 1201	TRAY SLT.CHEESE HD SCR.84 GALV	1



Slotted Cheese Head Screws DIN 84 4.8, Brass Plain

- In compliance with ISO 1207
- With slot
- Strength class 4.8
- Plain brass

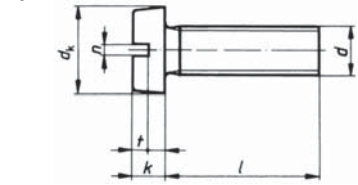


Item no.	Dimension	QTY
1207 2 6	M 2 x 6	500
1207 2 10	M 2 x 10	500
1207 3 6	M 3 x 6	500
1207 3 8	M 3 x 8	500
1207 3 10	M 3 x 10	HR 500
1207 3 12	M 3 x 12	HR 500
1207 3 16	M 3 x 16	HR 500
1207 3 20	M 3 x 20	HR 500
1207 3 25	M 3 x 25	HR 500
1207 3 30	M 3 x 30	HR 500
1207 3 50	M 3 x 50	HR 500
1207 4 6	M 4 x 6	HR 500
1207 4 8	M 4 x 8	HR 500
1207 4 10	M 4 x 10	HR 500
1207 4 12	M 4 x 12	HR 500
1207 4 16	M 4 x 16	HR 500
1207 4 20	M 4 x 20	HR 500
1207 4 25	M 4 x 25	HR 500
1207 4 30	M 4 x 30	HR 500
1207 4 35	M 4 x 35	100
1207 4 40	M 4 x 40	100
1207 4 50	M 4 x 50	100
1207 5 6	M 5 x 6	500
1207 5 8	M 5 x 8	500
1207 5 10	M 5 x 10	HR 500

(thread dia. x length mm)

Item no.	Dimension	QTY
1207 5 12	M 5 x 12	HR 500
1207 5 16	M 5 x 16	HR 500
1207 5 20	M 5 x 20	HR 500
1207 5 25	M 5 x 25	HR 500
1207 5 30	M 5 x 30	HR 500
1207 5 35	M 5 x 35	HR 500
1207 5 40	M 5 x 40	HR 500
1207 5 50	M 5 x 50	HR 500
1207 5 60	M 5 x 60	HR 500
1207 6 10	M 6 x 10	HR 500
1207 6 12	M 6 x 12	HR 500
1207 6 16	M 6 x 16	HR 500
1207 6 20	M 6 x 20	HR 500
1207 6 25	M 6 x 25	HR 500
1207 6 30	M 6 x 30	HR 500
1207 6 35	M 6 x 35	HR 500
1207 6 40	M 6 x 40	HR 500
1207 6 50	M 6 x 50	100
1207 6 60	M 6 x 60	100
1207 8 20	M 8 x 20	50
1207 8 25	M 8 x 25	50
1207 8 30	M 8 x 30	50
1207 8 40	M 8 x 40	50
1207 8 50	M 8 x 50	50

Specifications



Thread	dk	k	n	t
Dia.			max.	min.
mm	mm	mm	mm	mm
M 2	3.8	1.3	0.70	0.60
M 3	5.5	2.0	1.00	0.85
M 4	7.0	2.6	1.51	1.10
M 5	8.5	3.3	1.51	1.30
M 6	10.0	3.9	1.91	1.60
M 8	13.0	5.0	2.31	2.00

Slotted CSK Head Screws DIN 963 4.8, Galvanized

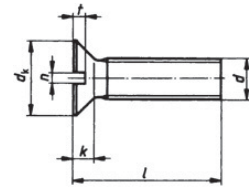
- In compliance with ISO 2009
- With slot
- Strength class 4.8
- Galvanized steel



Item no.	Dimension	QTY
1211 2 5	M 2 x 5	500
1211 2 6	M 2 x 6	500
1211 2 8	M 2 x 8	500
1211 2 10	M 2 x 10	500
1211 2 12	M 2 x 12	500
1211 2 16	M 2 x 16	500
1211 2 20	M 2 x 20	500
1211 25 6	M 2,5 x 6	500
1211 25 10	M 2,5 x 10	500
1211 25 12	M 2,5 x 12	500
1211 25 16	M 2,5 x 16	500
1211 25 20	M 2,5 x 20	500
1211 3 4	M 3 x 4	500
1211 3 5	M 3 x 5	200
1211 3 6	M 3 x 6	HR 500
1211 3 8	M 3 x 8	HR 500
1211 3 10	M 3 x 10	HR 500
1211 3 12	M 3 x 12	HR 500
1211 3 16	M 3 x 16	HR 500
1211 3 20	M 3 x 20	HR 500
1211 3 25	M 3 x 25	HR 500
1211 3 30	M 3 x 30	HR 500
1211 3 35	M 3 x 35	HR 500
1211 3 40	M 3 x 40	HR 500
1211 3 45	M 3 x 45	500
1211 3 50	M 3 x 50	500
1211 3 60	M 3 x 60	500
1211 4 5	M 4 x 5	500
1211 4 6	M 4 x 6	HR 500
1211 4 8	M 4 x 8	HR 500
1211 4 10	M 4 x 10	HR 500
1211 4 12	M 4 x 12	HR 500
1211 4 16	M 4 x 16	HR 500
1211 4 20	M 4 x 20	HR 500
1211 4 25	M 4 x 25	HR 500
1211 4 30	M 4 x 30	HR 500
1211 4 35	M 4 x 35	HR 500
1211 4 40	M 4 x 40	HR 500
1211 4 45	M 4 x 45	HR 500
1211 4 50	M 4 x 50	HR 500
1211 4 60	M 4 x 60	100
1211 4 70	M 4 x 70	100
1211 4 80	M 4 x 80	100
1211 5 6	M 5 x 6	HR 500
1211 5 8	M 5 x 8	HR 500
1211 5 10	M 5 x 10	HR 500
1211 5 12	M 5 x 12	HR 500
1211 5 16	M 5 x 16	HR 500
1211 5 18	M 5 x 18	HR 500
1211 5 20	M 5 x 20	HR 500
1211 5 25	M 5 x 25	HR 500
1211 5 30	M 5 x 30	HR 500
1211 5 35	M 5 x 35	HR 500
1211 5 40	M 5 x 40	HR 500
1211 5 45	M 5 x 45	HR 500
1211 5 50	M 5 x 50	HR 500
1211 5 55	M 5 x 55	H 300
1211 5 60	M 5 x 60	H 300
1211 5 70	M 5 x 70	H 300
1211 5 80	M 5 x 80	H 300

Item no.	Dimension	QTY
1211 5 90	M 5 x 90	100
1211 5 100	M 5 x 100	100
1211 6 8	M 6 x 8	HR 500
1211 6 10	M 6 x 10	HR 500
1211 6 12	M 6 x 12	HR 500
1211 6 16	M 6 x 16	HR 500
1211 6 20	M 6 x 20	HR 500
1211 6 25	M 6 x 25	HR 500
1211 6 30	M 6 x 30	HR 500
1211 6 35	M 6 x 35	HR 500
1211 6 40	M 6 x 40	HR 500
1211 6 45	M 6 x 45	HR 500
1211 6 50	M 6 x 50	HR 500
1211 6 55	M 6 x 55	H 300
1211 6 60	M 6 x 60	H 300
1211 6 70	M 6 x 70	H 300
1211 6 80	M 6 x 80	H 300
1211 6 90	M 6 x 90	100
1211 6 100	M 6 x 100	100
1211 8 10	M 8 x 10	HR 500
1211 8 12	M 8 x 12	HR 500
1211 8 16	M 8 x 16	HR 500
1211 8 20	M 8 x 20	HR 500
1211 8 25	M 8 x 25	HR 500
1211 8 30	M 8 x 30	HR 500
1211 8 35	M 8 x 35	HR 500
1211 8 40	M 8 x 40	HR 500
1211 8 45	M 8 x 45	H 300
1211 8 50	M 8 x 50	H 300
1211 8 55	M 8 x 55	f 100
1211 8 60	M 8 x 60	f 100
1211 8 70	M 8 x 70	f 100
1211 8 80	M 8 x 80	f 100
1211 8 90	M 8 x 90	f 100
1211 8 100	M 8 x 100	f 100
1211 10 16	M 10 x 16	fH 300
1211 10 20	M 10 x 20	fH 300
1211 10 25	M 10 x 25	fH 300
1211 10 30	M 10 x 30	fH 300
1211 10 35	M 10 x 35	fH 300
1211 10 40	M 10 x 40	fH 300
1211 10 45	M 10 x 45	fH 300
1211 10 50	M 10 x 50	f 100
1211 10 60	M 10 x 60	f 100
1211 10 70	M 10 x 70	50
1211 10 80	M 10 x 80	50
1211 10 90	M 10 x 90	50
1211 10 100	M 10 x 100	50
1211 12 20	M 12 x 20	f 100
1211 12 25	M 12 x 25	f 100
1211 12 30	M 12 x 30	f 100
1211 12 35	M 12 x 35	f 100
1211 12 40	M 12 x 40	f 100
1211 12 50	M 12 x 50	f 100
1211 12 60	M 12 x 60	f 100
1211 12 70	M 12 x 70	50
1211 12 80	M 12 x 80	50
1211 12 90	M 12 x 90	50
1211 12 100	M 12 x 100	50

Specifications



Thread	dk	k	n	t
Dia.	max.	max.		max.
mm	mm	mm	mm	mm
M 2	3.8	1.20	0.50	0.60
M 2.5	4.7	1.50	0.60	0.70
M 3	5.6	1.65	0.80	0.85
M 3.5	6.5	1.93	0.80	1.00
M 4	7.5	2.20	1.00	1.10
M 5	9.2	2.50	1.20	1.30
M 6	11.0	3.00	1.60	1.60
M 8	14.5	4.00	2.00	2.10
M 10	18.0	5.00	2.50	2.60
M 12	22.0	6.00	3.00	3.00

(d thread dia. x length mm)

Flat Head Screws DIN 7985 4.8 Galvanized



- In compliance with ISO 7045
- With Phillips head
- Strength class 4.8
- Galvanized steel

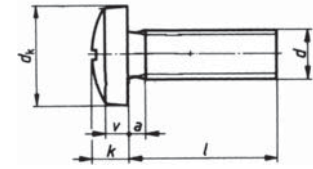


Item no.	Dimension	QTY
1231 2 6	M 2 x 6	200
1231 2 8	M 2 x 8	200
1231 2 10	M 2 x 10	200
1231 2 12	M 2 x 12	200
1231 25 4	M 2,5 x 4	200
1231 25 5	M 2,5 x 5	200
1231 25 6	M 2,5 x 6	200
1231 25 8	M 2,5 x 8	200
1231 25 10	M 2,5 x 10	200
1231 25 12	M 2,5 x 12	200
1231 25 16	M 2,5 x 16	200
1231 25 20	M 2,5 x 20	200
1231 3 4	M 3 x 4	HR 500
1231 3 5	M 3 x 5	HR 500
1231 3 6	M 3 x 6	HR 500
1231 3 8	M 3 x 8	HR 500
1231 3 10	M 3 x 10	HR 500
1231 3 12	M 3 x 12	HR 500
1231 3 16	M 3 x 16	HR 500
1231 3 20	M 3 x 20	HR 500
1231 3 25	M 3 x 25	HR 500
1231 3 30	M 3 x 30	HR 500
1231 3 35	M 3 x 35	200
1231 3 40	M 3 x 40	500
1231 3 45	M 3 x 45	500
1231 4 5	M 4 x 5	HR 500
1231 4 6	M 4 x 6	HR 500
1231 4 8	M 4 x 8	HR 500
1231 4 10	M 4 x 10	HR 500
1231 4 12	M 4 x 12	HR 500
1231 4 16	M 4 x 16	HR 500
1231 4 20	M 4 x 20	HR 500
1231 4 25	M 4 x 25	HR 500
1231 4 30	M 4 x 30	HR 500
1231 4 35	M 4 x 35	HR 500
1231 4 40	M 4 x 40	HR 500
1231 4 45	M 4 x 45	HR 500
1231 4 50	M 4 x 50	HR 500
1231 4 60	M 4 x 60	H 300
1231 4 80	M 4 x 80	100

(d thread dia. x length mm)

Item no.	Dimension	QTY
1231 5 6	M 5 x 6	HR 500
1231 5 8	M 5 x 8	HR 500
1231 5 10	M 5 x 10	HR 500
1231 5 12	M 5 x 12	HR 500
1231 5 16	M 5 x 16	HR 500
1231 5 20	M 5 x 20	HR 500
1231 5 25	M 5 x 25	HR 500
1231 5 30	M 5 x 30	HR 500
1231 5 35	M 5 x 35	HR 500
1231 5 40	M 5 x 40	HR 500
1231 5 45	M 5 x 45	HR 500
1231 5 50	M 5 x 50	HR 500
1231 5 60	M 5 x 60	200
1231 5 70	M 5 x 70	100
1231 5 80	M 5 x 80	100
1231 6 8	M 6 x 8	HR 500
1231 6 10	M 6 x 10	HR 500
1231 6 12	M 6 x 12	HR 500
1231 6 16	M 6 x 16	HR 500
1231 6 20	M 6 x 20	HR 500
1231 6 25	M 6 x 25	HR 500
1231 6 30	M 6 x 30	HR 500
1231 6 35	M 6 x 35	HR 500
1231 6 40	M 6 x 40	HR 500
1231 6 45	M 6 x 45	HR 500
1231 6 50	M 6 x 50	HR 500
1231 6 60	M 6 x 60	100
1231 6 70	M 6 x 70	100
1231 6 80	M 6 x 80	100
1231 8 12	M 8 x 12	HR 500
1231 8 16	M 8 x 16	HR 500
1231 8 20	M 8 x 20	HR 500
1231 8 25	M 8 x 25	HR 500
1231 8 30	M 8 x 30	HR 500
1231 8 35	M 8 x 35	HR 500
1231 8 40	M 8 x 40	HR 500
1231 8 45	M 8 x 45	100
1231 8 60	M 8 x 60	100
1231 8 80	M 8 x 80	100

Specifications



Thread	a	dk	k	v	Drive
Dia.	max.	max.	mm	mm	PH
M 2	0.8	4	1.6	1.1	1
M 3	1.0	6	2.4	1.6	1
M 4	1.4	8	3.1	2.0	2
M 5	1.6	10	3.8	2.5	2
M 6	2.0	12	4.6	3.0	3
M 8	2.5	16	6.0	3.7	4

Flat Head Screws DIN 7985, Galvanized, Assortment

- M4x10 - M6x25 = 950 pieces

Item no.	Item description	QTY
9000 1231	ASS PH.HD SCREWS 7985 GALVANA.	1
9000R 1231	TRAY PH.HD MACH.SCREWS 7985 GA	1



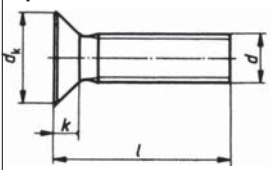
Countersunk Head Screws DIN 965 4.8, Galvanized

- In compliance with ISO 7046
- With Phillips head
- Strength class 4.8
- Galvanized steel



Item no.	Dimension	QTY
1241 2 6	M 2 x 6	500
1241 2 8	M 2 x 8	1000
1241 2 16	M 2 x 16	500
1241 2 5 5	M 2,5 x 5	500
1241 2 5 6	M 2,5 x 6	500
1241 2 5 8	M 2,5 x 8	500
1241 2 5 10	M 2,5 x 10	500
1241 2 5 12	M 2,5 x 12	500
1241 2 5 16	M 2,5 x 16	500
1241 2 5 20	M 2,5 x 20	500
1241 3 4	M 3 x 4	HR 500
1241 3 5	M 3 x 5	HR 500
1241 3 6	M 3 x 6	HR 500
1241 3 8	M 3 x 8	HR 500
1241 3 10	M 3 x 10	HR 500
1241 3 12	M 3 x 12	HR 500
1241 3 16	M 3 x 16	HR 500
1241 3 20	M 3 x 20	HR 500
1241 3 25	M 3 x 25	HR 500
1241 3 30	M 3 x 30	HR 500
1241 3 40	M 3 x 40	RF 1000
1241 4 6	M 4 x 6	HR 500
1241 4 8	M 4 x 8	HR 500
1241 4 10	M 4 x 10	HR 500
1241 4 12	M 4 x 12	HR 500
1241 4 16	M 4 x 16	HR 500
1241 4 20	M 4 x 20	HR 500
1241 4 25	M 4 x 25	HR 500
1241 4 30	M 4 x 30	HR 500
1241 4 35	M 4 x 35	HR 500
1241 4 40	M 4 x 40	HR 500
1241 4 45	M 4 x 45	HR 500
1241 4 50	M 4 x 50	HR 500
1241 4 60	M 4 x 60	100
1241 4 70	M 4 x 70	100
1241 4 80	M 4 x 80	100
1241 5 8	M 5 x 8	HR 500
1241 5 10	M 5 x 10	HR 500
1241 5 12	M 5 x 12	HR 500
1241 5 16	M 5 x 16	HR 500

Item no.	Dimension	QTY
1241 5 20	M 5 x 20	HR 500
1241 5 25	M 5 x 25	HR 500
1241 5 30	M 5 x 30	HR 500
1241 5 35	M 5 x 35	HR 500
1241 5 40	M 5 x 40	HR 500
1241 5 45	M 5 x 45	HR 500
1241 5 50	M 5 x 50	HR 500
1241 5 55	M 5 x 55	100
1241 5 60	M 5 x 60	100
1241 5 80	M 5 x 80	100
1241 6 10	M 6 x 10	HR 500
1241 6 12	M 6 x 12	HR 500
1241 6 16	M 6 x 16	HR 500
1241 6 20	M 6 x 20	HR 500
1241 6 25	M 6 x 25	HR 500
1241 6 30	M 6 x 30	HR 500
1241 6 35	M 6 x 35	HR 500
1241 6 40	M 6 x 40	HR 500
1241 6 45	M 6 x 45	HR 500
1241 6 50	M 6 x 50	HR 500
1241 6 60	M 6 x 60	100
1241 6 70	M 6 x 70	100
1241 6 80	M 6 x 80	100
1241 8 16	M 8 x 16	HR 500
1241 8 20	M 8 x 20	HR 500
1241 8 25	M 8 x 25	HR 500
1241 8 30	M 8 x 30	HR 500
1241 8 35	M 8 x 35	HR 500
1241 8 40	M 8 x 40	HR 500
1241 8 50	M 8 x 50	HR 500
1241 8 55	M 8 x 55	100
1241 8 60	M 8 x 60	100
1241 8 70	M 8 x 70	100
1241 8 80	M 8 x 80	100
1241 8 90	M 8 x 90	100
1241 10 30	M 10 x 30	100
1241 10 35	M 10 x 35	200
1241 10 45	M 10 x 45	100
1241 10 50	M 10 x 50	100

Specifications			
			
Thread	dk max.	k max.	Drive PH
Dia. mm	mm	mm	
M 2	3.8	1.20	1
M 2.5	4.7	1.50	1
M 3	5.6	1.65	1
M 4	7.5	2.20	2
M 5	9.2	2.50	2
M 6	11.0	3.00	3
M 8	14.5	4.00	4
M 10	18.0	5.00	4

(d thread dia. x length mm)

Cross Recess.Counters.HD Screw DIN965, Zinc Plated

- M4x10 - M6x25 = 1000 pieces

Item no.	Item description	QTY
9000 1241	ASS.PH CSK SCREWS 965 GA	1
9000R 1241	TRAY PH CSK SCREWS DIN 965 GA.	1



Raised Counters. Head Screw DIN 966 4.8, Galv.



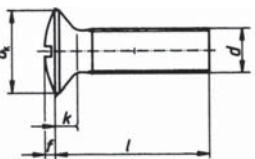
- In compliance with ISO 7047
- With Phillips head
- Strength class 4.8
- Galvanized steel



Item no.	Dimension	QTY
1251 3 6	M 3 x 6	500
1251 3 8	M 3 x 8	500
1251 3 10	M 3 x 10	500
1251 3 12	M 3 x 12	500
1251 3 16	M 3 x 16	500
1251 3 20	M 3 x 20	500
1251 3 25	M 3 x 25	500
1251 3 30	M 3 x 30	500
1251 4 6	M 4 x 6	HR 500
1251 4 8	M 4 x 8	HR 500
1251 4 10	M 4 x 10	HR 500
1251 4 12	M 4 x 12	HR 500
1251 4 16	M 4 x 16	HR 500
1251 4 20	M 4 x 20	HR 500
1251 4 25	M 4 x 25	HR 500
1251 4 30	M 4 x 30	HR 500
1251 4 35	M 4 x 35	WR 500
1251 4 40	M 4 x 40	HR 500
1251 4 45	M 4 x 45	500
1251 4 50	M 4 x 50	100
1251 4 60	M 4 x 60	500
1251 5 8	M 5 x 8	HR 500
1251 5 10	M 5 x 10	HR 500
1251 5 12	M 5 x 12	HR 500
1251 5 16	M 5 x 16	HR 500
1251 5 20	M 5 x 20	HR 500
1251 5 25	M 5 x 25	HR 500
1251 5 30	M 5 x 30	HR 500
1251 5 35	M 5 x 35	HR 500
1251 5 40	M 5 x 40	HR 500

Item no.	Dimension	QTY
1251 5 45	M 5 x 45	R 500
1251 5 50	M 5 x 50	HR 500
1251 5 60	M 5 x 60	HR 500
1251 6 10	M 6 x 10	HR 500
1251 6 12	M 6 x 12	HR 500
1251 6 16	M 6 x 16	HR 500
1251 6 20	M 6 x 20	HR 500
1251 6 25	M 6 x 25	HR 500
1251 6 30	M 6 x 30	HR 500
1251 6 35	M 6 x 35	HR 500
1251 6 40	M 6 x 40	HR 500
1251 6 45	M 6 x 45	HR 500
1251 6 50	M 6 x 50	HR 500
1251 6 60	M 6 x 60	100
1251 6 70	M 6 x 70	100
1251 6 80	M 6 x 80	100
1251 8 16	M 8 x 16	HR 500
1251 8 20	M 8 x 20	HR 500
1251 8 25	M 8 x 25	HR 500
1251 8 30	M 8 x 30	HR 500
1251 8 35	M 8 x 35	HR 500
1251 8 40	M 8 x 40	HR 500
1251 8 50	M 8 x 50	100
1251 8 55	M 8 x 55	100
1251 8 60	M 8 x 60	100
1251 8 65	M 8 x 65	100
1251 8 70	M 8 x 70	100
1251 8 75	M 8 x 75	100
1251 8 80	M 8 x 80	100

(d thread dia. x length mm)

Specifications				
				
Thread	dk	f	k	Drive
Dia.	max.	mm	max.	PH
mm	mm	mm	mm	
M 3	5.6	0.75	1.65	1
M 4	7.5	1.00	2.20	2
M 5	9.2	1.25	2.50	2
M 6	11.0	1.50	3.00	3
M 8	14.5	2.00	4.00	4

Wing Screw DIN 316 4.8, Zinc Coating

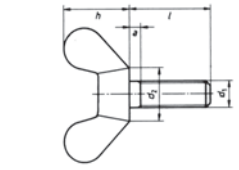
- Strength class 4.8
- Galvanized steel



Artikel-Nr.	Dimension	VPE
1831 4 10	M 4 x 10	100
1831 4 16	M 4 x 16	100
1831 4 20	M 4 x 20	100
1831 4 25	M 4 x 25	100
1831 4 30	M 4 x 30	100
1831 5 10	M 5 x 10	100
1831 5 16	M 5 x 16	100
1831 5 20	M 5 x 20	100
1831 5 25	M 5 x 25	100
1831 5 30	M 5 x 30	100
1831 5 35	M 5 x 35	100
1831 5 40	M 5 x 40	100
1831 6 10	M 6 x 10	100
1831 6 12	M 6 x 12	100
1831 6 16	M 6 x 16	100
1831 6 20	M 6 x 20	100
1831 6 25	M 6 x 25	100
1831 6 30	M 6 x 30	100
1831 6 35	M 6 x 35	100
1831 6 40	M 6 x 40	100

(d thread dia. x length mm)

Artikel-Nr.	Dimension	QTY
1831 6 50	M 6 x 50	100
1831 8 10	M 8 x 10	100
1831 8 12	M 8 x 12	100
1831 8 16	M 8 x 16	100
1831 8 20	M 8 x 20	100
1831 8 25	M 8 x 25	100
1831 8 30	M 8 x 30	100
1831 8 35	M 8 x 35	50
1831 8 40	M 8 x 40	50
1831 8 50	M 8 x 50	50
1831 8 60	M 8 x 60	50
1831 10 16	M 10 x 16	50
1831 10 20	M 10 x 20	50
1831 10 25	M 10 x 25	50
1831 10 30	M 10 x 30	50
1831 10 35	M 10 x 35	50
1831 10 40	M 10 x 40	50
1831 10 50	M 10 x 50	50
1831 10 60	M 10 x 60	50
1831 12 25	M 12 x 25	25

Specifications				
				
d1	e	h	m	d2
Gew.-Ø	max.	max.	max.	max.
mm	mm	mm	mm	mm
M 4	4.7	0.60	1.5	8
M 5	5.6	0.75	1.65	11
M 6	7.5	1.00	2.20	13
M 8	9.2	1.25	2.50	16
M 10	11.0	1.50	3.00	20
M 12	14.5	2.00	4.00	23

Sheet Metal Screw DIN 7976, Galvanized Steel

- In compliance with ISO 1479
- Hardened
- Galvanized steel

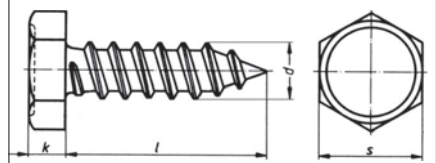
Item no.	Dimension	QTY
1301 39 13	3,9 x 13	1000
1301 39 19	3,9 x 19	1000
1301 42 13	4,2 x 13	HR 500
1301 42 16	4,2 x 16	HR 500
1301 42 19	4,2 x 19	HR 500
1301 42 22	4,2 x 22	HR 500
1301 42 25	4,2 x 25	HR 500
1301 48 13	4,8 x 13	HR 500
1301 48 16	4,8 x 16	HR 500
1301 48 19	4,8 x 19	HR 500
1301 48 22	4,8 x 22	HR 500
1301 48 25	4,8 x 25	HR 500
1301 48 32	4,8 x 32	HR 500
1301 48 50	4,8 x 50	HR 500
1301 55 13	5,5 x 13	HR 500
1301 55 16	5,5 x 16	HR 500
1301 55 19	5,5 x 19	HR 500
1301 55 22	5,5 x 22	HR 500

(d thread Dia. x length mm)

Item no.	Dimension	QTY
1301 55 25	5,5 x 25	HR 500
1301 55 32	5,5 x 32	HR 500
1301 55 50	5,5 x 50	R 500
1301 63 13	6,3 x 13	HR 500
1301 63 16	6,3 x 16	HR 500
1301 63 19	6,3 x 19	HR 500
1301 63 22	6,3 x 22	HR 500
1301 63 25	6,3 x 25	HR 500
1301 63 32	6,3 x 32	HR 500
1301 63 38	6,3 x 38	HR 500
1301 63 45	6,3 x 45	HR 500
1301 63 50	6,3 x 50	HR 500
1301 8 16	8 x 16	H 300
1301 8 19	8 x 19	H 300
1301 8 25	8 x 25	H 300
1301 8 32	8 x 32	H 300
1301 8 38	8 x 38	H 300



Specifications



Thread Dia.	k	s (WS)
mm	mm	mm
3.9	2.3	7
4.2	2.8	7
4.8	3.0	8
5.5	4.0	8
6.3	4.8	10
8.0	5.8	13

Sheet Metal Screw with Washer, Galvanized Steel

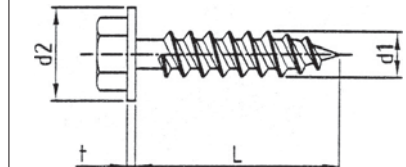
- With hex head captive washer
- Galvanized steel
- Corrosion resistant

Item no.	Dimension	QTY
1302 42 13	4,2 x 13	HR 500
1302 48 13	4,8 x 13	HR 500
1302 48 16	4,8 x 16	HR 500
1302 48 19	4,8 x 19	HR 500
1302 56 13	5,6 x 13	HR 500
1302 56 16	5,6 x 16	HR 500
1302 56 19	5,6 x 19	HR 500
1302 63 16	6,3 x 16	HR 500
1302 63 19	6,3 x 19	HR 500
1302 65 16	6,5 x 16	HR 500
1302 65 20	6,5 x 20	HR 500

(d thread-Ø x length mm)



Specifications



d1 Thread-Ø	d2	t	s SW
mm	mm	mm	mm
4.2	12.0	1.0	7
4.8	15.0	1.6	8
5.6	15.0	1.6	8
6.3	22.0	1.6	10
6.3	18.0	1.6	10
6.5	18.0	1.6	10

Ass: Sheet Metal Screw with Washer, Galv. Steel

- 4.2 x 13 to 6.5 x 20 = 450 pieces

Item no.	Item description	QTY
9000 1302	ASS.HEX HD SH.MET.SCR.W.CAP.WA	1
9000R 1302	TRAY HEX HD SH.MET.SC.W.CAP.WA	1



Oval Head Sheet Metal Screws DIN 7981, Galvanized

- In compliance with ISO 7049
- With Phillips head
- Hardened
- Galvanized steel

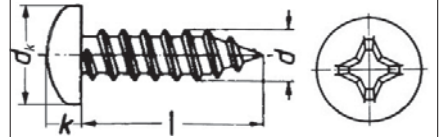


Item no.	Dimension	QTY
1311 22 65	2,2 x 6,5	HR 500
1311 22 95	2,2 x 9,5	HR 500
1311 22 13	2,2 x 13	HR 500
1311 29 65	2,9 x 6,5	H 300
1311 29 95	2,9 x 9,5	HR 500
1311 29 13	2,9 x 13	HR 500
1311 29 16	2,9 x 16	HR 500
1311 29 19	2,9 x 19	HR 500
1311 29 22	2,9 x 22	HR 500
1311 29 25	2,9 x 25	HR 500
1311 35 65	3,5 x 6,5	H 300
1311 35 95	3,5 x 9,5	HR 500
1311 35 13	3,5 x 13	HR 500
1311 35 16	3,5 x 16	HR 500
1311 35 19	3,5 x 19	HR 500
1311 35 22	3,5 x 22	HR 500
1311 35 25	3,5 x 25	HR 500
1311 35 32	3,5 x 32	HR 500
1311 35 38	3,5 x 38	HR 500
1311 39 65	3,9 x 6,5	HR 500
1311 39 95	3,9 x 9,5	HR 500
1311 39 13	3,9 x 13	HR 500
1311 39 16	3,9 x 16	HR 500
1311 39 19	3,9 x 19	HR 500
1311 39 22	3,9 x 22	HR 500
1311 39 25	3,9 x 25	HR 500
1311 39 32	3,9 x 32	HR 500
1311 39 38	3,9 x 38	HR 500
1311 42 95	4,2 x 9,5	HR 500
1311 42 13	4,2 x 13	HR 500
1311 42 16	4,2 x 16	HR 500
1311 42 19	4,2 x 19	HR 500
1311 42 22	4,2 x 22	HR 500
1311 42 25	4,2 x 25	HR 500
1311 42 32	4,2 x 32	HR 500
1311 42 38	4,2 x 38	HR 500
1311 42 45	4,2 x 45	HR 500
1311 42 50	4,2 x 50	HR 500
1311 42 60	4,2 x 60	100
1311 42 70	4,2 x 70	100
1311 48 95	4,8 x 9,5	HR 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1311 48 13	4,8 x 13	HR 500
1311 48 16	4,8 x 16	HR 500
1311 48 19	4,8 x 19	HR 500
1311 48 22	4,8 x 22	HR 500
1311 48 25	4,8 x 25	HR 500
1311 48 32	4,8 x 32	HR 500
1311 48 38	4,8 x 38	HR 500
1311 48 45	4,8 x 45	HR 500
1311 48 50	4,8 x 50	HR 500
1311 48 60	4,8 x 60	100
1311 48 70	4,8 x 70	100
1311 48 80	4,8 x 80	100
1311 48 90	4,8 x 90	100
1311 48 100	4,8 x 100	100
1311 55 13	5,5 x 13	HR 500
1311 55 16	5,5 x 16	HR 500
1311 55 19	5,5 x 19	HR 500
1311 55 22	5,5 x 22	HR 500
1311 55 25	5,5 x 25	HR 500
1311 55 32	5,5 x 32	HR 500
1311 55 38	5,5 x 38	HR 500
1311 55 45	5,5 x 45	HR 500
1311 55 50	5,5 x 50	HR 500
1311 55 60	5,5 x 60	100
1311 55 70	5,5 x 70	100
1311 55 80	5,5 x 80	100
1311 63 13	6,3 x 13	HR 500
1311 63 16	6,3 x 16	HR 500
1311 63 19	6,3 x 19	HR 500
1311 63 22	6,3 x 22	HR 500
1311 63 25	6,3 x 25	HR 500
1311 63 32	6,3 x 32	HR 500
1311 63 38	6,3 x 38	HR 500
1311 63 45	6,3 x 45	HR 500
1311 63 50	6,3 x 50	HR 500
1311 63 60	6,3 x 60	100
1311 63 70	6,3 x 70	100
1311 63 80	6,3 x 80	100
1311 63 90	6,3 x 90	100
1311 63 100	6,3 x 100	100
1311 63 120	6,3 x 120	100

Specifications



Thread	dk	k	PH
Dia.	max.	max.	Drive
mm	mm	mm	
2,2	4,2	1,80	1
2,9	5,6	2,20	1
3,5	6,9	2,60	2
3,9	7,5	2,80	2
4,2	8,2	3,05	2
4,8	9,5	3,55	2
5,5	10,8	3,95	3
6,3	12,5	4,55	3

Sheet Metal Screws DIN7981, Galvanized, Assortment

- 2.9x9.5 – 4.8x25 = 1.700 pieces

Item no.	Item description	QTY
9000 1311	ASS.SHEET METAL SCREWS 7981 GA	1
9000R 1311	TRAY SHEET METAL SCREWS7981 GA	1



Oval Head Sheet Metal Screws DIN7981, Black Galv.

- With Phillips head
- Black galvanized steel

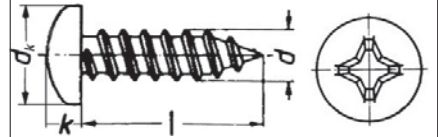


Item no.	Dimension	QTY
1313 29 95	2,9 x 9,5	HRF 1000
1313 29 13	2,9 x 13	HRF 1000
1313 29 16	2,9 x 16	HRF 1000
1313 29 19	2,9 x 19	HRF 1000
1313 29 22	2,9 x 22	HRF 1000
1313 35 95	3,5 x 9,5	HRF 1000
1313 35 13	3,5 x 13	HRF 1000
1313 35 16	3,5 x 16	HRF 1000
1313 35 19	3,5 x 19	HRF 1000
1313 35 22	3,5 x 22	HRF 1000
1313 35 25	3,5 x 25	HRF 1000
1313 35 32	3,5 x 32	HRF 1000
1313 39 95	3,9 x 9,5	HRF 1000
1313 39 13	3,9 x 13	HRF 1000
1313 39 16	3,9 x 16	HRF 1000
1313 39 19	3,9 x 19	HRF 1000
1313 39 22	3,9 x 22	HRF 1000
1313 39 25	3,9 x 25	HRF 1000
1313 39 32	3,9 x 32	HRF 1000
1313 39 38	3,9 x 38	HRF 1000
1313 42 95	4,2 x 9,5	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1313 42 13	4,2 x 13	HRF 1000
1313 42 16	4,2 x 16	HRF 1000
1313 42 19	4,2 x 19	HRF 1000
1313 42 22	4,2 x 22	HRF 1000
1313 42 25	4,2 x 25	HRF 1000
1313 42 32	4,2 x 32	HRF 1000
1313 42 38	4,2 x 38	HRF 1000
1313 48 95	4,8 x 9,5	HRF 1000
1313 48 13	4,8 x 13	HRF 1000
1313 48 16	4,8 x 16	HRF 1000
1313 48 19	4,8 x 19	HRF 1000
1313 48 22	4,8 x 22	HRF 1000
1313 48 25	4,8 x 25	HRF 1000
1313 48 32	4,8 x 32	HRF 1000
1313 48 38	4,8 x 38	HR 500
1313 55 13	5,5 x 13	HR 500
1313 55 16	5,5 x 16	HR 500
1313 55 19	5,5 x 19	HR 500
1313 55 25	5,5 x 25	HR 500
1313 55 32	5,5 x 32	HR 500
1313 55 38	5,5 x 38	HR 500

Specifications



Thread Dia.	dk max.	k max.	Drive PH
mm	mm	mm	
2.9	5.6	2.20	1
3.5	6.9	2.60	2
3.9	7.5	2.80	2
4.2	8.2	3.05	2
4.8	9.5	3.55	2
5.5	10.8	3.95	3

Oval Head Sheet Metal Screws DIN 7981, Black Galv.

- 2.9x9.5 - 4.8x25 = 1.700 pieces

Item no.	Item description	QTY
9000 1313	ASS SHEET METAL SCRE.7981 BGA	1
9000R 1313	TRAY SHEET METAL SCR.7981 BGA	1



Sheet Metal Screws Similar to DIN7981, Black Galv.

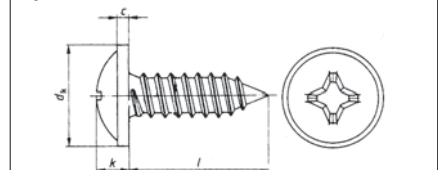
- With Phillips head
- Black galvanized steel, 12μ

Item no.	Dimension	QTY
1318 35 95	3,5 x 9,5	HR 500
1318 35 13	3,5 x 13	HR 500
1318 35 16	3,5 x 16	HR 500
1318 35 19	3,5 x 19	HR 500
1318 35 22	3,5 x 22	HR 500
1318 39 95	3,9 x 9,5	HR 500
1318 39 13	3,9 x 13	HR 500
1318 39 16	3,9 x 16	HR 500
1318 39 19	3,9 x 19	HR 500
1318 39 22	3,9 x 22	HR 500
1318 39 25	3,9 x 25	HR 500
1318 42 95	4,2 x 9,5	HR 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1318 42 13	4,2 x 13	HR 500
1318 42 16	4,2 x 16	HR 500
1318 42 19	4,2 x 19	HR 500
1318 42 22	4,2 x 22	HR 500
1318 42 25	4,2 x 25	HR 500
1318 48 95	4,8 x 9,5	HR 500
1318 48 13	4,8 x 13	HR 500
1318 48 16	4,8 x 16	HR 500
1318 48 19	4,8 x 19	HR 500
1318 48 22	4,8 x 22	HR 500
1318 48 25	4,8 x 25	HR 500

Specifications



Thread Dia.	PH Drive	dk max.	k max.	c max.
mm		mm	mm	mm
3.5	2	9.0	2.60	0.90
3.9	2	10.0	2.80	1.10
4.2	2	10.0	3.05	1.10
4.8	2	11.5	3.55	1.35

Sheet Metal Screws Similar to DIN7981, Black Galv.

- 3.5x9.5 - 4.8x25 = 1,650 pieces

Item no.	Item description	QTY
9000 1318	ASS SHEET METAL SCREWS BGA 1	
9000R 1318	TRAY SHEET METAL SCREWS BGA1	



Sheet Met. Screw TX Flat Rais. HD Sim. DIN7981 BGA

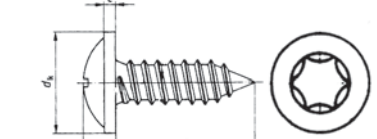
- With Torx drive
- Steel, black galvanized 12 μ



Item no.	Dimension	QTY
1317 35 16	3,5 x 16	100
1317 35 19	3,5 x 19	100
1317 39 13	3,9 x 13	100
1317 39 16	3,9 x 16	100
1317 39 19	3,9 x 19	100
1317 42 16	4,2 x 16	100

Item no.	Dimension	QTY
1317 42 19	4,2 x 19	100
1317 42 25	4,2 x 25	100
1317 48 16	4,8 x 16	100
1317 48 19	4,8 x 19	100
1317 48 22	4,8 x 22	100
1317 48 25	4,8 x 25	100

Specifications



Thread	Drive	d _k max.	k max.	c max.
Dia. mm		mm	mm	mm
3.5	2	9.0	2.60	0.90
3.9	2	10.0	2.80	1.10
4.2	2	10.0	3.05	1.10
4.8	2	11.5	3.55	1.35

Sheet Met. Screw Fl. Raised HD with Drill. Tip BGA

- With Phillips head
- Steel, black galvanized

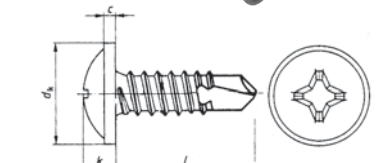


Item no.	Dimension	QTY
1319 42 13	4,2 x 13	HR 500
1319 42 16	4,2 x 16	HR 500
1319 42 19	4,2 x 19	HR 500
1319 42 25	4,2 x 25	HR 500
1319 42 32	4,2 x 32	HR 500

(d thread dia. x length mm)

Item no.	Dimension	QTY
1319 48 13	4,8 x 13	HR 500
1319 48 16	4,8 x 16	HR 500
1319 48 19	4,8 x 19	HR 500
1319 48 22	4,8 x 22	HR 500
1319 48 32	4,8 x 32	HR 500

Specifications



Thread	Drive	d _k max.	k max.	c max.
Dia. mm	PH	mm	mm	mm
4.2	2	10.0	3.05	1.10
4.8	2	11.5	3.55	1.35

Sheet Metal Screws with CSK Head DIN7982, Galv.

- In compliance with ISO 7050
- With Phillips head
- Hardenend
- Galvanized steel

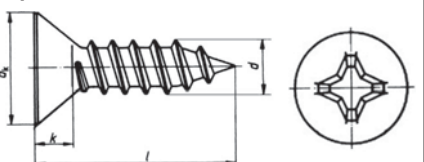


Item no.	Dimension	QTY
1321 22 13	2,2 x 13	HRF 1000
1321 29 95	2,9 x 9,5	HRF 1000
1321 29 13	2,9 x 13	HRF 1000
1321 29 16	2,9 x 16	HRF 1000
1321 29 19	2,9 x 19	HRF 1000
1321 29 22	2,9 x 22	HRF 1000
1321 29 25	2,9 x 25	HRF 1000
1321 35 95	3,5 x 9,5	HRF 1000
1321 35 13	3,5 x 13	HRF 1000
1321 35 16	3,5 x 16	HRF 1000
1321 35 19	3,5 x 19	HRF 1000
1321 35 22	3,5 x 22	HRF 1000
1321 35 25	3,5 x 25	HRF 1000
1321 35 32	3,5 x 32	HRF 1000
1321 35 38	3,5 x 38	HRF 1000
1321 39 13	3,9 x 13	HRF 1000
1321 39 16	3,9 x 16	HRF 1000
1321 39 19	3,9 x 19	HRF 1000
1321 39 22	3,9 x 22	HRF 1000
1321 39 25	3,9 x 25	HRF 1000
1321 39 32	3,9 x 32	HRF 1000
1321 39 38	3,9 x 38	HRF 1000
1321 39 45	3,9 x 45	HRF 1000
1321 39 50	3,9 x 50	HRF 1000
1321 39 60	3,9 x 60	HRF 1000
1321 42 13	4,2 x 13	HRF 1000
1321 42 16	4,2 x 16	HRF 1000
1321 42 19	4,2 x 19	HRF 1000
1321 42 22	4,2 x 22	HRF 1000
1321 42 25	4,2 x 25	HRF 1000
1321 42 32	4,2 x 32	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1321 42 38	4,2 x 38	HRF 1000
1321 42 45	4,2 x 45	HRF 1000
1321 42 50	4,2 x 50	HRF 1000
1321 42 70	4,2 x 70	HRF 1000
1321 48 13	4,8 x 13	HRF 1000
1321 48 16	4,8 x 16	HRF 1000
1321 48 19	4,8 x 19	HRF 1000
1321 48 22	4,8 x 22	HRF 1000
1321 48 25	4,8 x 25	HRF 1000
1321 48 32	4,8 x 32	HRF 1000
1321 48 38	4,8 x 38	HR 500
1321 48 45	4,8 x 45	HRF 1000
1321 48 50	4,8 x 50	100
1321 48 60	4,8 x 60	100
1321 48 70	4,8 x 70	100
1321 48 80	4,8 x 80	100
1321 48 90	4,8 x 90	100
1321 48 100	4,8 x 100	100
1321 55 13	5,5 x 13	HR 500
1321 55 16	5,5 x 16	HR 500
1321 55 19	5,5 x 19	HR 500
1321 55 22	5,5 x 22	HR 500
1321 55 25	5,5 x 25	HR 500
1321 55 32	5,5 x 32	HR 500
1321 55 38	5,5 x 38	HR 500
1321 55 45	5,5 x 45	HR 500
1321 55 50	5,5 x 50	HR 500
1321 55 60	5,5 x 60	HR 500
1321 55 70	5,5 x 70	HR 500
1321 55 80	5,5 x 80	HR 500
1321 55 90	5,5 x 90	HR 500

Specifications



Thread	d _k max.	k	PH Drive
Dia. mm	mm	mm	
2.2	4.3	1.3	1
2.9	5.5	1.7	1
3.5	6.8	2.1	2
3.9	7.5	2.3	2
4.2	8.1	2.5	2
4.8	9.5	3.0	2
5.5	10.8	3.4	3
6.3	12.4	3.8	3

Item no.	Dimension	QTY
1321 63 16	6,3 x 16	HR 500
1321 63 19	6,3 x 19	HR 500
1321 63 22	6,3 x 22	HR 500
1321 63 25	6,3 x 25	HR 500
1321 63 32	6,3 x 32	HR 500
1321 63 38	6,3 x 38	f 100
1321 63 45	6,3 x 45	100
1321 63 50	6,3 x 50	100
1321 63 60	6,3 x 60	100
1321 63 70	6,3 x 70	100
1321 63 90	6,3 x 90	100

Sheet Metal Screws with Oval Head DIN7983, Galvan.

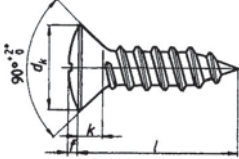
- In compliance with ISO 7051
- With Phillips head
- Hardened
- Galvanized steel



Item no.	Dimension	QTY
1331 29 95	2,9 x 9,5	HRF 1000
1331 29 13	2,9 x 13	HRF 1000
1331 29 16	2,9 x 16	HRF 1000
1331 29 19	2,9 x 19	HRF 1000
1331 29 22	2,9 x 22	HRF 1000
1331 29 25	2,9 x 25	HRF 1000
1331 35 95	3,5 x 9,5	HRF 1000
1331 35 13	3,5 x 13	HRF 1000
1331 35 16	3,5 x 16	HRF 1000
1331 35 19	3,5 x 19	HRF 1000
1331 35 22	3,5 x 22	HRF 1000
1331 35 25	3,5 x 25	HRF 1000
1331 35 32	3,5 x 32	HRF 1000
1331 35 38	3,5 x 38	HRF 1000
1331 39 95	3,9 x 9,5	HRF 1000
1331 39 13	3,9 x 13	HRF 1000
1331 39 16	3,9 x 16	HRF 1000
1331 39 19	3,9 x 19	HRF 1000
1331 39 22	3,9 x 22	HRF 1000
1331 39 25	3,9 x 25	HRF 1000
1331 39 32	3,9 x 32	HRF 1000
1331 39 38	3,9 x 38	HRF 1000
1331 39 45	3,9 x 45	HRF 1000
1331 42 95	4,2 x 9,5	HRF 1000
1331 42 13	4,2 x 13	HRF 1000
1331 42 16	4,2 x 16	HRF 1000
1331 42 19	4,2 x 19	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1331 42 22	4,2 x 22	HRF 1000
1331 42 25	4,2 x 25	HRF 1000
1331 42 32	4,2 x 32	HRF 1000
1331 42 38	4,2 x 38	HRF 1000
1331 42 45	4,2 x 45	HRF 1000
1331 42 50	4,2 x 50	HRF 1000
1331 48 95	4,8 x 9,5	HRF 1000
1331 48 13	4,8 x 13	HRF 1000
1331 48 16	4,8 x 16	HRF 1000
1331 48 19	4,8 x 19	HRF 1000
1331 48 22	4,8 x 22	HRF 1000
1331 48 25	4,8 x 25	HRF 1000
1331 48 32	4,8 x 32	HRF 1000
1331 48 38	4,8 x 38	HR 500
1331 48 45	4,8 x 45	HR 500
1331 48 50	4,8 x 50	HR 500
1331 55 13	5,5 x 13	HR 500
1331 55 16	5,5 x 16	HR 500
1331 55 19	5,5 x 19	HR 500
1331 55 22	5,5 x 22	HR 500
1331 55 25	5,5 x 25	HR 500
1331 55 32	5,5 x 32	HR 500
1331 55 38	5,5 x 38	HR 500
1331 55 45	5,5 x 45	HR 500
1331 55 50	5,5 x 50	HR 500
1331 63 16	6,3 x 16	HR 500
1331 63 19	6,3 x 19	HR 500

Specifications				
 				
Thread Dia.	dk max.	f	k	Drive PH
mm	mm	mm	mm	
2.2	4.3	0.7	1.3	1
2.9	5.5	0.9	1.7	1
3.5	6.8	1.2	2.1	2
3.9	7.5	1.3	2.3	2
4.2	8.1	1.4	2.5	2
4.8	9.5	1.5	3.0	2
5.5	10.8	1.7	3.4	3
6.3	12.4	2.0	3.8	3

Item no.	Dimension	QTY
1331 63 22	6,3 x 22	HR 500
1331 63 25	6,3 x 25	HR 500
1331 63 32	6,3 x 32	HR 500
1331 63 38	6,3 x 38	HR 500
1331 63 45	6,3 x 45	HR 500
1331 63 50	6,3 x 50	HR 500

Sheet Metal Screws DIN7981/7983, Galvan., Assortm.

- 2.9x13 - 4.8x25 = 1,700 pieces

Item no.	Item description	QTY
9000 1331	ASS.PH SH.MET.SCREWS 7983 GALV	1
9000R 1331	TRAY PH SH.MET.SCREWS 7983 GAL	1



PH / Counters.Tapping Screws DIN 7981/7983, Zi

- 3.5x9.5-4.8x22 = 1,600 pieces

Item no.	Item description	QTY
9000 131	ASS.SH.MET.SCREWS 7981/7983 GA	1
9000R 131	TRAY SH.MET.SCREW.7981/7983 GA	1



Sheet Metal Screws w. Oval HD DIN7983, Black Galv.

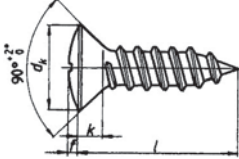
- In compliance with ISO 7051
- With Phillips head
- Black galvanized steel



Item no.	Dimension	QTY
1333 29 95	2,9 x 9,5	HRF 1000
1333 29 13	2,9 x 13	HRF 1000
1333 29 16	2,9 x 16	HRF 1000
1333 29 19	2,9 x 19	HRF 1000
1333 29 22	2,9 x 22	HRF 1000
1333 29 25	2,9 x 25	HRF 1000
1333 35 95	3,5 x 9,5	HRF 1000
1333 35 13	3,5 x 13	HRF 1000
1333 35 16	3,5 x 16	HRF 1000
1333 35 19	3,5 x 19	HRF 1000
1333 35 22	3,5 x 22	HRF 1000
1333 35 25	3,5 x 25	HRF 1000
1333 35 38	3,5 x 38	HRF 1000
1333 39 13	3,9 x 13	HRF 1000
1333 39 16	3,9 x 16	HRF 1000
1333 39 19	3,9 x 19	HRF 1000
1333 39 22	3,9 x 22	HRF 1000
1333 39 25	3,9 x 25	HRF 1000
1333 39 32	3,9 x 32	HRF 1000
1333 42 13	4,2 x 13	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1333 42 16	4,2 x 16	HRF 1000
1333 42 19	4,2 x 19	HRF 1000
1333 42 22	4,2 x 22	HRF 1000
1333 42 25	4,2 x 25	HRF 1000
1333 42 32	4,2 x 32	HRF 1000
1333 42 38	4,2 x 38	HRF 1000
1333 42 50	4,2 x 50	HRF 1000
1333 48 13	4,8 x 13	HRF 1000
1333 48 16	4,8 x 16	HRF 1000
1333 48 19	4,8 x 19	HRF 1000
1333 48 22	4,8 x 22	HRF 1000
1333 48 25	4,8 x 25	HRF 1000
1333 48 32	4,8 x 32	HRF 1000
1333 48 38	4,8 x 38	HR 500
1333 55 16	5,5 x 16	HR 500
1333 55 19	5,5 x 19	HR 500
1333 55 25	5,5 x 25	HR 500
1333 55 32	5,5 x 32	HR 500
1333 63 25	6,3 x 25	HR 500

Specifications				
				
Thread Dia.	dk max.	f	k	PH Drive
mm	mm	mm	mm	
2.2	4.3	0.7	1.3	1
2.9	5.5	0.9	1.7	1
3.5	6.8	1.2	2.1	2
3.9	7.5	1.3	2.3	2
4.2	8.1	1.4	2.5	2
4.8	9.5	1.5	3.0	2
5.5	10.8	1.7	3.4	3
6.3	12.4	2.0	3.8	3

Sheet Metal Screws DIN7981/7983, Black Galv., Ass.

- 3.5x9.5 - 4.8x22 = 1,600 pieces

Item no.	Item description	QTY
9000 132	ASS.SH.M.SCREW 9781/7983 BGA	1
9000R 132	TRAY SH.M.SCREW 9781/9783 BGA	1



Sheet Metal Screws DIN7983, Black Galv. Assortment

- 2.9x13- 4.8x25 = 1,700 pieces

Item no.	Item description	QTY
9000 1333	ASS.SH.MET.SCREW DIN7983 BLACK	1
9000R 1333	TRAY SH.MET.SCRE.DIN7983 BLACK	1



DIN Package of Combination Sheet Metal Screws, Ga.

- With Hex Head and washer
- Galvanized steel

Item no.	Item description	QTY
1302P 1	DIN PACK.1302 C.SH.MET.SCREWS	1

Contents:

Item no.	Item description	Quantity
1302 48 16	COM.SH.MET.SCR.W.WASH.GA4.8X16	100
1302 48 19	COM.SH.MET.SCR.W.WASH.GA4.8X19	100
1302 56 16	COM.SH.MET.SCR.W.WASH.GA5.6X16	100
1302 65 16	COM.SH.MET.SCR.W.WASH.GA6.5X16	100
1302 65 20	COM.SH.MET.SCR.W.WASH.GA6.5X20	100



DIN Package of Sheet Metal Screws, Galvanized

- DIN 7981 oval head
- Phillips head
- Galvanized steel

Item no.	Item description	QTY
1311P 1	DIN ASSORTM.1311 SH.MET.SCREWS	1

Contents:

Item no.	Item description	Quantity
1311 35 95	OV.PH SH.MET.SCR.7981 GA3.5X9.5	100
1311 35 13	OV.PH SH.MET.SCR.7981 GA3.5X13	100
1311 35 16	OV.PH SH.MET.SCR.7981 GA3.5X16	100
1311 35 19	OV.PH SH.MET.SCR.7981 GA3.5X19	100
1311 39 13	OV.PH SH.MET.SCR.7981 GA3.9X13	100
1311 39 16	OV.PH SH.MET.SCR.7981 GA3.9X16	100
1311 39 19	OV.PH SH.MET.SCR.7981 GA3.9X19	100
1311 42 13	OV.PH SH.MET.SCR.7981 GA4.2X13	100
1311 42 16	OV.PH SH.MET.SCR.7981 GA4.2X16	100
1311 42 19	OV.PH SH.MET.SCR.7981 GA4.2X19	100
1311 48 13	OV.PH SH.MET.SCR.7981 GA4.8X13	100
1311 48 16	OV.PH SH.MET.SCR.7981 GA4.8X16	100
1311 48 19	OV.PH SH.MET.SCR.7981 GA4.8X19	100
1311 48 22	OV.PH SH.MET.SCR.7981 GA4.8X22	100



DIN Package of Sheet Metal Screws, Galvanized

- DIN 7983 oval head
- With Phillips head
- Galvanized steel

Item no.	Item description	QTY
1331P 1	DIN ASSORTM.1331 SH.MET.SCREWS	1

Contents:

Item no.	Item description	Quantity
1331 39 13	OV.PH SH.MET.SCR.7983 GA3.9X13	100
1331 39 16	OV.PH SH.MET.SCR.7983 GA3.9X16	100
1331 39 19	OV.PH SH.MET.SCR.7983 GA3.9X19	100
1331 42 13	OV.PH SH.MET.SCR.7983 GA4.2X13	100
1331 42 16	OV.PH SH.MET.SCR.7983 GA4.2X16	100
1331 42 19	OV.PH SH.MET.SCR.7983 GA4.2X19	100
1331 42 22	OV.PH SH.MET.SCR.7983 GA4.2X22	100
1331 48 13	OV.PH SH.MET.SCR.7983 GA4.8X13	100
1331 48 16	OV.PH SH.MET.SCR.7983 GA4.8X16	100
1331 48 19	OV.PH SH.MET.SCR.7983 GA4.8X19	100
1331 48 22	OV.PH SH.MET.SCR.7983 GA4.8X22	100



DIN Package Sheet Metal Screws, Black Galv.

- Phillips head
- Oval head
- Steel, black galvanized

Item no.	Item description	QTY
1313P 1	DIN PACK.1313/1333 SH.MET.SCR.	1

Contents:

Item no.	Item description	Quantity
1313 35 13	OV.PH SH.MET.SCR.7981 GA3.5X13	100
1313 35 19	OV.PH SH.MET.SCR.7981 GA3.5X19	100
1313 39 95	OV.PH SH.MET.SCR.7981 GA3.9X9.5	100
1313 39 13	OV.PH SH.MET.SCR.7981 GA3.9X13	100
1313 39 16	OV.PH SH.MET.SCR.7981 GA3.9X16	100
1313 39 19	OV.PH SH.MET.SCR.7981 GA3.9X19	100
1313 42 13	OV.PH SH.MET.SCR.7981 GA4.2X13	100
1313 42 16	OV.PH SH.MET.SCR.7981 GA4.2X16	100
1313 42 19	OV.PH SH.MET.SCR.7981 GA4.2X19	100
1313 42 22	OV.PH SH.MET.SCR.7981 GA4.2X22	100
1313 48 13	OV.PH SH.MET.SCR.7981 GA4.8X13	100
1313 48 16	OV.PH SH.MET.SCR.7981 GA4.8X16	100
1313 48 19	OV.PH SH.MET.SCR.7981 GA4.8X19	100
1313 48 22	OV.PH SH.MET.SCR.7981 GA4.8X22	100
1333 35 13	OV.PH SH.MET.SCR.7983 GA3.5X13	100
1333 35 19	OV.PH SH.MET.SCR.7983 GA3.5X19	100
1333 39 16	OV.PH SH.MET.SCR.7983 GA3.9X16	100
1333 39 22	OV.PH SH.MET.SCR.7983 GA3.9X22	100
1333 42 13	OV.PH SH.MET.SCR.7983 GA4.2X13	100
1333 42 16	OV.PH SH.MET.SCR.7983 GA4.2X16	100
1333 42 19	OV.PH SH.MET.SCR.7983 GA4.2X19	100
1333 48 19	OV.PH SH.MET.SCR.7983 GA4.8X19	100



DIN Package Sh. Met. Screws, Round HD, Black Gal.

- With pressed washer
- Phillips head
- Steel black delta seal

Item no.	Item description	QTY
1318P 2	DIN PACK.1318 SH.MET.SCR.RD.H.	1

Contents:

Item no.	Item description	Quantity
1318 35 95	RD.PH SH.MET.SCR.7981 GA3.5X9.5	100
1318 35 13	RD.PH SH.MET.SCR.7981 GA3.5X13	100
1318 35 16	RD.PH SH.MET.SCR.7981 GA3.5X16	100
1318 35 19	RD.PH SH.MET.SCR.7981 GA3.5X19	100
1318 39 13	RD.PH SH.MET.SCR.7981 GA3.9X13	100
1318 39 16	RD.PH SH.MET.SCR.7981 GA3.9X16	100
1318 39 19	RD.PH SH.MET.SCR.7981 GA3.9X19	100
1318 39 22	RD.PH SH.MET.SCR.7981 GA3.9X22	100
1318 42 95	RD.PH SH.MET.SCR.7981 GA4.2X9.5	100
1318 42 13	RD.PH SH.MET.SCR.7981 GA4.2X13	100
1318 42 16	RD.PH SH.MET.SCR.7981 GA4.2X16	100
1318 42 19	RD.PH SH.MET.SCR.7981 GA4.2X19	100
1318 42 22	RD.PH SH.MET.SCR.7981 GA4.2X22	100
1318 42 25	RD.PH SH.MET.SCR.7981 GA4.2X25	100
1318 48 13	RD.PH SH.MET.SCR.7981 GA4.8X13	100
1318 48 16	RD.PH SH.MET.SCR.7981 GA4.8X16	100
1318 48 19	RD.PH SH.MET.SCR.7981 GA4.8X19	100
1318 48 25	RD.PH SH.MET.SCR.7981 GA4.8X25	100



Hex Head Self Tapping Screws DIN7504 K, Galvanized

- Galvanized steel

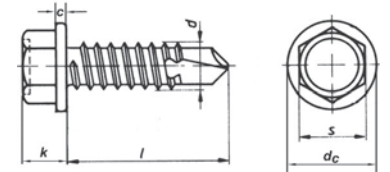
Item no.	Dimension	QTY
1350 35 13	3,5 x 13	HRF 1000
1350 42 13	4,2 x 13	HRF 1000
1350 42 16	4,2 x 16	HRF 1000
1350 42 19	4,2 x 19	HRF 1000
1350 42 22	4,2 x 22	HRF 1000
1350 42 25	4,2 x 25	HRF 1000
1350 42 32	4,2 x 32	HRF 1000
1350 42 38	4,2 x 38	HRF 1000
1350 48 13	4,8 x 13	HRF 1000
1350 48 16	4,8 x 16	HRF 1000
1350 48 19	4,8 x 19	HRF 1000
1350 48 22	4,8 x 22	HRF 1000
1350 48 25	4,8 x 25	HRF 1000
1350 48 32	4,8 x 32	HRF 1000
1350 48 38	4,8 x 38	HRF 1000
1350 48 45	4,8 x 45	HR 500
1350 48 50	4,8 x 50	HRF 1000
1350 55 16	5,5 x 16	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1350 55 19	5,5 x 19	HRF 1000
1350 55 22	5,5 x 22	HRF 1000
1350 55 25	5,5 x 25	HRF 1000
1350 55 32	5,5 x 32	HRF 1000
1350 55 38	5,5 x 38	HRF 1000
1350 55 50	5,5 x 50	HRF 1000
1350 63 16	6,3 x 16	HRF 1000
1350 63 19	6,3 x 19	HRF 1000
1350 63 22	6,3 x 22	HRF 1000
1350 63 25	6,3 x 25	HRF 1000
1350 63 32	6,3 x 32	HRF 1000
1350 63 38	6,3 x 38	HRF 1000
1350 63 45	6,3 x 45	HRF 1000
1350 63 50	6,3 x 50	HRF 1000
1350 63 60	6,3 x 60	100
1350 63 70	6,3 x 70	100
1350 63 80	6,3 x 80	100



Specifications



Thread Dia. mm	dc max. mm	k max. mm	Thread size mm	Sheet-metal thickness
3.5	8.3	3.45	3.5	0.70 - 2.25
4.2	8.8	4.4	7	1.75 - 3.00
4.8	40.5	4.3	8	1.75 - 4.40
5.5	11.0	5.4	8	1.75 - 5.25
6.3	13.5	5.9	10	2.00 - 6.00

Oval Head Self-Tapp. Screws DIN7504 M, Galvanized

- With Phillips head
- Galvanized steel

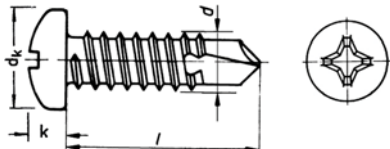
Item no.	Dimension	QTY
1351 29 13	2,9 x 13	HRF 1000
1351 29 16	2,9 x 16	HRF 1000
1351 29 19	2,9 x 19	HRF 1000
1351 35 95	3,5 x 9,5	HRF 1000
1351 35 13	3,5 x 13	HRF 1000
1351 35 16	3,5 x 16	HRF 1000
1351 35 19	3,5 x 19	HRF 1000
1351 35 22	3,5 x 22	HRF 1000
1351 35 25	3,5 x 25	HRF 1000
1351 39 13	3,9 x 13	HRF 1000
1351 39 16	3,9 x 16	HRF 1000
1351 39 19	3,9 x 19	HRF 1000
1351 39 22	3,9 x 22	HRF 1000
1351 39 25	3,9 x 25	HRF 1000
1351 39 32	3,9 x 32	HRF 1000
1351 39 38	3,9 x 38	HRF 1000
1351 42 13	4,2 x 13	HRF 1000
1351 42 16	4,2 x 16	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1351 42 19	4,2 x 19	HRF 1000
1351 42 22	4,2 x 22	HRF 1000
1351 42 25	4,2 x 25	HRF 1000
1351 42 32	4,2 x 32	HRF 1000
1351 42 38	4,2 x 38	HRF 1000
1351 48 13	4,8 x 13	HRF 1000
1351 48 16	4,8 x 16	HRF 1000
1351 48 19	4,8 x 19	HRF 1000
1351 48 22	4,8 x 22	RF 1000
1351 48 25	4,8 x 25	HRF 1000
1351 48 32	4,8 x 32	HRF 1000
1351 48 38	4,8 x 38	HRF 1000
1351 48 45	4,8 x 45	HRF 1000
1351 48 50	4,8 x 50	HRF 1000
1351 55 19	5,5 x 19	HRF 1000
1351 55 22	5,5 x 22	HRF 1000
1351 55 25	5,5 x 25	HRF 1000
1351 55 32	5,5 x 32	HRF 1000



Specifications



Thread Dia. mm	dk max. mm	k max. mm	PH Drive mm	Sheet-metal thickness
2.9	5.6	2.20	1	0.70 - 1.90
3.5	6.9	2.60	2	0.70 - 2.25
3.9	7.5	2.80	2	0.70 - 2.40
4.2	8.2	3.05	2	1.75 - 3.00
4.8	9.5	3.55	2	1.75 - 4.40
5.5	10.8	3.95	3	1.75 - 5.25

Self-Tapp. Screws DIN7504 M, Galvanized, Assortm.

- 3.5x9.5 - 4.8x19 = 1,050 pieces

Item no.	Item description	QTY
9000 1351	ASS.PH SELF-TAPP.SCR.7504 M GA	1
9000R 1351	TRAY PH SELF-TAP.SCR.7504 M GA	1



Self-Tapping Screws with CSK Head DIN7504 O, Galv.

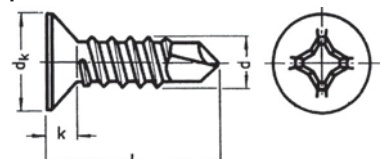
- With Phillips head
- Galvanized steel



Item no.	Dimension	QTY
1352 29 13	2,9 x 13	HRF 1000
1352 35 13	3,5 x 13	HRF 1000
1352 35 16	3,5 x 16	HRF 1000
1352 35 19	3,5 x 19	HRF 1000
1352 35 22	3,5 x 22	HRF 1000
1352 35 25	3,5 x 25	HRF 1000
1352 39 13	3,9 x 13	HRF 1000
1352 39 16	3,9 x 16	HRF 1000
1352 39 19	3,9 x 19	HRF 1000
1352 39 22	3,9 x 22	HRF 1000
1352 39 25	3,9 x 25	HRF 1000
1352 39 32	3,9 x 32	HRF 1000
1352 39 38	3,9 x 38	HRF 1000
1352 42 13	4,2 x 13	HRF 1000
1352 42 16	4,2 x 16	HRF 1000
1352 42 19	4,2 x 19	HRF 1000
1352 42 22	4,2 x 22	HRF 1000
1352 42 25	4,2 x 25	HRF 1000
1352 42 32	4,2 x 32	HRF 1000
1352 42 38	4,2 x 38	HRF 1000
1352 48 16	4,8 x 16	HRF 1000

(d thread dia. x length mm)

Item no.	Dimension	QTY
1352 48 19	4,8 x 19	HRF 1000
1352 48 22	4,8 x 22	HRF 1000
1352 48 25	4,8 x 25	HRF 1000
1352 48 32	4,8 x 32	HRF 1000
1352 48 38	4,8 x 38	HRF 1000
1352 48 45	4,8 x 45	HRF 1000
1352 48 50	4,8 x 50	HRF 1000
1352 55 25	5,5 x 25	HRF 1000
1352 55 32	5,5 x 32	HRF 1000
1352 55 38	5,5 x 38	HRF 1000
1352 55 45	5,5 x 45	HRF 1000
1352 55 50	5,5 x 50	HRF 1000
1352 63 25	6,3 x 25	HRF 1000
1352 63 32	6,3 x 32	HRF 1000
1352 63 38	6,3 x 38	HRF 1000
1352 63 45	6,3 x 45	HRF 1000
1352 63 50	6,3 x 50	HRF 1000
1352 63 60	6,3 x 60	HRF 1000
1352 63 70	6,3 x 70	HRF 1000
1352 63 80	6,3 x 80	100
1352 63 90	6,3 x 90	100

Specifications				
				
Thread Dia. mm	dk max. mm	k mm	PH Drive mm	Sheet-metal thickness
2.9	5.5	1.7	1	0.70 - 1.90
3.5	6.8	2.1	2	0.70 - 2.25
3.9	7.5	2.3	2	0.70 - 2.40
4.2	8.1	2.5	2	1.75 - 3.00
4.8	9.5	3.0	2	1.75 - 4.40
5.5	10.8	3.4	2	1.75 - 5.25
6.3	12.2	5.3	3	2.00 - 6.00

Wing-Type Self-Tap. Screws PH Coarse Thread, Galv.

- Galvanized steel
- Drive: 4.2 - 4.8 PH 2 / 5.5 PH3
- Wing-type self-tapping screws for fastening hard and soft wood to metal sub-constructions without pilot hole
- Cutting tip with wings - no pilot hole required
- Wings ream out hole in (wooden) part to be fastened, preventing it from being pulled down by the thread.
- Wings break off when they hit against the metal sub-construction
- No thread cutting required - fast and economical
- Cutting-type countersunk head sinks completely into particularly hard wood

Use:

- Attaching wood coverings such as balcony planks etc. on metal sub-constructions
- Fastening vehicle body parts etc.



Item no.	Dimension	QTY
1721 42 25	4,2 x 25	1000
1721 48 32	4,8 x 32	500
1721 48 38	4,8 x 38	500
1721 48 45	4,8 x 45	500
1721 48 50	4,8 x 50	450
1721 55 55	5,5 x 55	350
1721 55 60	5,5 x 60	300
1721 55 85	5,5 x 85	150
1721 55 109	5,5 x 109	150

(d thread dia. x length mm)

Specifications		
		
Product no.	Thickness of subconstruction min./max mm	Clamping-length max. mm
1721 42 25	1.0 / 2.5	10
1721 48 32	1.0 / 3.5	15
1721 48 38	1.0 / 3.5	20
1721 48 45	1.0 / 3.5	30
1721 48 50	1.0 / 3.5	35
1721 55 55	1.8 / 5.0	35
1721 55 60	1.8 / 5.0	40
1721 55 85	1.8 / 5.0	65
1721 55 109	1.8 / 5.0	85

Wing-Type Self-Tapp. Screws PH Fine Thread, Galv.

- **Galvanized steel**
- Drive: PH 3
- Wing-type self-tapping screws for fastening hard and soft wood to metal sub-constructions without pilot hole
- Cutting tip with wings - no pilot hole required
- Wings ream out hole in (wooden) part to be fastened, preventing it from being pulled down by the thread.
- Wings break off when they hit against the metal sub-construction
- No thread cutting required - fast and economical
- Cutting-type countersunk head sinks completely into particularly hard wood

Use:

- Attaching wood coverings such as balcony planks etc. on metal sub-constructions
- Fastening vehicle body parts etc.



Specifications



Item no.	Dimension	QTY
1722 55 60	5,5 x 60	300
1722 55 85	5,5 x 85	150
1722 55 109	5,5 x 109	150

(d thread dia. x length mm)

Product no.	Thickness of subconstruction min./max mm	Clamping-length max. mm
1722 55 60	6.0 / 12.5	25
1722 55 85	6.0 / 12.6	50
1722 55 109	6.0 / 12.7	75

Wing-Type Self-Tap. Screws TX Coarse Thread, Galv.

- **Galvanized steel**
- Drive: TX 30
- Wing-type self-tapping screws for fastening hard and soft wood to metal sub-constructions without pilot hole
- Cutting tip with wings - no pilot hole required
- Wings ream out hole in (wooden) part to be fastened, preventing it from being pulled down by the thread.
- Wings break off when they hit against the metal sub-construction
- No thread cutting required - fast and economical
- Cutting-type countersunk head sinks completely into particularly hard wood

Use:

- Attaching wood coverings such as balcony planks etc. on metal sub-constructions
- Fastening vehicle body parts etc.



Specifications



Item no.	Dimension	QTY
1706 55 38	5,5 x 38	200
1706 55 45	5,5 x 45	200
1706 55 50	5,5 x 50	200
1706 63 60	6,3 x 60	200
1706 63 70	6,3 x 70	200
1706 63 80	6,3 x 80	100

(d thread dia. x length mm)

Product no.	Thickness of subconstruction min./max mm	Clamping-length max. mm
1706 55 38	2.0 / 5.0	24
1706 55 45	2.0 / 5.0	31
1706 55 50	2.0 / 5.0	36
1706 63 60	2.5 / 6.0	44
1706 63 70	2.5 / 6.0	54
1706 63 80	2.5 / 6.0	64

Chipboard Screws PZ Countersunk Head, Galv.

- Galvanised steel
- With head drill hole
- Fitting caps AGR 1650
- Drive: PZ



Article No.	Article Description	QTY
1606 45 20	CSK-PZ2-CHIPB.SCREW GA 4.5X20	1000
1606 45 25	CSK-PZ2-CHIPB.SCREW GA 4.5X25	1000
1606 45 30	CSK-PZ2-CHIPB.SCREW GA 4.5X30	1000
1606 45 35	CSK-PZ2-CHIPB.SCREW GA 4.5X35	500
1606 45 40	CSK-PZ2-CHIPB.SCREW GA 4.5X40	500
1606 45 45	CSK-PZ2-CHIPB.SCREW GA 4.5X45	500
1606 45 50	CSK-PZ2-CHIPB.SCREW GA 4.5X50	400
1606 45 60	CSK-PZ2-CHIPB.SCREW GA 4.5X60	400
1606 45 70	CSK-PZ2-CHIPB.SCR.GA PT 4.5X70	200

Article No.	Article Description	QTY
1606 45 80	CSK-PZ2-CHIPB.SCR.GA PT 4.5X80	200
1606 5 40	CSK-PZ2-CHIPB.SCREW GA 5X40	500
1606 5 50	CSK-PZ2-CHIPB.SCREW GA 5X50	300
1606 5 60	CSK-PZ2-CHIPB.SCREW GA 5X60	200
1606 5 70	CSK-PZ2-CHIPB.SCREW GA PT 5X70	200
1606 5 80	CSK-PZ2-CHIPB.SCREW GA PT 5X80	200
1606 5 90	CSK-PZ2-CHIPB.SCREW GA PT 5X90	200
1606 5 100	CSK-PZ2-CHIPB.SCR. GA PT 5X100	150

(PT = partial thread)

Chipboard Screw TX Countersunk Partial Thread, Gal

- Steel yellow galvanised
- Drive: TX



Article No.	Article Description	QTY
1600 3 35	CSK TX10 CH.SCR.PTYCR 3X 35	1000
1600 3 40	CSK TX10 CH.SCR.PTYCR 3X 40	1000
1600 3 45	CSK TX10 CH.SCR.PTYCR 3X 45	1000
1600 35 35	CSK TX15 CH.SCR.PTYCR 3.5X 35	1000
1600 35 40	CSK TX15 CH.SCR.PTYCR 3.5X 40	1000
1600 35 45	CSK TX15 CH.SCR.PTYCR 3.5X 45	500
1600 35 50	CSK TX15 CH.SCR.PTYCR 3.5X 50	500
1600 4 40	CSK TX15 CH.SCR.PTYCR 4X 40	500
1600 4 45	CSK TX15 CH.SCR.PTYCR 4X 45	500
1600 4 50	CSK TX15 CH.SCR.PTYCR 4X 50	500
1600 4 60	CSK TX15 CH.SCR.PTYGA 4X 60	400
1600 4 70	CSK TX15 CH.SCR.PTYCR 4X 70	400
1600 45 40	SK-TX25 SPS TG GELB 4,5X 40	500
1600 45 45	CSK TX25 CH.SCR.PTYGA 4.5X 45	500
1600 45 50	CSK TX25 CH.SCR.PTYGA 4.5X 50	400
1600 45 55	CSK TX25 CH.SCR.PTYCR 4.5X 55	400
1600 45 60	CSK TX25 CH.SCR.PTYGA 4.5X 60	400
1600 45 70	CSK TX25 CH.SCR.PTYCR 4.5X 70	200
1600 45 80	CSK TX25 CH.SCR.PTYGA 4.5X 80	200
1600 5 50	CSK TX25 CH.SCR.PTYCR 5X 50	300
1600 5 60	CSK TX25 CH.SCR.PTYCR 5X 60	200

Article No.	Article Description	QTY
1600 5 70	CSK TX25 CH.SCR.PTYGA 5X 70	200
1600 5 80	CSK TX25 CH.SCR.PTYCR 5X 80	200
1600 5 90	CSK TX25 CH.SCR.PTYGA 5X 90	200
1600 5 100	CSK TX25 CH.SCR.PTYCR 5X100	200
1600 5 120	CSK TX25 CH.SCR.PTYCR 5X120	150
1600 6 60	CSK TX25 CH.SCR.PTYGA 6X 60	200
1600 6 70	CSK TX25 CH.SCR.PTYGA 6X 70	200
1600 6 80	CSK TX25 CH.SCR.PTYGA 6X 80	100
1600 6 90	CSK TX25 CH.SCR.PTYCR 6X 90	100
1600 6 100	CSK TX25 CH.SCR.PTYCR 6X100	100
1600 6 110	CSK TX25 CH.SCR.PTYCR 6X110	100
1600 6 120	CSK TX25 CH.SCR.PTYCR 6X120	100
1600 6 130	CSK TX25 CH.SCR.PTYCR 6X130	100
1600 6 140	CSK TX25 CH.SCR.PTYCR 6X140	100
1600 6 150	CSK TX25 CH.SCR.PTYCR 6X150	100
1600 6 160	CSK TX25 CH.SCR.PTYCR 6X160	100
1600 6 180	CSK TX25 CH.SCR.PTYCR 6X180	100
1600 6 200	CSK TX25 CH.SCR.PTYCR 6X200	100
1600 6 220	CSK TX25 CH.SCR.PTYCR 6X220	100
1600 6 240	CSK TX25 CH.SCR.PTYCR 6X240	100
1600 6 260	CSK TX25 CH.SCR.PTYCR 6X260	100

Caps for Hexagon Screws

- For hexagon screws /nuts (compliant with DIN and/or ISO flat widths)
- Colours: black, white, silver-grey
- Material: PE (polyethylene)
- Temperature for use: -20 °C to +60 °C (without mechanical load)



Article No.	Article Description	QTY
1762 1 6	HEX-CAPS M6 BLACK SW10	100
1762 1 8	HEX-CAPS M8 BLACK SW13	50
1762 1 10	HEX-CAPS M10 BLACK SW16	50
1762 1 10 1	HEX-CAPS M10 BLACK SW17	50
1762 1 12	HEX-CAPS M12 BLACK SW19	50
1762 1 14	HEX-CAPS M14 BLACK SW21	50
1762 1 16	HEX-CAPS M16 BLACK SW24	50
1762 2 6	HEX-CAPS M6 WHITE SW10	100
1762 2 8	HEX-CAPS M8 WHITE SW13	50
1762 2 10	HEX-CAPS M10 WHITE SW16	50
1762 2 10 1	HEX-CAPS M10 WHITE SW17	50

Article No.	Article Description	QTY
1762 2 12	HEX-CAPS M12 WHITE SW19	50
1762 2 14	HEX-CAPS M14 WHITE SW21	50
1762 2 16	HEX-CAPS M16 WHITE SW24	50
1762 3 6	HEX-CAPS M6 GREY SW10	100
1762 3 8	HEX-CAPS M8 GREY SW13	50
1762 3 10 1	HEX-CAPS M10 GREY SW17	50
1762 3 12	HEX-CAPS M12 GREY SW19	50
1762 3 14	HEX-CAPS M14 GREY SW21	50
1762 3 16	HEX-CAPS M16 GREY SW24	50

Dowels Beech

- Specially made from hard beech wood
- Ideal for machine processing
- Chamfered on both sides - no wedging when driven into the drill hole
- Max. 8 - 10% wood moisture

Article No.	Article Description	QTY
8340 6 30	KG<10> DOWELS 6.0X30	10
8340 8 30	KG<10> DOWELS 8.0X30	10
8340 8 35	KG<10> DOWELS 8.0X35	10
8340 8 40	KG<10> DOWELS 8.0X40	10
8340 8 50	KG<10> DOWELS 8.0X50	10



Technical Data

Quantity:

6.0 × 30	10 kg approx. 18,000 pce
8.0 × 30	10 kg approx. 10,500 pce
8.0 × 35	10 kg approx. 8,900 pce
8.0 × 40	10 kg approx. 7,700 pce
8.0 × 50	10 kg approx. 5,100 pce

Round Rod, Length 1m

- Corrugated beech

Article No.	Article Description	QTY
8341 6	RODS SERRATED 1M 6MM	10
8341 8	RODS SERRATED 1M 8MM	10
8341 10	RODS SERRATED 1M 10MM	10



Article No.	Article Description	QTY
8341 12	RODS SERRATED 1M 12 MM	10
8341 16	RODS SERRATED 1M 16 MM	10
8341 18	RODS SMOOTH 1M 18 MM	10

Lamella Plates, Beech

- Slightly grows when glueing - extremely high strength
- Universally applicable for surfaces, edges and frames - low storage costs

Article No.	Article Description	QTY
8342 0	LAMELL.PLATES.BUND. 0	1000
8342 10	LAMELL.PLATES.BUND. 10	1000
8342 20	LAMELL.PLATES.BUND. 20	1000



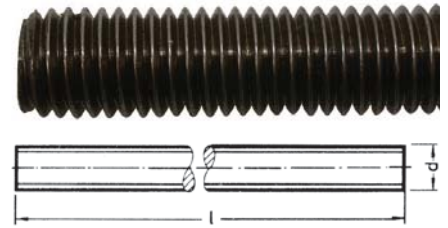
Threaded Rods DIN 976 4.8, Plain Steel, 1m

- Strength class 4.8
- Length 1 m
- Plain steel

Article No.	Dimension	QTY
1820 2	M 2	20
1820 3	M 3	20
1820 4	M 4	1
1820 5	M 5	1
1820 6	M 6	1
1820 7	M 7	10
1820 8	M 8	1
1820 10	M 10	1
1820 12	M 12	1
1820 14	M 14	1
1820 16	M 16	1
1820 18	M 18	1
1820 20	M 20	1
1820 22	M 22	1
1820 24	M 24	1
1820 27	M 27	1

(d Thread Dia. mm)

Article No.	Dimension	QTY
1820 30	M 30	1 ü
1820 33	M 33	2
1820 36	M 36	2
1820 39	M 39	2
1820 42	M 42	2
1820 45	M 45	2
1820 48	M 48	2
1820 52	M 52	1
1820 56	M 56	1
1820 60	M 60	1
1820 64	M 64	1
1820 68	M 68	1
1820 72	M 72	1
1820 76	M 76	1
1820 80	M 80	1



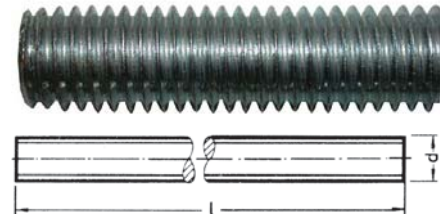
Threaded Rods DIN 976 4.8, Galvanized, 1 m

- Strength class 4.8
- Length 1 m
- Galvanized steel

Article No.	Dimension	QTY
1821 3	M 3	1 H
1821 4	M 4	1 H
1821 5	M 5	1 H
1821 6	M 6	1 H
1821 7	M 7	10
1821 8	M 8	1 f
1821 10	M 10	1 g
1821 12	M 12	1 w
1821 14	M 14	1
1821 16	M 16	1 z

(d Thread Dia. mm)

Article No.	Dimension	QTY
1821 18	M 18	1 z
1821 20	M 20	1 ü
1821 22	M 22	1 ü
1821 24	M 24	1
1821 27	M 27	1
1821 30	M 30	1
1821 33	M 33	2
1821 36	M 36	1
1821 39	M 39	2



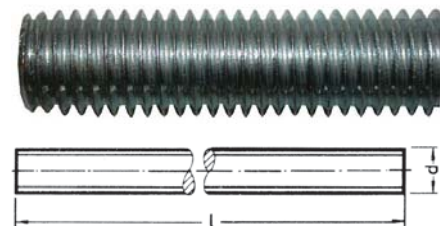
Threaded Rods DIN 976 4.8, Galvanized, 2 m

- Strength class 4.8
- Length 2 m
- Galvanized steel

Article No.	Dimension	QTY
1822 5	M 5	10
1822 6	M 6	1 f
1822 8	M 8	1 g
1822 10	M 10	1 g

(d Thread Dia. mm)

Article No.	Dimension	QTY
1822 12	M 12	1 w
1822 16	M 16	1
1822 20	M 20	1
1822 24	M 24	2



Threaded Rods DIN 976 8.8, Plain Steel, 1 m

- Strength class 8.8
- Length 1 m
- Plain Steel

Article No.	Dimension	QTY
1823 5	M 5	10
1823 6	M 6	1
1823 8	M 8	1
1823 10	M 10	1
1823 12	M 12	1
1823 14	M 14	1
1823 16	M 16	1
1823 18	M 18	1
1823 20	M 20	1
1823 22	M 22	3
1823 24	M 24	1 ü
1823 27	M 27	2

(d Thread Dia. mm)

Article No.	Dimension	QTY
1823 30	M 30	1
1823 33	M 33	2
1823 36	M 36	2
1823 39	M 39	1
1823 42	M 42	1
1823 45	M 45	1
1823 48	M 48	1
1823 52	M 52	1
1823 56	M 56	1
1823 60	M 60	1
1823 64	M 64	1

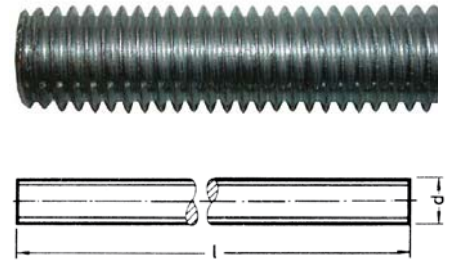


Threaded Rods DIN 976 8.8, Galvanised, 1m

- Strength class 8.8
- Length 1 m
- Galvanised steel

Article No.	Dimension	QTY
1824 4	M 4	1 H
1824 5	M 5	1 H
1824 6	M 6	1 H
1824 8	M 8	1 f
1824 10	M 10	1 g
1824 12	M 12	1 w
1824 14	M 14	1 z
1824 16	M 16	1 z
1824 18	M 18	1
1824 20	M 20	1 ü
1824 22	M 22	1 ü
1824 24	M 24	1 ü

Article No.	Dimension	QTY
1824 27	M 27	1
1824 30	M 30	1
1824 33	M 33	2
1824 36	M 36	1
1824 39	M 39	1
1824 42	M 42	1
1824 45	M 45	1
1824 48	M 48	1
1824 52	M 52	1
1824 56	M 56	1
1824 60	M 60	1
1824 64	M 64	1



Stud Bolts DIN 976 Shape A, Galvanized

- Galvanized steel - corrosion protected

Article No.	Dimension	QTY
1828 8 20	M 8 x 20	300
1828 8 25	M 8 x 25	300
1828 8 30	M 8 x 30	300
1828 8 40	M 8 x 40	300
1828 8 50	M 8 x 50	300
1828 8 60	M 8 x 60	150
1828 8 70	M 8 x 70	150
1828 8 80	M 8 x 80	150
1828 8 90	M 8 x 90	130
1828 8 100	M 8 x 100	130
1828 8 120	M 8 x 120	130
1828 8 150	M 8 x 150	130

Article No.	Dimension	QTY
1828 8 200	M 8 x 200	130
1828 10 35	M 10 x 35	H 300
1828 10 40	M 10 x 40	H 300
1828 10 50	M 10 x 50	H 200
1828 10 60	M 10 x 60	150
1828 10 70	M 10 x 70	150
1828 10 80	M 10 x 80	150
1828 10 90	M 10 x 90	80
1828 10 100	M 10 x 100	80
1828 10 120	M 10 x 120	80
1828 10 150	M 10 x 150	80
1828 12 200	M 12 x 200	10



(d thread dia. x length mm)

Threaded Rod Cutter

- Threaded rod cutter for rod sizes M6, M7, M8, and M10
- Mobile use
- No damage of the thread during cutting process
- No deformation of cutting edges
- No sparking, therefore application in fire protection zones possible
- Clean cut without burr formation
- Lever transmission enables easy cutting
- Adjustable 65 cm stop rail, can be aligned to the right and left
- For threaded rods made of soft steel up to 6.6 – 60 kg/mm²
- Size (LxW): 68 cm x 19 cm
- Length of stop rail: 65 cm



Article No.	Article Description	QTY
4945 1	THREADED ROD CUTTER 6-10MM	1
4945 2	REPLACE.CUT.SET F.THR.ROD CUT.	1

Spacer Sleeves, Round, Galvanized

• Galvanized steel

Article No.	Dimension	QTY
2200 4 20	M 4 x 20	200
2200 5 20	M 5 x 20	f 100
2200 6 20	M 6 x 20	f 100
2200 6 25	M 6 x 25	f 100
2200 6 30	M 6 x 30	f 100
2200 8 25	M 8 x 25	f 100
2200 8 30	M 8 x 30	f 100

(Female thread x length in mm)

Article No.	Dimension	QTY
2200 8 40	M 8 x 40	f 100
2200 10 30	M 10 x 30	f 100
2200 10 40	M 10 x 40	100
2200 12 30	M 12 x 30	f 100
2200 12 40	M 12 x 40	50
2200 20 50	M 20 x 50	25

Technical Data

Ø mm	Male Ø
4	7
5	8
6	10
8	11
10	13
12	15
20	28



Hex Spacer Sleeves, Galvanized

• Galvanized steel

Article No.	Dimension	QTY
2202 6 25	M 6 x 25	f 100
2202 6 30	M 6 x 30	f 100
2202 8 25	M 8 x 25	f 100
2202 8 30	M 8 x 30	f 100

(Female thread x length in mm)

Article No.	Dimension	QTY
2202 10 30	M 10 x 30	f 100
2202 10 40	M 10 x 40	f 100
2202 12 30	M 12 x 30	f 100
2202 12 40	M 12 x 40	f 100

Technical Data

Ø mm	Head size
6	10
8	11
10	13
12	17



Reducers, Galvanized

- Connecting element between fastening parts with different thread diameters, e.g. M10 threaded rod and M8 pipe clamp

• Galvanized steel

Article No.	Dimension	QTY
2204 6 8	M 6 - M 8	200
2204 6 10	M 6 - M 10	200
2204 8 6	M 8 - M 6	200
2204 8 10	M 8 - M 10	200
2204 8 12	M 8 - M 12	200
2204 10 6	M 10 - M 6	25
2204 10 8	M 10 - M 8	200
2204 10 12	M 10 - M 12	200
2204 10 16	M 10 - M 16	50

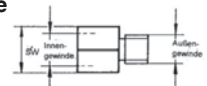
Female thread - male thread

Article No.	Dimension	QTY
2204 12 8	M 12 - M 8	100
2204 12 10	M 12 - M 10	100
2204 16 10	M 16 - M 10	40
2204 16 12	M 16 - M 12	40
2204 1 12 10	1/2" - M 10	25
2204 1 12 12	1/2" - M 12	25
2204 1 12 16	1/2" - M 16	10
2204 1 34 16	3/4" - M 16	10

Technical Data

Product no. Head size

2204 6 8	13
2204 6 10	13
2204 8 6	13
2204 8 10	13
2204 8 12	13
2204 10 6	13
2204 10 8	13
2204 10 12	13
2204 10 16	17
2204 12 8	17
2204 12 10	17
2204 16 10	24
2204 16 12	24
2204 1 12 10	24
2204 1 12 12	24
2204 1 12 16	30
2204 1 34 16	30



Reducing Sleeves, Galvanized

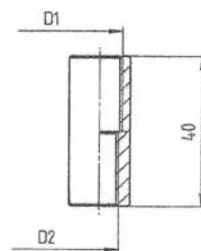
- Reducing sleeve with female thread at both sides
- Enables the secure connection of fixing parts of different diameters, e.g. M10 threaded rod with M8-pipe clamp
- Galvanized steel

Article No.	Dimension	QTY
2203 8 6	M8 - M6	100
2203 10 8	M10 - M8	100
2203 12 10	M12 - M10	100
2203 16 12	M16 - M12	100

(Female thread)

Technical Data

Article No.	D 1	D 2	Male thread-Ø
2203 8 6	M8	M6	13
2203 10 8	M10	M8	16
2203 12 10	M12	M10	16
2203 16 12	M16	M12	22



Hex Nuts DIN 934-8, Plain Steel

- In compliance with ISO 4032
- Strength class 8
- Plain Steel

Article No.	Dimension	QTY
2000 25	M 2,5	1000
2000 3	M 3	RF 1000
2000 4	M 4	RF 1000
2000 5	M 5	HRF 1000
2000 6	M 6	HRF 1000
2000 8	M 8	HRF 1000
2000 8 1	M 8 x 1	100
2000 10	M 10	HR 500
2000 10 15	M 10 SW 15	100
2000 10 1	M 10 x 1	100
2000 12	M 12	fH 300
2000 12 125	M 12 x 1,25	100
2000 12 15	M 12 x 1,5	100
2000 14	M 14	f 100
2000 14 1	M 14 x 1	100
2000 14 15	M 14 x 1,5	f 100
2000 16	M 16	f 100
2000 16 1	M 16 x 1	f 100
2000 16 15	M 16 x 1,5	f 100
2000 18	M 18	f 100
2000 20	M 20	50
2000 20 15	M 20 x 1,5	50
2000 20 2	M 20 x 2	50
2000 22 15	M 22 x 1,5	50
2000 24	M 24	g 50
2000 24 2	M 24 x 2	g 50
2000 27	M 27	25
2000 27 15	M 27 x 1,5	25
2000 30	M 30	25
2000 30 15	M 30 x 1,5	25
2000 30 2	M 30 x 2	25
2000 36	M 36	10
2000 39	M 39	10
2000 39 15	M 39 x 1,5	10
2000 48	M 48	10

Specifications

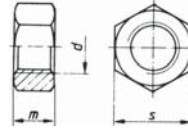
Article No.	Pitch	s Head size	m
(*Fine thread)	mm	mm	mm
2000 25	0.45	5.0	2
2000 3	0.50	5.5	2.4
2000 4	0.70	7	3.2
2000 5	0.80	8	4
2000 6	1.00	10	5
2000 8	1.25	13	6.5
2000 8 1*	1.00	13	6.5
2000 10	1.50	17	8
2000 10 15	1.50	15	8
2000 10 1*	1.00	17	8
2000 12	1.75	19	10
2000 12 125*	1.25	19	10
2000 12 15*	1.50	19	10
2000 14	2.00	22	11
2000 14 1	1.00	22	11
2000 14 15*	1.50	22	11
2000 16	2.00	24	13
2000 16 1	1.00	24	24
2000 16 15*	1.50	24	13
2000 18	2.50	27	15
2000 20	2.50	30	16
2000 20 15*	1.50	30	16
2000 20 2	2.00	30	16
2000 22 15*	1.50	32	18
2000 24	3.00	36	19
2000 24 2	2.00	36	19
2000 27	3.00	41	22
2000 27 15	1.50	41	22
2000 30	3.50	46	24
2000 30 15*	1.50	46	24
2000 30 2	2.00	46	24
2000 36	4.00	55	29
2000 39	4.00	60	31
2000 39 15*	1.50	60	31
2000 48	5.00	75	38



Hex Nuts DIN 934-8, Galvanized

- In compliance with ISO 4032
- Strength class 8
- Galvanized steel

Specifications



Article No.	Dimension	QTY
2001 2	M 2	HRF 1000
2001 25	M 2,5	HRF 1000
2001 3	M 3	HRF 1000
2001 4	M 4	HRF 1000
2001 5	M 5	HRF 1000
2001 6	M 6	HRF 1000
2001 7	M 7	HR 500
2001 8	M 8	HRF 1000
2001 8 1	M 8 x 1	100
2001 8 12	M 8 SW 12	100
2001 10	M 10	HR 500
2001 10 1	M 10 x 1	100
2001 10 125	M 10 x 1,25	100
2001 12	M 12	fH 300
2001 12 1	M 12 x 1	f 100
2001 12 125	M 12 x 1,25	f 100
2001 12 15	M 12 x 1,5	f 100
2001 14	M 14	f 100
2001 14 15	M 14 x 1,5	f 100
2001 16	M 16	f 100
2001 16 15	M 16 x 1,5	f 100
2001 18	M 18	f 100
2001 18 15	M 18 x 1,5	f 100
2001 18 2	M 18 x 2	f 100
2001 20	M 20	50
2001 20 15	M 20 x 1,5	50
2001 22	M 22	50
2001 22 15	M 22 x 1,5	50
2001 24	M 24	g 50
2001 24 15	M 24 x 1,5	25
2001 27	M 27	25
2001 30	M 30	25
2001 30 15	M 30 x 1,5	10
2001 33	M 33	10
2001 36	M 36	10
2001 42	M 42	10
2001 48	M 48	10

Article No.	Pitch	s (Head size)	m
(*Fine thread)	mm	mm	mm
2001 2	0.40	4	1.6
2001 25	0.45	5	2.0
2001 3	0.50	5.5	2.4
2001 4	0.70	7	3.2
2001 5	0.80	8	4.0
2001 6	1.00	10	5.0
2001 7	1.00	11	5.5
2001 8	1.25	13	6.5
2001 8 1*	1.00	13	6.5
2001 8 12	1.25	12	6.5
2001 10	1.50	17	8.0
2001 10 1*	1.00	17	8.0
2001 10 125*	1.25	17	8.0
2001 12	1.75	19	10.0
2001 12 1*	1.00	19	10.0
2001 12 125*	1.25	19	10.0
2001 12 15*	1.50	19	10.0
2001 14	2.00	22	11.0
2001 14 15*	1.50	22	11.0
2001 16	2.00	24	13.0
2001 16 15*	1.50	24	13.0
2001 18	2.50	27	15.0
2001 18 15*	1.50	27	15.0
2001 18 2*	2.00	27	15.0
2001 20	2.50	30	16.0
2001 20 15*	1.50	30	16.0
2001 22	2.50	32	18.0
2001 22 15*	1.50	32	18.0
2001 24	3.00	36	19.0
2001 24 15*	1.50	36	19.0
2001 27	3.00	41	22.0
2001 30	3.50	46	24.0
2001 30 15*	1.50	46	24.0
2001 33	3.50	50	26.0
2001 36	4.00	55	29.0
2001 42	4.50	65	34.0
2001 48	5.00	75	38.0



Hex Nuts DIN 934-8, Galvanized, Assortment

- M4 - M16 = 770 pieces

Article No.	Article Description	QTY
9000 2001	ASS.HEX NUTS 934-8 GALVANIZED	1
9000R 2001	TRAY HEX NUTS 934-8 GALVANIZED	1



Hex Nuts DIN 934-10, Plain Steel

- In compliance with ISO 4032
- Strength class 10
- Plain Steel

Article No.	Dimension	QTY
2003 6	M 6	HRF 1000
2003 8	M 8	HRF 1000
2003 8 1	M 8 x 1	100
2003 10	M 10	HR 500
2003 10 16	M 10 SW 16	100
2003 10 1	M 10 x 1	HR 500
2003 10 125	M 10 x 1,25	HR 500
2003 12	M 12	fH 300
2003 12 1	M 12 x 1	fH 300
2003 12 125	M 12 x 1,25	fH 300
2003 12 15	M 12 x 1,5	fH 300
2003 14	M 14	f 100
2003 14 15	M 14 x 1,5	f 100
2003 16	M 16	f 100
2003 16 15	M 16 x 1,5	f 100
2003 18	M 18	zf 100
2003 18 15	M 18 x 1,5	f 100
2003 18 2	M 18 x 2	f 100
2003 20	M 20	g 50
2003 20 2	M 20 x 2	g 50
2003 22	M 22	g 50
2003 22 15	M 22 x 1,5	g 50
2003 22 2	M 22 x 2	g 50
2003 24	M 24	g 50
2003 24 15	M 24 x 1,5	g 50
2003 24 2	M 24 x 2	g 50
2003 27	M 27	g 50
2003 27 15	M 27 x 1,5	10
2003 30	M 30	10
2003 30 15	M 30 x 1,5	10
2003 30 2	M 30 x 2	10
2003 33	M 33	10
2003 36	M 36	10
2003 42	M 42	10

Specifications

Article No.	Pitch	s Head size	m
(*Fine thread)	mm	mm	mm
2003 6	1.00	10	5
2003 8	1.25	13	6.5
2003 8 1*	1.00	13	6.5
2003 10	1.50	17	8
2003 10 16	1.50	17	8
2003 10 1*	1.00	17	8
2003 10 125*	1.25	17	8
2003 12	1.75	19	10
2003 12 1	1.00	19	10
2003 12 125*	1.25	19	10
2003 12 15*	1.50	19	10
2003 14	2.00	22	11
2003 14 15*	1.50	22	11
2003 16	2.00	24	13
2003 16 15*	1.50	24	13
2003 18	2.50	27	15
2003 18 15*	1.50	27	15
2003 18 2*	2.00	27	15
2003 20	2.50	30	16
2003 20 2	2.00	30	16
2003 22	2.50	32	18
2003 22 15*	1.50	32	18
2003 22 2	2.00	32	18
2003 24	3.00	36	19
2003 24 15*	1.50	36	19
2003 24 2	2.00	36	19
2003 27	3.00	41	22
2003 27 15	1.50	41	22
2003 30	3.50	46	24
2003 30 15*	1.50	46	24
2003 30 2	2.00	46	24
2003 33	3.50	50	26
2003 36	4.00	55	29
2003 42	4.50	65	34



Hex Nuts DIN 934-10, Galvanized

- In compliance with ISO 4032
- Strength class 10
- Galvanized steel

Article No.	Dimension	QTY
2004 6	M 6	HRF 1000
2004 8	M 8	HRF 1000
2004 8 1	M 8 x 1	H 300
2004 10	M 10	HR 500
2004 10 1	M 10 x 1	H 300
2004 12	M 12	fH 300
2004 12 15	M 12 x 1,5	H 300
2004 14	M 14	f 100
2004 14 15	M 14 x 1,5	f 100
2004 16	M 16	f 100
2004 16 15	M 16 x 1,5	f 100
2004 18	M 18	f 100
2004 18 15	M 18 x 1,5	f 100
2004 20	M 20	g 50
2004 20 15	M 20 x 1,5	g 50
2004 24	M 24	g 50
2004 24 15	M 24 x 1,5	g 50
2004 24 2	M 24 x 2	g 50
2004 27	M 27	25
2004 30	M 30	10
2004 30 2	M 30 x 2	10

Specifications

Article No.	Pitch	s Head size	m
(*Fine thread)	mm	mm	mm
2004 6	1.00	10	5
2004 8	1.25	13	6.5
2004 8 1*	1.00	13	6.5
2004 10	1.50	17	8
2004 10 1*	1.00	17	8
2004 12	1.75	19	10
2004 12 15*	1.50	19	10
2004 14	2.00	22	11
2004 14 15*	1.50	22	11
2004 16	2.00	24	13
2004 16 15*	1.50	24	13
2004 18	2.50	27	15
2004 18 15*	1.50	27	15
2004 20	2.50	30	16
2004 20 15*	1.50	30	16
2004 24	3.00	36	19
2004 24 15*	1.50	36	19
2004 24 2	2.00	36	19
2004 27	3.00	41	22
2004 30	3.50	46	24
2004 30 2	2.00	46	24



Hex Nuts DIN 934, Brass

- In compliance with ISO 4032 Specifications
- Brass

Article No.	Dimension	QTY
2007 2	M 2	1000
2007 2 5	M 2,5	1000
2007 3	M 3	HF 1000
2007 4	M 4	HF 1000
2007 5	M 5	HRF 1000
2007 6	M 6	HRF 1000
2007 8	M 8	HRF 1000
2007 10	M 10	HR 500
2007 10 1	M 10 x 1	100
2007 12	M 12	f 100
2007 14	M 14	50
2007 16	M 16	50
2007 20	M 20	50

Specifications

Article No.	Pitch	s Head size	m
(*Fine thread)	mm	mm	mm
2007 2	0.40	4	1.6
2007 2 5	0.45	5	2
2007 3	0.50	5.5	2.4
2007 4	0.70	7	3.2
2007 5	0.80	8	4
2007 6	1.00	10	5
2007 8	1.25	13	6.5
2007 10	1.50	17	8
2007 10 1	1.00	17	8
2007 12	1.75	19	10
2007 14	2.00	22	11
2007 16	2.00	24	13
2007 20	2.50	30	16



Hex Nuts DIN 936, Galvanized

- In compliance with ISO 4035 Specifications
- Hex nut flat

Article No.	Dimension	QTY
2031 8	M 8	100
2031 10	M 10	100
2031 10 1	M 10 x 1	100
2031 12	M 12	f 100
2031 12 15	M 12 x 1,5	100
2031 14	M 14	100
2031 14 15	M 14 x 1,5	100
2031 16	M 16	100
2031 16 15	M 16 x 1,5	f 100
2031 18 15	18 x 1,5	f 100
2031 20	M 20	f 100
2031 20 15	M 20 x 1,5	100
2031 22	M 22	50
2031 22 15	M 22 x 1,5	50
2031 24	M 24	50
2031 24 15	M 24 x 1,5	5
2031 27	M 27	5
2031 27 15	M 27 x 1,5	5
2031 30	M 30	5
2031 30 15	M 30 x 1,5	25

Specifications

Article No.	Pitch	s Head size
(*Fine thread)	mm	mm
2031 8	1.25	13
2031 10	1.50	17
2031 10 1*	1.00	17
2031 12	1.75	19
2031 12 15*	1.50	19
2031 14	2.00	22
2031 14 15*	1.50	22
2031 16	2.00	24
2031 16 15*	1.50	24
2031 18 15*	1.50	27
2031 20	2.50	30
2031 20 15*	1.50	30
2031 22	2.50	32
2031 22 15*	1.50	32
2031 24	3.00	36
2031 24 15*	1.50	36
2031 27	3.00	41
2031 27 15*	1.50	41
2031 30	3.50	46
2031 30 15*	1.50	46



Hex Nuts, Inch Sizes, Similar to DIN934 UNC, Galv.

- Strength class 8
- Galvanized steel

Article No.	Dimension	QTY
2011 14	UNC 1/4	HR 500
2011 516	UNC 5/16	HR 500
2011 38	UNC 3/8	HR 500
2011 12	UNC 1/2	HR 500
2011 58	UNC 5/8	H 300
2011 34	UNC 3/4	100
2011 78	UNC 7/8	HR 500

Specifications

Thread Dia. inches	Threads per inch	Head size inches	m inches
1/4"	20	7/16"	7/32"
5/16"	18	1/2"	17/64"
3/8"	16	9/16"	21/64"
1/2"	13	3/4"	7/16"
5/8"	11	15/16"	35/64"
3/4"	10	1 1/8"	41/64"
7/8"	9	1 5/16"	3/4"



Hex Nuts, Inch Sizes, Similar to DIN934 UNF, Galv.

- Strength class 8
- Fine thread
- Galvanized steel

Article No.	Dimension	QTY
2013 14	UNF 1/4	HR 500
2013 516	UNF 5/16	HR 500
2013 38	UNF 3/8	HR 500
2013 716	UNF 7/16	HR 500
2013 12	UNF 1/2	HR 500
2013 916	UNF 9/16	HR 500
2013 58	UNF 5/8	H 300
2013 34	UNF 3/4	HR 500

Specifications

Thread Dia. inches	Threads per inch	Head size inches	m inches
1/4"	28	7/16"	7/32"
5/16"	24	31/64"	17/64"
3/8"	24	9/16"	21/64"
7/16"	20	11/16"	3/8"
1/2"	20	3/4"	7/16"
9/16"	18	7/8"	31/64"
5/8"	18	15/16"	35/64"
3/4"	16	1 1/16"	41/64"



Hex Nylock Nuts, Inch Sizes Sim. to DIN985 UNF Ga.

- Galvanized steel

Article No.	Dimension	QTY
2131 14	UNC 1/4	100
2131 516	UNC 5/16	100
2131 716	UNC 7/16	100
2131 12	UNC 1/2	100

Specifications

Thread Dia. inches	Threads per inch	Head size inches	h mm
1/4"	20	7/16"	7.94
5/16"	18	1/2"	8.74
7/16"	14	5/8"	11.50
1/2"	13	3/4"	15.10



Hex Nylock Nuts, Inch Sizes Sim. to DIN985 UNF Ga.

- Fine thread
- Galvanized steel

Article No.	Dimension	QTY
2133 14	UNF 1/4	100
2133 516	UNF 5/16	100
2133 716	UNF 7/16	100

Specifications

Thread Dia. inches	Threads per inch	Head size inches	h mm
1/4"	28	7/16"	7.94
5/16"	24	1/2"	8.74
7/16"	20	5/8"	11.50



Hex Nylock Nuts DIN 985-8, Galvanized

- In compliance with ISO 10511
- Strength class 8
- Self-locking with polyamide ring
- Galvanized steel

Article No.	Dimension	QTY
2101 3	M 3	H 500
2101 4	M 4	HRF 1000
2101 5	M 5	HRF 1000
2101 6	M 6	HRF 1000
2101 7	M 7	HR 500
2101 8	M 8	HRF 1000
2101 8 1	M 8 x 1	HR 500
2101 10	M 10	HR 500
2101 10 1	M 10 x 1	H 300
2101 10 125	M 10 x 1,25	H 300
2101 12	M 12	fH 300
2101 12 1	M 12 x 1	f 100
2101 12 125	M 12 x 1,25	f 100
2101 12 15	M 12 x 1,5	f 100
2101 14	M 14	f 100
2101 14 15	M 14 x 1,5	f 100
2101 16	M 16	f 100
2101 16 15	M 16 x 1,5	f 100
2101 18	M 18	f 100
2101 18 15	M 18 x 1,5	f 100
2101 18 2	M 18 x 2	gf 100
2101 20	M 20	g 50
2101 20 15	M 20 x 1,5	g 50
2101 20 2	M 20 x 2	g 50
2101 22	M 22	g 50
2101 22 15	M 22 x 1,5	g 50
2101 24	M 24	g 50
2101 24 15	M 24 x 1,5	g 50
2101 24 2	M 24 x 2	g 50
2101 27	M 27	25
2101 30	M 30	25
2101 36	M 36	10

Specifications

Article No.	Pitch	Head size mm	h max mm
(*Fine thread)	mm		
2101 3	0.50	5.5	4
2101 4	0.70	7	5
2101 5	0.80	8	5
2101 6	1.00	10	6
2101 7	1.00	11	7.5
2101 8	1.25	13	8
2101 8 1*	1.00	13	8
2101 10	1.50	17	10
2101 10 1*	1.00	17	10
2101 10 125*	1.25	17	10
2101 12	1.75	19	12
2101 12 1*	1.00	19	12
2101 12 125*	1.25	19	12
2101 12 15*	1.50	19	12
2101 14	2.00	22	14
2101 14 15*	1.50	22	14
2101 16	2.00	24	16
2101 16 15*	1.50	24	16
2101 18	2.50	27	18.5
2101 18 15*	1.50	27	18.5
2101 18 2*	2.00	27	18.5
2101 20	2.50	30	20
2101 20 15*	1.50	30	20
2101 20 2*	2.00	30	20
2101 22	2.50	32	22
2101 22 15*	1.50	32	22
2101 24	3.00	36	24
2101 24 15*	1.50	36	24
2101 24 2*	2.00	36	24
2101 27	3.00	41	27
2101 30	3.50	46	30
2101 36	4.00	55	36



Hex. Nylock Nuts DIN 985-8, Galvanized, Assortment

- M4x1 - M16x1.5 = 670 pieces

Article No.	Article Description	QTY
9000 2101	ASS.HEX.NYLOCK NUTS 985-8 GA	1
9000R 2101	TRAY HEX.NYLOCK NUTS 985-8 GA	1



Hex. Nylock Nuts DIN 985-10, Galvanized

- In compliance with ISO 10511
- Strength class 10
- Self-locking with polyamide ring
- Galvanized steel

Article No.	Dimension	QTY
2104 8	M 8	HR 500
2104 8 1	M 8 x 1	HR 500
2104 10	M 10	HR 500
2104 10 1	M 10 x 1	HR 500
2104 10 125	M 10 x 1,25	100
2104 12	M 12	fH 300
2104 12 1	M 12 x 1	f 100
2104 12 125	M 12 x 1,25	f 100
2104 12 15	M 12 x 1,5	f 100
2104 14	M 14	f 100
2104 14 15	M 14 x 1,5	f 100
2104 16	M 16	f 100
2104 16 15	M 16 x 1,5	f 100
2104 18	M 18	f 100
2104 18 15	M 18 x 1,5	f 100
2104 20	M 20	g 50
2104 20 15	M 20 x 1,5	g 50
2104 22	M 22	g 50
2104 22 15	M 22 x 1,5	g 50
2104 24	M 24	25
2104 24 15	M 24 x 1,5	25
2104 27	M 27	25

Specifications

Article No.	Pitch	Head size	h max.
(*Fine thread)	mm	mm	mm
2104 8	125	13	8
2104 8 1*	1.00	13	8
2104 10	1.50	17	10
2104 10 1*	1.00	17	10
2104 10 125*	1.25	17	10
2104 12	1.75	19	12
2104 12 1*	1.00	19	12
2104 12 125*	1.25	19	12
2104 12 15*	1.50	19	12
2104 14	2.00	22	14
2104 14 15*	1.50	22	14
2104 16	2.00	24	16
2104 16 15*	1.50	24	16
2104 18	2.50	27	18.5
2104 18 15*	1.50	27	18.5
2104 20	2.50	30	20
2104 20 15*	1.50	30	20
2104 22	2.50	32	22
2104 22 15*	1.50	32	22
2104 24	3.00	36	24
2104 24 15*	1.50	36	24
2104 27	3.00	41	27



Hex Lock Nuts DIN 985-10 Fine, Zinc Plated

- M8x1 - M16x1,5 = 200 pieces

Article No.	Article Description	QTY
9000 2104	HEX NYLOCK NUT985-10 FINE THR.	1
9000R 2104	TRAY HEX NYLOCK NUTS 985-10 GA	1



Nylock Nuts and Hex Nuts, Galvanized, Assortment

- M5 - M12 = 1050 pieces

Article No.	Article Description	QTY
9000 21	ASS.NUTS+NYLOCKS 934/985 GA	1
9000R 21	TRAY NUTS+NYLOCKS 934/985 GA	1



Hex. Nylock Nuts DIN 982-8, Galvanized

- In compliance with ISO 7040
- Strength class 8
- Self-locking with polyamide ring
- High type
- Galvanized steel

Article No.	Dimension	QTY
2121 6	M 6	100
2121 8	M 8	100
2121 10	M 10	100
2121 10 1	M 10 x 1	100
2121 10 125	M 10 x 1,25	100
2121 12	M 12	100
2121 12 125	M 12 x 1,25	100
2121 12 15	M 12 x 1,5	100
2121 14	M 14	100
2121 14 15	M 14 x 1,5	100
2121 16	M 16	100
2121 20	M 20	50

Specifications

Article No.	Pitch	Head size	h max.	m min.
(*Fine thread)	mm	mm	mm	mm
2121 6	1.00	10	8.0	4.90
2121 8	1.25	13	9.5	6.44
2121 10	1.50	17	11.5	8.04
2121 10 1*	1.00	17	11.5	8.04
2121 10 125*	1.25	17	11.5	8.04
2121 12	1.75	19	14.0	10.37
2121 12 125*	1.25	19	14.0	10.37
2121 12 15*	1.50	19	14.0	10.37
2121 14	2.00	22	16.0	12.10
2121 14 15*	1.50	22	16.0	12.10
2121 16	2.00	24	18.0	14.10
2121 20	2.50	30	22.0	16.90



Hex. Nylock Nuts DIN 982-10, Galvanized

- In compliance with ISO 7040
- Strength class 10
- Self-locking with polyamide ring
- High type
- Galvanized steel

Article No.	Dimension	QTY
2124 8	M 8	100
2124 10	M 10	100
2124 10 125	M 10 x 1,25	100
2124 12	M 12	100
2124 12 15	M 12 x 1,5	100
2124 14	M 14	100
2124 14 15	M 14 x 1,5	100
2124 16	M 16	100
2124 16 15	M 16 x 1,5	100
2124 18	M 18	100
2124 20	M 20	50
2124 20 15	M 20 x 1,5	50
2124 22 15	M 22 x 1,5	50
2124 24	M 24	50
2124 24 2	M 24 x 2	50

Specifications

Article No.	Pitch	Head size	h max.	m min.
(*Fine thread)	mm	mm	mm	mm
2124 8	1.25	13	9.5	6.44
2124 10	1.50	17	11.5	8.04
2124 10 125*	1.25	17	11.5	8.04
2124 12	1.75	19	14.0	10.37
2124 12 15*	1.50	19	14.0	10.37
2124 14	2.00	22	16.0	12.10
2124 14 15*	1.50	22	16.0	12.10
2124 16	2.00	24	18.0	14.10
2124 16 15*	1.50	24	18.0	14.10
2124 18	2.50	27	20.0	15.10
2124 20	2.50	30	22.0	16.90
2124 20 15*	1.50	30	22.0	16.90
2124 22 15*	1.50	32	25.0	18.10
2124 24	3.00	36	28.0	20.20
2124 24 15*	2.00	36	28.0	20.20



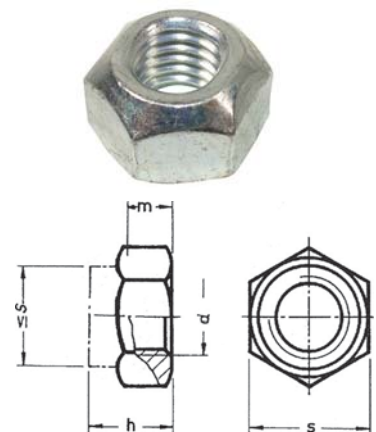
Hex. Lock Nuts DIN 980 V-8, Galvanized

- In compliance with ISO 10513
- All-metal lock nuts
- Strength class 8
- Galvanized

Article No.	Dimension	QTY
2111 4	M 4	HR 500
2111 5	M 5	HR 500
2111 6	M 6	HR 500
2111 8	M 8	HR 500
2111 10	M 10	HR 500
2111 10 1	M 10 x 1	f 100
2111 10 125	M 10 x 1,25	100
2111 12	M 12	fH 300
2111 12 15	M 12 x 1,5	fH 300
2111 14	M 14	f 100
2111 14 15	M 14 x 1,5	f 100
2111 16	M 16	f 100
2111 16 15	M 16 x 1,5	f 100
2111 18	M 18	f 100
2111 18 15	M 18 x 1,5	f 100
2111 20	M 20	g 50
2111 20 15	M 20 x 1,5	g 50
2111 24	M 24	25

Specifications

Article No.	Pitch	Head size	h	m min.
(*Fine thread)	mm	mm	mm	mm
2111 4	0.70	7	4.2	2.20
2111 5	0.80	8	5.1	2.75
2111 6	1.00	10	6.0	3.30
2111 8	1.25	13	8.0	4.40
2111 10	1.50	17	10.0	5.50
2111 10 1*	1.00	17	10.0	5.50
2111 10 125*	1.25	17	10.0	5.50
2111 12	1.75	19	12.0	6.60
2111 12 15*	1.50	19	12.0	6.60
2111 14	2.00	22	14.0	7.70
2111 14 15*	1.50	22	14.0	7.70
2111 16	2.00	24	16.0	8.80
2111 16 15*	1.50	24	16.0	8.80
2111 18	2.50	27	18.0	9.90
2111 18 15*	1.50	27	18.0	9.90
2111 20	2.50	30	20.0	11.00
2111 20 15*	1.50	30	20.0	11.00
2111 24	1.50	36	24.0	13.20



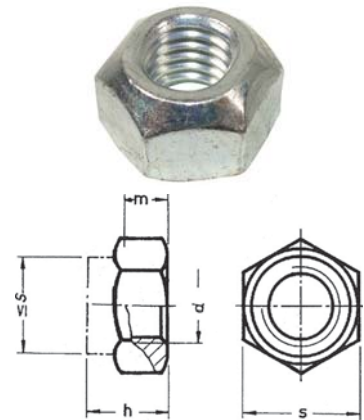
Hex. Lock Nuts DIN 980 V-10, Galvanized

- In compliance with ISO 10513
- All-metal lock nut
- Strength class 10
- Galvanized

Article No.	Dimension	QTY
2114 6	M 6	H 300
2114 8	M 8	H 300
2114 10	M 10	H 300
2114 10 1	M 10 x 1	100
2114 10 125	M 10 x 1,25	100
2114 12	M 12	H 300
2114 12 15	M 12 x 1,5	H 300
2114 14	M 14	f 100
2114 14 15	M 14 x 1,5	f 100
2114 16	M 16	f 100
2114 16 15	M 16 x 1,5	f 100
2114 18	M 18	f 100
2114 18 15	M 18 x 1,5	f 100
2114 20	M 20	g 50
2114 20 15	M 20 x 1,5	g 50
2114 22	M 22	g 50
2114 22 15	M 22 x 1,5	g 50
2114 24 15	M 24 x 1,5	g 50

Specifications

Article No.	Pitch	Head size	h	m min.
(*Fine thread)	mm	mm	mm	mm
2114 6	1.00	10	6	3.3
2114 8	1.25	13	8	4.4
2114 10	1.50	17	10	5.5
2114 10 1*	1.00	17	10	5.5
2114 10 125*	1.25	17	10	5.5
2114 12	1.75	19	12	6.6
2114 12 15*	1.50	19	12	6.6
2114 14	2.00	22	14	7.7
2114 14 15*	1.50	22	14	7.7
2114 16	2.00	24	16	8.8
2114 16 15*	1.50	24	16	8.8
2114 18	2.50	27	18	9.9
2114 18 15*	1.50	27	18	9.9
2114 20	2.50	30	20	11.0
2114 20 15*	1.50	30	20	11.0
2114 22	2.50	32	22	12.2
2114 22 15*	1.50	32	22	12.2
2114 24 15*	1.50	36	24	13.2



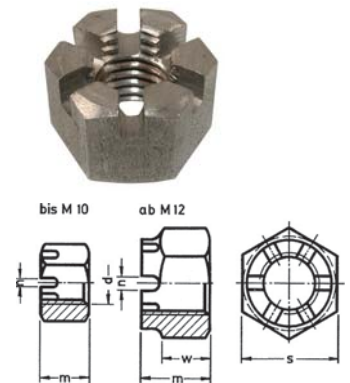
Hex Castle Nuts DIN 935 High type, Plain Steel

- Plain steel

Article No.	Dimension	QTY
2150 8	M 8	100
2150 8 1	M 8 x 1	50
2150 10	M 10	100
2150 10 1	M 10 x 1	50
2150 12	M 12	100
2150 12 15	M 12 x 1,5	100
2150 14	M 14	25
2150 16	M 16	25
2150 16 15	M 16 x 1,5	25
2150 18	M 18	25
2150 18 15	M 18 x 1,5	25
2150 20	M 20	25
2150 20 15	M 20 x 1,5	25
2150 20 2	M 20 x 2	25
2150 22	M 22	25
2150 24	M 24	25
2150 27	M 27	10
2150 27 15	M 27 x 1,5	10
2150 27 2	M 27 x 2	10
2150 30	M 30	10
2150 42	M 42	5

Specifications

Article No.	Pitch	Head size	m max.	n min.	w max.
(*Fine thread)	mm	mm	mm	mm	mm
2150 8	1.25	13	9.5	2.5	6.5
2150 8 1*	1.00	13	9.5	2.5	8
2150 10	1.50	17	12	2.8	8
2150 10 1*	1.00	17	12	2.8	8
2150 12	1.75	19	15	3.5	10
2150 12 15*	1.50	19	15	3.5	10
2150 14	2.00	22	16	3.5	11
2150 16	2.00	24	19	4.5	24
2150 16 15*	1.50	24	19	4.5	24
2150 18	2.50	27	21	4.5	27
2150 18 15*	1.50	27	21	4.5	27
2150 20	2.50	30	22	4.5	16
2150 20 15*	1.50	30	22	4.5	16
2150 20 2*	2.00	30	22	4.5	16
2150 22	2.50	32	26	5.5	18
2150 24	3.00	36	27	5.5	19
2150 27	3.00	41	30	5.5	22
2150 27 15*	1.50	41	30	5.5	22
2150 27 2*	2.00	41	30	5.5	22
2150 30	3.50	46	33	7.0	24
2150 42	4.50	65	46	9.0	34



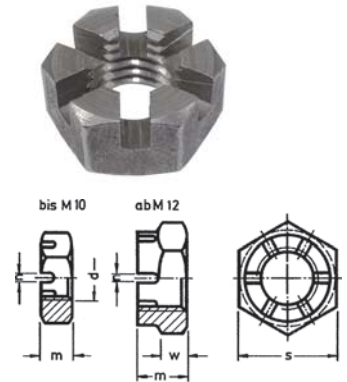
Hex Castle Nuts DIN 937 Low Type, Plain Steel

- In compliance with ISO 7038
- Plain Steel

Article No.	Dimension	QTY
2170 8	M 8	50
2170 10	M 10	50
2170 10 1	M 10 x 1	50
2170 12	M 12	50
2170 12 15	M 12 x 1,5	50
2170 14	M 14	25
2170 14 15	M 14 x 1,5	25
2170 16	M 16	25
2170 16 15	M 16 x 1,5	25
2170 18	M 18	25
2170 18 15	M 18 x 1,5	25
2170 20	M 20	25
2170 20 15	M 20 x 1,5	25
2170 22	M 22	25
2170 22 15	M 22 x 1,5	25
2170 24	M 24	25
2170 24 15	M 24 x 1,5	25
2170 27	M 27	10
2170 27 15	M 27 x 1,5	10
2170 30	M 30	10
2170 30 15	M 30 x 1,5	10

Specifications

Artikel-Nr. (*Fein- gewinde)	Steigung mm	s (SW) max. mm	m max. mm	n min. mm	w max. mm
2170 8	1,25	13	8		
2170 10	1,50	16	9		
2170 10 1*	1,00	16	9		
2170 12	1,75	18	10	3,5	6
2170 12 15*	1,50	18	10	3,5	6
2170 14	2,00	21	11	3,5	7
2170 14 15*	1,50	21	11	3,5	7
2170 16	2,00	24	12	4,5	7
2170 16 15*	1,50	24	12	4,5	7
2170 18	2,50	27	13	4,5	8
2170 18 1*	1,00	27	13	4,5	8
2170 18 15*	1,50	27	13	4,5	8
2170 20	2,50	30	13	4,5	8
2170 20 15*	1,50	30	13	4,5	8
2170 22	2,50	34	15	5,5	9
2170 22 15*	1,50	34	15	5,5	9
2170 24	3,00	36	15	4,5	9
2170 24 15*	1,50	36	15	5,5	9
2170 27 15*	1,50	41	17	5,5	11
2170 30	3,50	46	18	7,0	11
2170 30 15*	1,50	46	18	7,0	11



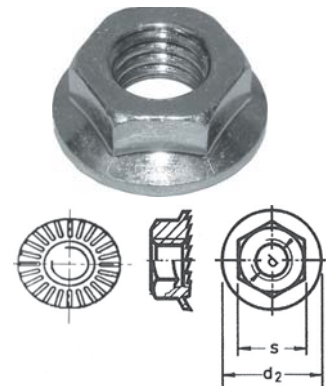
Serrated Locking Nuts, Galvanized

- Strength class 8
- Galvanized steel

Article No.	Dimension	QTY
2073 5	M 5	100
2073 6	M 6	100
2073 8	M 8	100
2073 10	M 10	50
2073 12	M 12	50
2073 14	M 14	50
2073 16	M 16	25

Specifications

Thread Dia. mm	Head size mm	d2 mm
5	8	11.20
6	10	14.25
8	13	18.25
10	17	21.00
12	19	24.00
14	21	29.90
16	24	31.00



Hex Flange Nuts, Galvanized

- Strength class 10
- Hex flange nut with captive washer
- Steel yellow galvanized

Article No.	Dimension	QTY
2040 4	M 4	HR 500
2040 5	M 5	HR 500
2040 6	M 6	HR 500
2040 8	M 8	HR 500
2040 10	M 10	HR 500

Specifications

Thread Dia. mm	Pitch mm	Head size mm
M 4	0.70	7
M 5	0.80	8
M 6	1.00	10
M 8	1.25	13
M 10	1.50	17



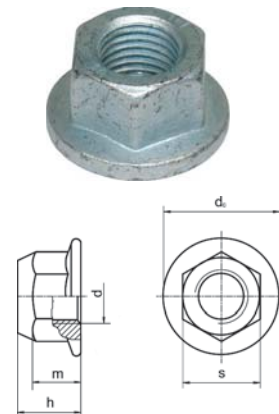
Hex Nuts with Flange

- Strength class 10
- Dacromet coated
- Genuine Mercedes frame nut

Article No.	Dimension	QTY
2076 12 15	M 12x1,5	100
2076 14 15	M 14x1,5	100
2076 16 15	M 16x1,5	100

Specifications

Thread Dia. mm	Pitch mm	Head size mm	h max. mm	m min. mm
M12	1.08	18	13.8	11.6
M14	1.32	21	15.9	13.3
M16	1.44	24	18.3	15.3



Wing Nuts DIN 315, Galvanized

Article group (AGR) 2221

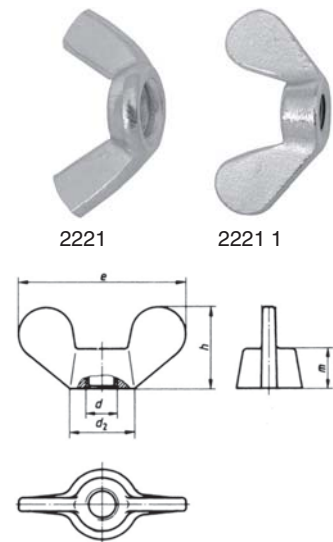
- American design
- Galvanized steel

Article group (AGR) 2221 1

- Malleable cast-iron galvanized

Article No.	Dimension	QTY
2221 3	M 3	100
2221 4	M 4	100
2221 5	M 5	100
2221 6	M 6	100
2221 8	M 8	100
2221 10	M 10	100
2221 12	M 12	50
2221 16	M 16	50
2221 20	M 20	10
2221 1 12	M 12	g 50
2221 1 14	M 14	50
2221 1 16	M 16	g 50
2221 1 20	M 20	10
2221 1 24	M 24	5

Technical Data						
d	Pitch	d2	e	h	m	
Thr.-Ø		max.	max.	max.	max.	
mm	mm	mm	mm	mm	mm	
M 3	0,50	8,3	20,0	9,6	3,6	
M 4	0,70	8,3	20,0	9,6	3,6	
M 5	0,80	10,3	23,5	11,5	4,5	
M 6	1,00	12,7	28,7	13,7	5,5	
M 8	1,25	14,4	32,0	16,0	6,0	
M 10	1,50	16,2	38,0	18,0	6,9	
M 12	1,75	21,5	50,0	24,0	8,5	
M 16	2,00	26,4	70,1	36,6	14,0	
M 20	2,50	30,5	66,8	33,6	12,1	
M 12	1,75	23,0	65,0	33,5	14,0	
M 14	2,00	23,0	65,0	33,5	14,0	
M 16	2,00	29,0	73,0	37,5	17,0	
M 20	2,50	35,0	90,0	46,5	21,0	
M 24	3,00	44,0	110,0	56,5	25,0	

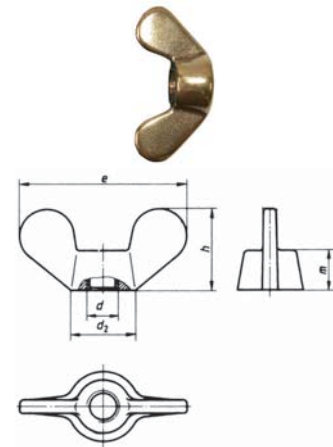


Wing Nuts DIN 315, Brass Plain

- Brass plain

Article No.	Dimension	QTY
2227 4	M 4	100
2227 5	M 5	100
2227 6	M 6	100
2227 8	M 8	100
2227 10	M 10	100
2227 3	M 3	250
2227 12	M 12	50
2227 14	M 14	50
2227 16	M 16	20
2227 20	M 20	10
2227 24	M 24	5

Technical Data						
d	Pitch	d2	e	h	m	
Thr.-Ø		max.	max.	max.	max.	
mm	mm	mm	mm	mm	mm	
M 3	0,50	8	17,6	8,6	4,6	
M 4	0,70	8	20,0	10,5	4,6	
M 5	0,80	11	26,0	13,0	6,5	
M 6	1,00	13	33,0	17,0	8,0	
M 8	1,25	16	39,0	20,0	10,0	
M 10	1,50	20	51,0	25,0	12,0	
M 12	1,75	23	65,0	33,5	14,0	
M 14	2,00	23	65,0	33,5	14,0	
M 16	2,00	29	73,0	37,5	17,0	
M 20	2,50	35	90,0	46,5	21,0	
M 24	3,00	44	110,0	56,5	25,0	

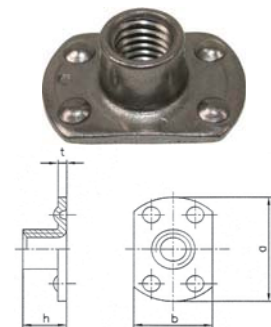


Welding Nuts, Plain Steel

- For high torques
- Plain Steel

Article No.	Dimension	QTY
2270 4	M 4	100
2270 5	M 5	100
2270 6	M 6	100
2270 8	M 8	100

Technical Data						
d	Pitch	a	b	t	h	
Thr.-Ø						
mm	mm	mm	mm	mm	mm	
M 4	0,70	17	9	1,0	6,0	
M 5	0,80	19	11	1,0	7,8	
M 6	1,00	19	11	1,2	7,8	
M 8	1,25	26	18	2,0	11,0	

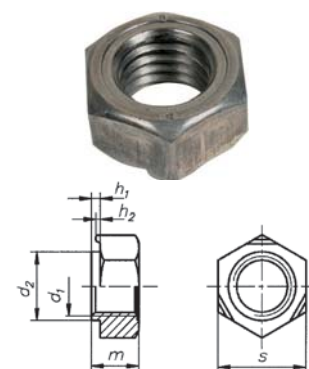


Weld Nuts DIN 929, Plain Steel

- Plain Steel

Article No.	Dimension	QTY
2271 6	M 6	100
2271 8	M 8	100
2271 10	M 10	100
2271 12	M 12	100
2271 14	M 14	100
2271 16	M 16	100
2271 3	M 3	1000
2271 4	M 4	1000
2271 5	M 5	1000

Technical Data						
d1	d2	h1	h2	m	S	
M 3	4,5	0,55	0,25	3,0	7,5	
M 4	6,0	0,65	0,35	3,5	9,0	
M 5	7,0	0,70	0,40	4,0	10,0	
M 6	8,0	0,75	0,40	5,0	11,0	
M 8	10,5	0,90	0,50	6,5	14,0	
M 10	12,5	1,15	0,65	8,0	17,0	
M 12	14,8	1,40	0,80	10,0	06,0	
M 14	16,8	1,80	1,00	11,0	22,0	
M 16	18,8	1,80	1,00	13,0	24,0	



Box Nuts, Galvanized Steel

- Compensation possibility in case of tolerance variation due to horizontal and vertical movement of the nut inside the spring steel housing
- Galvanized steel

Article No.	Dimension	QTY
2295 4	M 4	100
2295 4 1	M 4	100
2295 5	M 5	100
2295 6	M 6	100
2295 6 1	M 6	100
2295 8	M 8	100
2295 8 1	M 8	100

Technical Data

Fixing thickness mm	Fixing hole mm
0.7 - 1.6	5.3 x 5.3
0.7 - 1.6	8.1 x 13
0.7 - 1.6	9.5 x 9.5
0.7 - 1.6	9.5 x 9.5
0.7 - 1.6	8.1 x 13
1.8 - 3.2	12.1 x 12.1
1.8 - 3.2	11.1 x 18.5



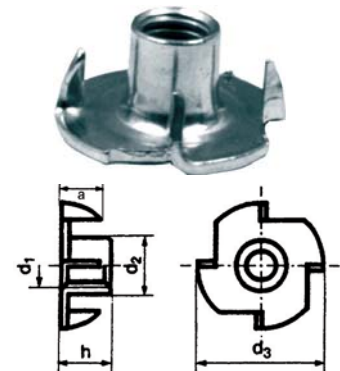
Knock-In Nuts, Galvanized Steel

- Galvanized steel
- With 4 knock-in tips
- For installing wood and wooden materials
- Deep-drawing steel strip

Article No.	Dimension	QTY
2280 4	M 4	200
2280 5	M 5	100
2280 6	M 6	100
2280 8	M 8	100
2280 10	M 10	100

Technical Data

d ₁ mm	d ₂ mm	d ₃ mm	h mm	a mm
M 4	5,0	15	6	5
M 5	6,5	17	8	7
M 6	7,5	19	9	7
M 8	9,5	22	11	9
M 10	11,5	25	12	11



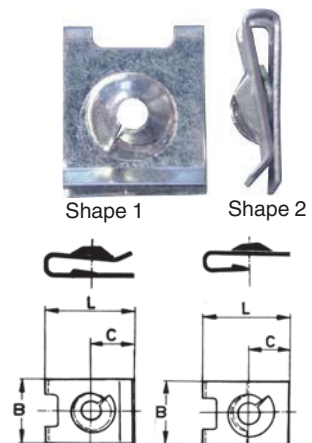
Sheet-Metal Nuts, Spring Steel DIN 17222, Galv. St

- Application: for material thickness 0.5-1.8 mm
- Galvanized steel
- Art. No. 2290 39 2, 2290 65 2:
- Shape 2

Article No.	Dimension	QTY
2290 29	2,9	H 300
2290 35	3,5	H 300
2290 39	3,9	H 300
2290 39 2	3,9	H 300
2290 42	4,2	H 300
2290 42 1	4,2	H 300
2290 48	4,8	H 300
2290 48 1	4,8	H 300
2290 48 2	4,8	H 300
2290 48 3	4,8	H 300
2290 55	5,5	H 300
2290 56	5,6	H 300
2290 63	6,3	H 300
2290 65	6,5	H 300
2290 65 2	6,5	H 300

Technical Data

For screw-Ø mm	L mm	B mm	C mm
2.90	12.00	11.00	6.00
3.50	16.50	11.00	8.00
3.90	16.50	11.30	8.00
3.90	15.00	12.50	7.00
4.20	16.50	11.20	8.00
4.20	24.50	11.00	7.50
4.80	16.00	14.50	6.50
4.80	16.50	11.30	8.00
4.80	18.25	16.00	9.50
4.80	20.00	12.00	9.00
5.50	26.00	14.80	8.00
5.60	20.20	13.30	8.50
6.30	27.00	14.20	12.00
6.50	25.20	16.20	11.00
6.50	25.00	14.80	11.00



Sheet-Metal Nuts, Galvanized Steel in Assortment

- 2.9 - 6.5 = 650 pieces

Article No.	Article Description	QTY
9000 2290	ASSORTMENT SHEET-METAL NUTS	1
9000R 2290	TRAY SHEET-METAL NUTS	1



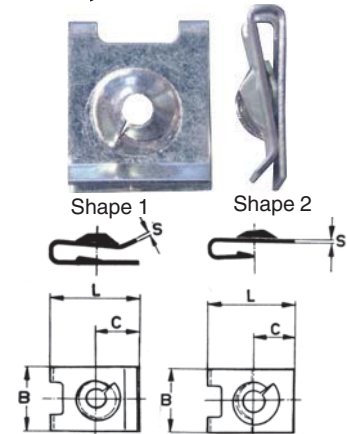
Sheet-Metal Nuts, Spring Steel DIN 17222, Galv. St

- Application: For material thickness 0.5-1.8 mm
- **Galvanized steel**
- Art. No. 2290 39 2, 2290 65 2:
- Shape 2

Article No.	Dimension	QTY
2290 29	2,9	H 300
2290 35	3,5	H 300
2290 39	3,9	H 300
2290 39 2	3,9	H 300
2290 42	4,2	H 300
2290 42 1	4,2	H 300
2290 48	4,8	H 300
2290 48 1	4,8	H 300
2290 48 2	4,8	H 300
2290 48 3	4,8	H 300
2290 55	5,5	H 300
2290 56	5,6	H 300
2290 63	6,3	H 300
2290 65	6,5	H 300
2290 65 2	6,5	H 300

Specifications

For screw dia. mm	L mm	B mm	C mm
2.90	12.00	11.00	6.00
3.50	16.50	11.00	8.00
3.90	16.50	11.30	8.00
3.90	15.00	12.50	7.00
4.20	16.50	11.20	8.00
4.20	24.50	11.00	7.50
4.80	16.00	14.50	6.50
4.80	16.50	11.30	8.00
4.80	18.25	16.00	9.50
4.80	20.00	12.00	9.00
5.50	26.00	14.80	8.00
5.60	20.20	13.30	8.50
6.30	27.00	14.20	12.00
6.50	25.20	16.20	11.00
6.50	25.00	14.80	11.00



Sheet-Metal Nuts, Galvanized Steel in Assortment

- 2.9 - 6.5 = 650 pieces

Article No.	Article Description	QTY
9000 2290	ASSORTMENT SHEET-METAL NUTS	1
9000R 2290	TRAY SHEET-METAL NUTS	1



DIN Package Hex Nuts DIN 934

- Galvanized steel

Article No.	Article Description	QTY
2001P 1	DIN-ASSORTMENT 2001	1

Content:

Article No.	Article Description	Quantity
2001 5	HEX NUT 934-8 GA M 5	500
2001 6	HEX NUT 934-8 GA M 6	300
2001 8	HEX NUT 934-8 GA M 8	300
2001 10	HEX NUT 934-8 GA M 10	100
2001 12	HEX NUT 934-8 GA M 12	50



DIN Package Hex Nuts DIN 934 and Washers

Article No.	Article Description	QTY
2098P 1	DIN PACKAGE2001.2301.2501.2351	1

Content :

Article No.	Article Description	Quantity
2001 5	HEX NUT 934-8 GA M 5	500
2001 6	HEX NUT 934-8 GA M 6	300
2001 8	HEX NUT 934-8 GA M 8	300
2001 10	HEX NUT 934-8 GA M 10	100
2301 5	WASHER 125 A GA 5	500
2301 6	WASHER 125 A GA 6	300
2301 8	WASHER 125 A GA 8	300
2301 10	WASHER 125 A GA 10	100
2331 5 20	PANEL REP WASHER GA 5X20	300
2331 6 20	PANEL REP WASHER GA 6X20	300
2331 8 25	PANEL REP WASHER GA 8X25	300
2331 10 30	PANEL REP WASHER GA 10X30	300
2501 5	LOCK WASHER 127 GA 5	500
2501 6	LOCK WASHER 127 GA 6	300
2501 8	LOCK WASHER 127 GA 8	300
2501 10	LOCK WASHER 127 GA 10	100



DIN Package Hex Head Bolts DIN 933 8.8 Galvanized

- DIN Package Hex Head Machine Screws DIN 933 8.8, Galvanized

Article No.	Article Description	QTY
1011P 1	DIN-ASSORTMENT 1011	1

Content :

Article No.	Article Description	Quantity
1011 5 16	HEX HD M.SREW 933 8.8 GA 5X 16	200
1011 5 20	HEX HD M.SCREW933 8.8 GA 5X 20	200
1011 6 16	HEX HD M.SCREW933 8.8 GA 6X 16	200
1011 6 20	HEX HD M.SCREW933 8.8 GA 6X 20	200
1011 6 25	HEX HD M.SCREW933 8.8 GA 6X 25	100
1011 8 20	HEX HD SCREW933 8.8 GA 8X 20	100
1011 8 25	HEX HD M.SCREW933 8.8 GA 8X 25	100
1011 8 30	HEX HD M.SCREW933 8.8 GA 8X 30	100
1011 10 30	HEX HD M.SCREW933 8.8 GA 10X30	50



DIN Parts Rack

- The item is always ready to hand in the DIN Parts Rack (H 900 x B 1020 mm) and
- Consists of a high quality steel rack with 72 visible storage boxes (L 160/140 x W 100 x D 75 mm, made of impact-proof polystyrene) and diverse DIN parts, zinc plated

Article No.	Article Description	QTY
9052 64	DIN PARTS RACK GALVANIZED	1

Contents part no. 9052 64:

Article No.	Article Description	Quantity
1011 5 16	HEX HD M.SREW 933 8.8 GA 5X 16	100
1011 5 20	HEX HD M.SCREW933 8.8 GA 5X 20	100
1011 5 30	HEX HD SCR. 933 8.8 ZI 5X 30	100
1011 6 16	HEX HD M.SCREW933 8.8 GA 6X 16	100
1011 6 20	HEX HD M.SCREW933 8.8 GA 6X 20	100
1011 6 25	HEX HD M.SCREW933 8.8 GA 6X 25	100
1011 6 30	HEX HD SCR. 933 8.8 ZI 6X 30	100
1011 6 40	HEX HD SCR. 933 8.8 ZI 6X 40	100
1011 8 16	HEX HD SCR. 933 8.8 ZI 8X 16	100
1011 8 20	HEX HD SCREW933 8.8 GA 8X 20	100
1011 8 25	HEX HD M.SCREW933 8.8 GA 8X 25	100
1011 8 30	HEX HD M.SCREW933 8.8 GA 8X 30	100
1011 8 40	HEX HD M.SCREW933 8.8 GA 8X 40	50
1011 8 50	HEX HD M.SCREW933 8.8 GA 8X 50	50
1011 10 25	HEX HD M.SCREW933 8.8 GA 10X25	50
1011 10 30	HEX HD M.SCREW933 8.8 GA 10X30	25
1011 10 35	HEX HD M.SCREW933 8.8 GA 10X35	25
1011 10 40	HEX HD M.SCREW933 8.8 GA 10X40	25
1011 10 50	HEX HD M.SCREW933 8.8 GA 10X50	25
2001 5	HEX NUT 934-8 GA M 5	100
2001 6	HEX NUT 934-8 GA M 6	100
2001 8	HEX NUT 934-8 GA M 8	100
2001 10	HEX NUT 934-8 GA M 10	50
2001 12	HEX NUT 934-8 GA M 12	25
2301 5	WASHER 125 A GA 5	100
2301 6	WASHER 125 A GA 6	100
2301 8	WASHER 125 A GA 8	100
2301 10	WASHER 125 A GA 10	100
2301 12	WASHER 125 A GA 12	100
2331 5 20	PANEL REP WASHER GA 5X20	100
2331 6 20	PANEL REP WASHER GA 6X20	100
2331 8 25	PANEL REP WASHER GA 8X25	100
2331 10 30	PANEL REP WASHER GA 10X30	100
2501 5	LOCK WASHER 127 GA 5	100
2501 6	LOCK WASHER 127 GA 6	100
2501 8	LOCK WASHER 127 GA 8	100
2501 10	LOCK WASHER 127 GA 10	100
2501 12	LOCK WASHER 127 GA 12	100



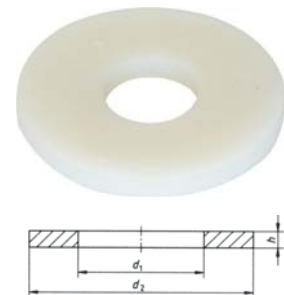
Washers DIN 125 Shape A, Plastic

- In compliance with ISO 7089
- Plastic

Article No.	Dimension	QTY
2309 3	3	100
2309 4	4	100
2309 5	5	100
2309 6	6	100
2309 8	8	100
2309 10	10	100
2309 12	12	100
2309 16	16	100
2309 20	20	100
2309 24	24	100

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 3	3.2	7	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 16	15.0	28	2.5
M 20	17.0	30	3.0
M 24	21.0	37	3.0



Washers DIN 125 Shape A, Blank

- In compliance with ISO 7089
- Blank steel

Article No.	Dimension	QTY
2300 3	3	F 1000
2300 4	4	F 1000
2300 5	5	F 1000
2300 6	6	RF 1000
2300 8	8	HRF 1000
2300 10	10,5	HRF 1000
2300 12	12	HRF 1000
2300 14	14	HR 500
2300 16	16	HR 500
2300 18	18	f 100
2300 20	20	f 100
2300 24	24	50

Specifications

For Thread	d1	d2	h
mm	mm	mm	mm
M 3	3.2	7	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 18	19.0	34	3.0
M 20	21.0	37	3.0
M 24	25.0	44	4.0



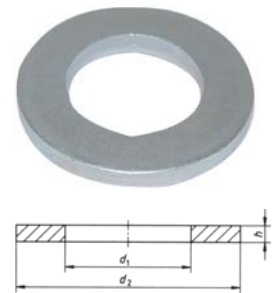
Washers DIN 125 Shape A, Galvanized

- In compliance with ISO 7089
- Galvanized steel

Article No.	Dimension	QTY
2301 2	2	1000
2301 25	2,5	1000
2301 3	3	HRF 1000
2301 4	4	HRF 1000
2301 5	5	HRF 1000
2301 6	6	HRF 1000
2301 7	7	HR 500
2301 8	8	HRF 1000
2301 10	10	HRF 1000
2301 12	12	HRF 1000
2301 14	14	HR 500
2301 16	16	HR 500
2301 18	18	f 100
2301 20	20	f 100
2301 22	22	f 100
2301 24	24	50
2301 27	27	50
2301 30	30	g 50
2301 32	32	g 50
2301 36	36	25
2301 40	40	25
2301 42	42	25
2301 50	50	10

Specifications

For Thread	d1	d2	h
mm	mm	mm	mm
M 2	2.2	5	0.3
M 2.5	2.7	6	0.5
M 3	3.2	7	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 7	7.4	14	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 18	19.0	34	3.0
M 20	21.0	37	3.0
M 22	23.0	39	3.0
M 24	25.0	44	4.0
M 27	28.0	50	4.0
M 30	31.0	56	4.0
M 32	33.0	60	5.0
M 36	37.0	66	5.0
M 40	41.0	72	6.0
M 42	43.0	78	7.0
M 50	52.0	92	8.0



Washers DIN 125 Shape A, Galvanized in Assortment

- For M4 - M6 = 1050 pieces

Article No.	Article Description	QTY
9000 2301	ASS. WASHERS DIN 125 A GA	1
9000R 2301	TRAY WASHER DIN125 A GA	1



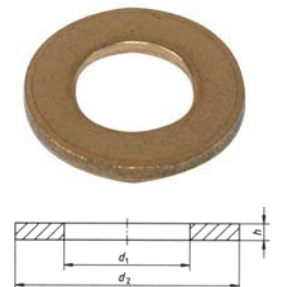
Washers DIN 125 Shape A, Brass

- In compliance with ISO 7089
- Brass

Article No.	Dimension	QTY
2307 3	3	HRF 1000
2307 4	4	HRF 1000
2307 5	5	HRF 1000
2307 6	6	HRF 1000
2307 8	8	HRF 1000
2307 10	10	HRF 1000
2307 12	12	fH 300
2307 14	14	fH 300
2307 16	16	300
2307 20	20	50

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 3	3.2	7	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 20	21.0	37	3.0



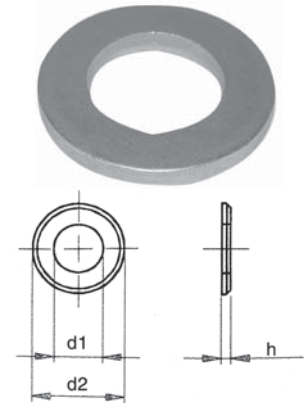
Washers DIN 125 Shape B, Galvanized

- In compliance with ISO 7090
- Galvanized steel

Article No.	Dimension	QTY
2303 4	4	RF 1000
2303 5	5	HRF 1000
2303 6	6	RF 1000
2303 8	8	HRF 1000
2303 10	10	HRF 1000
2303 12	12	HRF 1000
2303 14	14	HR 500
2303 16	16	HR 500
2303 18	18	f 100
2303 20	20	f 100
2303 22	22	f 100
2303 24	24	50
2303 27	27	50
2303 30	30	gf 100
2303 32	32	g 50
2303 36	36	50
2303 40	40	25
2303 42	42	25

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 18	19.0	34	3.0
M 20	21.0	37	3.0
M 22	23.0	39	3.0
M 24	25.0	44	4.0
M 27	28.0	50	4.0
M 30	31.0	56	4.0
M 32	33.0	60	5.0
M 36	37.0	66	5.0
M 40	41.0	72	6.0
M 42	43.0	78	7.0



Washers DIN 125 B, Galvanized in Assortment

- For M4 - M6 = 1050 pieces

Article No.	Article Description	QTY
9000 2303	ASS. WASHERS DIN 125 B GA	1
9000R 2303	TRAY WASHERS 125 B GA	1



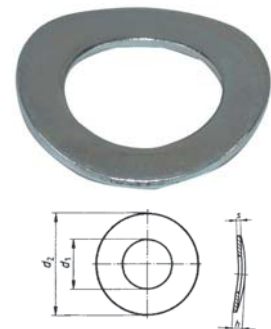
Lock Washers DIN 137 A, Galvanized

- Arched
- Galvanized steel

Article No.	Dimension	QTY
2321 3	3	HR 500
2321 4	4	HR 500
2321 5	5	HR 500
2321 6	6	HR 500
2321 8	8	HR 500
2321 10	10	HR 500

Specifications

For thread	d1	d2	h max.
Dia. mm	mm	mm	mm
M 3	3.2	6	1.3
M 4	4.3	8	1.6
M 5	5.3	10	1.8
M 6	6.4	11	2.2
M 8	8.4	15	3.4
M 10	10.5	18	4.0



Lock Washers DIN 137 B, Galvanized

- Wave shape
- Galvanized steel

Article No.	Dimension	QTY
2322 3	3	HR 500
2322 4	4	HR 500
2322 5	5	HR 500
2322 6	6	HR 500
2322 7	7	HR 500
2322 8	8	HR 500
2322 10	10	HR 500
2322 12	12	HR 500
2322 14	14	H 300
2322 16	16	H 300
2322 18	18	H 300
2322 20	20	H 300
2322 24	24	100

Specifications

For Thread	d1	d2	h max.
Dia. mm	mm	mm	mm
M 3	3.2	8	1.6
M 4	4.3	9	2.0
M 5	5.3	11	2.2
M 6	6.4	12	2.6
M 7	7.4	14	3.0
M 8	8.4	15	3.0
M 10	10.5	21	4.2
M 12	13.0	24	5.0
M 14	15.0	28	6.0
M 16	17.0	30	6.4
M 18	19.0	34	6.6
M 20	21.0	36	7.4
M 24	25.0	44	8.2



Wavy Washers DIN 137 A/B, Zinc Plated

- M3 - M12 = 2050 pieces

Article No.	Article Description	QTY
9000 232	ASS.WAVE WASHERS 137 A/B GA	1
9000R 232	TRAY WAVE WASHER 137 A/B GA	1



Large Diameter Washers, Galvanized

- Galvanized steel



Article No.	Dimension	QTY
2331 4 12	4 x 12	HRF 1000
2331 4 15	4 x 15	HRF 1000
2331 4 20	4 x 20	HRF 1000
2331 4 25	4 x 25	HRF 1000
2331 4 30	4 x 30	HR 500
2331 5 12	5 x 12	HRF 1000
2331 5 15	5 x 15	HRF 1000
2331 5 20	5 x 20	HRF 1000
2331 5 25	5 x 25	HR 500
2331 5 30	5 x 30	HR 500
2331 6 15	6 x 15	HRF 1000
2331 6 18	6 x 18	HRF 1000
2331 6 20	6 x 20	HRF 1000
2331 6 25	6 x 25	HRF 1000
2331 6 30	6 x 30	HR 500
2331 7 15	7 x 15	HR 500
2331 7 20	7 x 20	HR 500
2331 7 25	7 x 25	HR 500

Article No.	Dimension	QTY
2331 7 30	7 x 30	HR 500
2331 8 20	8 x 20	HRF 1000
2331 8 25	8 x 25	HRF 1000
2331 8 30	8 x 30	HR 500
2331 8 35	8 x 35	HR 500
2331 8 40	8 x 40	H 300
2331 10 20	10 x 20	H 300
2331 10 25	10 x 25	HR 500
2331 10 30	10 x 30	HR 500
2331 10 35	10 x 35	H 300
2331 10 40	10 x 40	H 300
2331 12 30	12 x 30	H 300
2331 12 40	12 x 40	H 300
2331 14 30	14 x 30	H 300
2331 14 40	14 x 40	H 300
2331 16 30	16 x 30	H 300
2331 16 40	16 x 40	H 300
2331 16 50	16 x 50	H 300

(for M-type screws M x d2 mm)

Specifications

For thread	d2	h
Dia. mm	mm	mm
M 4	4.3	1.25
M 5	5.3	1.25
M 6	6.4	1.25
M 7	7.4	1.25
M 8	8.4	1.25
M 10	10.5	1.25
M 12	13.0	1.25
M 14	15.0	2.00
M 16	17.0	2.00

Large Diameter Washers, Galvanized, Assortment

- 5 x 20 - 10 x 40 = 900 pieces

Article No.	Article Description	QTY
9000 2331	ASS.LG DIA WASHERS GA	1
9000R 2331	TRAY LG DIA WASHERS GA	1



Washers DIN 7349, Galvanized

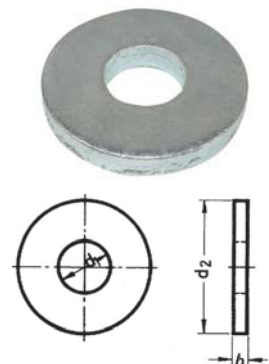
- Washers for bolts with heavy clamping sleeves
- Galvanized steel

Article No.	Dimension	QTY
2378 3	3	100
2378 4	4	100
2378 5	5	100
2378 6	6	100
2378 8	8	100
2378 10	10	100
2378 12	12	100
2378 14	14	100
2378 16	16	100
2378 18	18	100
2378 20	20	100

(for M-type screws)

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 3	3.2	9	1
M 4	4.3	12	1.6
M 6	6.4	17	3
M 8	8.4	21	4
M 10	10.5	25	4
M 12	13.0	30	6
M 16	17.0	40	6
M 18	19.0	44	8
M 20	21.0	44	8



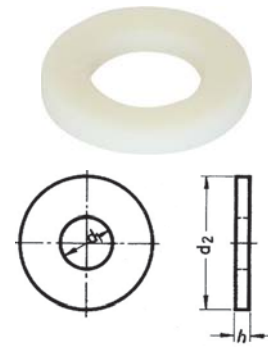
Washers DIN 9021, Plastic

Article No.	Dimension	QTY
2313 5	5	1000
2313 6	6	1000
2313 8	8	500
2313 10	10	500
2313 12	12	200
2313 16	16	100

(for M-type screws)

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 5	5.3	15	1.6
M 6	6.4	18	1.6
M 8	8.4	25	2.0
M 10	10.5	30	2.5
M 12	13.0	40	3.0
M 16	17.0	50	3.0



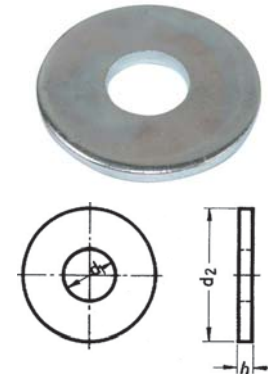
Washers DIN 9021, Galvanized

Article No.	Dimension	QTY
2311 3	3	RF 1000
2311 35	3,5	1000
2311 4	4	RF 1000
2311 5	5	RF 1000
2311 6	6	RF 1000
2311 8	8	HRF 1000
2311 10	10	HR 500
2311 12	12	H 300
2311 14	14	100
2311 16	16	100
2311 18	18	100
2311 20	20	100
2311 24	24	50

(for M-type screws)

Specifications

For thread-Ø	d1	d2	h
mm	mm	mm	mm
M 3	3.2	9	0.8
M 3.5	3.7	11	0.8
M 4	4.3	12	1.0
M 5	5.3	15	1.6
M 6	6.4	18	1.6
M 8	8.4	25	2.0
M 10	10.5	30	2.5
M 12	13.0	40	3.0
M 14	15.0	45	3.0
M 16	17.0	50	3.0
M 18	20.0	55	4.0
M 20	22.0	60	4.0
M 24	26.0	72	5.0



Washers DIN 9021, Galvanized, Assortment

- In compliance with ISO 7093
- For M4 - M16 = 545 pieces

Article No.	Article Description	QTY
9000 2311	ASS. WASHERS DIN9021 GA	1
9000R 2311	TRAY WASHERS DIN9021 GA	1



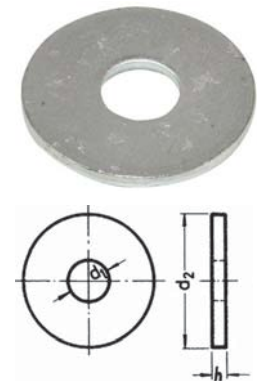
Washers DIN 440, Galvanized

Article No.	Dimension	QTY
2376 5	5	100
2376 6	6	100
2376 8	8	100
2376 10	10	100
2376 12	12	100
2376 16	16	100
2376 20	20	25
2376 22	22	50
2376 24	24	25
2376 27	27	50
2376 30	30	25

(for M-type screws)

Specifications

For thread	d1	d2	s
Dia. mm	mm	mm	mm
M 5	5.5	18	2
M 6	6.6	22	2
M 8	9.0	28	3
M 10	11.0	34	3
M 12	14.0	45	4
M 16	18.0	58	5
M 20	22.0	68	5
M 22	24.0	80	6
M 24	26.0	92	6
M 27	30.0	98	6
M 30	33.0	105	6



Washers DIN 1052, Galvanized

- Washers for wood connectors
- Galvanized steel

Article No.	Dimension	QTY
2318 12	12	50
2318 16	16	50
2318 20	20	25
2318 22	22	25
2318 24	24	25

Specifications

For thread	d1	d2	s
Dia. mm	mm	mm	mm
M 12	14	58	6
M 16	18	68	6
M 20	23	80	8
M 22	25	92	8
M 24	27	105	8



Washers DIN 6340, Galvanized

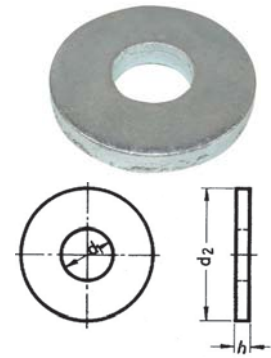
- For use primarily as washer for clamps
- Shape F
- Hardened, galvanized steel

Article No.	Dimension	QTY
2380 6	6	100
2380 8	8	100
2380 10	10	100
2380 12	12	100
2380 14	14	100
2380 16	16	100
2380 20	20	100
2380 24	24	50

(For M-type screws)

Specifications

For thread	d1	d2	h
Dia. mm	mm	mm	mm
M 6	6.4	17	3
M 8	8.4	23	4
M 10	10.5	28	4
M 12	13.0	35	5
M 14	15.0	40	5
M 16	17.0	45	6
M 20	21.0	50	6
M 24	25.0	60	8



Square Washers DIN 434, Galvanized

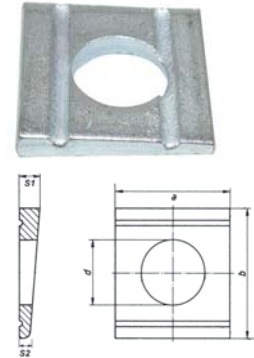
- Conical with two grooves / primarily for U-sections
- Galvanized steel

Article No.	Dimension	QTY
2370 8	8	100
2370 10	10	100
2370 12	12	100
2370 16	16	100
2370 20	20	100

(For M-type screws)

Specifications

For thread	d	a	b	S1	S2
Dia. mm	mm	mm	mm	mm	mm
M 8	9	22	22	3.8	2.0
M 10	11	22	22	3.8	2.0
M 12	14	26	30	4.9	2.5
M 16	18	32	36	5.9	3.0
M 20	22	40	44	7.0	3.5



Square Washers DIN 435, Galvanized

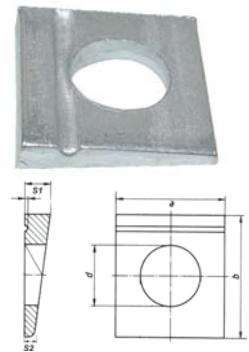
- Conical with two grooves / primarily for U-sections
- Galvanized steel

Article No.	Dimension	QTY
2372 10	10	100
2372 12	12	100
2372 16	16	100
2372 20	20	100

(For M-type screws)

Specifications

For thread	d	a	b	S1	S2
Dia. mm	mm	mm	mm	mm	mm
M 10	11	22	22	4.6	1.5
M 12	14	26	30	6.2	2.0
M 16	18	32	36	7.5	2.5
M 20	22	40	44	9.2	3.0



Square Washers DIN 436, Galvanized

- Primarily for wood constructions
- Galvanized

Article No.	Dimension	QTY
2374 10	10	100
2374 12	12	100
2374 16	16	100
2374 20	20	100
2374 22	22	100

(For M-type screws)

Specifications

For thread	d	a	s
Dia. mm	mm	mm	mm
M 10	11	30	3
M 12	14	40	4
M 16	18	50	5
M 20	22	60	5
M 22	24	70	6



Washers DIN 134, Galvanized

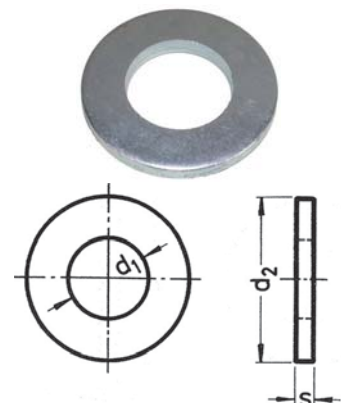
- Galvanized steel

Article No.	Dimension	QTY
2319 3	3	HRF 1000
2319 4	4	HRF 1000
2319 5	5	HRF 1000
2319 6	6	HRF 1000
2319 8	8	fHR 500
2319 10	10	fHR 500
2319 12	12	fHR 500
2319 14	14	fHR 500
2319 16	16	fHR 500
2319 18	18	gf 100
2319 20	20	gf 100

(For M-type screws)

Specifications

For thread-Ø	d1	d2	s
Dia. mm	mm	mm	mm
M 3	3,2	8	0.5
M 4	4.3	10	0.8
M 5	5,3	12	1.0
M 6	6,4	14	1.5
M 8	8,4	18	2.0
M 10	10,5	22	2.5
M 12	13,0	28	3.0
M 14	15,0	28	3.0
M 16	17,0	34	3.0
M 18	19,0	40	4.0
M 20	21,0	40	4.0



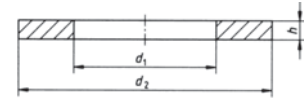
Shims, Plain Steel

• Plain steel

Article No.	Dimension	QTY
2340 4 8 05	4 x 8 x 0,50	g 100
2340 6 12 05	6 x 12 x 0,50	100
2340 6 12 025	6 x 12 x 0,25	100
2340 6 12 10	6 x 12 x 1,00	100
2340 8 14 025	8 x 14 x 0,25	g 100
2340 8 14 05	8 x 14 x 0,50	g 100
2340 8 14 1	8 x 14 x 1,00	g 100
2340 10 16 025	10 x 16 x 0,25	g 100
2340 10 16 05	10 x 16 x 0,50	g 100
2340 10 16 1	10 x 16 x 1,00	g 100
2340 12 24 025	12 x 24 x 0,25	üg 100
2340 12 24 05	12 x 24 x 0,50	g 100
2340 12 24 1	12 x 24 x 1,00	g 100
2340 14 26 025	14 x 26 x 0,25	g 100
2340 14 26 05	14 x 26 x 0,50	g 100
2340 14 26 1	14 x 26 x 1,00	g 100
2340 16 26 025	16 x 26 x 0,25	g 100
2340 16 26 05	16 x 26 x 0,50	g 100
2340 16 26 1	16 x 26 x 1,00	g 100
2340 18 30 025	18 x 30 x 0,25	g 100
2340 18 30 05	18 x 30 x 0,50	g 100
2340 18 30 1	18 x 30 x 1,00	g 100
2340 20 32 025	20 x 32 x 0,25	g 100
2340 20 32 05	20 x 32 x 0,50	g 100
2340 20 32 1	20 x 32 x 1,00	g 100
2340 22 34 025	22 x 34 x 0,25	g 100
2340 22 34 05	22 x 34 x 0,50	üg 100
2340 22 34 1	22 x 34 x 1,00	g 100
2340 24 36 025	24 x 36 x 0,25	üg 100

(d1 x d2 x h mm)

Article No.	Dimension	QTY
2340 24 36 05	24 x 36 x 0,50	g 100
2340 24 36 1	24 x 36 x 1,00	g 100
2340 25 35 025	25 x 35 x 0,25	g 100
2340 25 35 05	25 x 35 x 0,50	g 100
2340 25 35 1	25 x 35 x 1,00	g 100
2340 26 40 025	26 x 40 x 0,25	g 100
2340 26 40 05	26 x 40 x 0,50	g 100
2340 26 40 1	26 x 40 x 1,00	g 100
2340 28 40 025	28 x 40 x 0,25	g 100
2340 28 40 05	28 x 40 x 0,50	g 100
2340 28 40 1	28 x 40 x 1,00	g 100
2340 30 42 025	30 x 42 x 0,25	g 100
2340 30 42 05	30 x 42 x 0,50	g 100
2340 30 42 1	30 x 42 x 1,00	g 100
2340 30 50 05	30 x 50 x 0,50	g 100
2340 30 50 1	30 x 50 x 1,00	g 100
2340 32 44 025	32 x 44 x 0,25	g 100
2340 32 44 1	32 x 44 x 1,00	g 100
2340 34 46 025	34 x 46 x 0,25	g 100
2340 34 46 05	34 x 46 x 0,50	g 100
2340 34 46 1	34 x 46 x 1,00	g 100
2340 36 48 025	36 x 48 x 0,25	g 100
2340 36 48 05	36 x 48 x 0,50	g 100
2340 38 50 025	38 x 50 x 0,25	g 100
2340 38 50 05	38 x 50 x 0,50	g 100
2340 38 50 1	38 x 50 x 1,00	g 100
2340 40 52 025	40 x 52 x 0,25	g 100
2340 40 52 05	40 x 52 x 0,50	g 100
2340 40 52 1	40 x 52 x 1,00	g 100



Shims, Dia. 10 - 20 mm, Plain Steel, Assortment

- Plain steel
- Contents 360 pieces

Article No.	Article Description	QTY
9000R 2340	TRAY SHIMS 10-20MM	1
9000 2340	ASS.SHIMS 10-20MM	1



Shims, Dia. 22 - 32 mm, Plain Steel

- Plain steel
- Contents 270 pieces

Article No.	Article Description	QTY
9000R 2340 1	TRAY SHIMS 22-32MM	1
9000 2340 1	ASS.SHIMS 22-32MM	1



Shims, Dia. 34 - 40 mm, Plain Steel

- Plain steel
- Contents 180 pieces

Article No.	Article Description	QTY
9000R 2340 2	TRAY SHIMS 34-40MM	1
9000 2340 2	ASS.SHIMS 34-40MM	1



Spring Lock Washers DIN 127, Galvanized

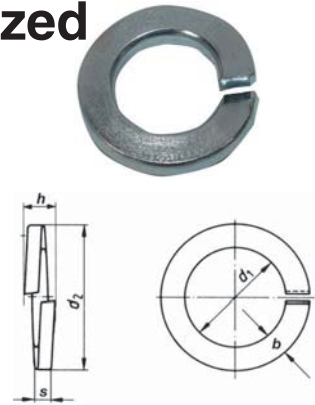
- Shape B
- Galvanized steel

Article No.	Dimension	QTY
2501 3	3	HRF 1000
2501 35	3,5	RF 1000
2501 4	4	HRF 1000
2501 5	5	HRF 1000
2501 6	6	HRF 1000
2501 7	7	H 300
2501 8	8	HRF 1000
2501 10	10	HRF 1000
2501 12	12	HRF 1000
2501 14	14	HR 500
2501 16	16	HR 500
2501 18	18	f 100
2501 20	20	f 100
2501 22	22	f 100
2501 24	24	50
2501 27	27	50
2501 30	30	50
2501 33	33	50
2501 36	36	50

(for M-type screws)

Specifications

For thread dia. mm	d1 min. mm	d2 max. mm	b mm	s mm	h max. mm
M 3	3.1	6.2	1.3	0.8	1.9
M 3.5	3.6	6.7	1.3	0.8	1.9
M 4	4.1	7.6	1.5	0.9	2.1
M 5	5.1	9.2	1.8	1.2	2.8
M 6	6.1	11.8	2.5	1.6	3.8
M 7	7.1	12.8	2.5	1.6	3.8
M 8	8.1	14.8	3.0	2.0	4.7
M 10	10.2	18.1	3.5	2.2	5.2
M 12	12.2	21.1	4.0	2.5	5.9
M 14	14.2	24.1	4.5	3.0	7.1
M 16	16.2	27.4	5.0	3.5	8.3
M 18	18.2	29.4	5.0	3.5	8.3
M 20	20.2	33.6	6.0	4.0	9.4
M 22	22.5	35.9	6.0	4.0	9.4
M 24	24.5	40.0	7.0	5.0	11.8
M 27	27.5	43.0	7.0	5.0	11.8
M 30	30.5	48.2	8.0	6.0	14.2
M 33	33.5	55.2	10.0	6.0	14.2
M 36	36.5	58.2	10.0	6.0	14.2



Spring Lock Washers DIN 7980, Galvanized

- For machine schrews
- Galvanized steel

Article No.	Dimension	QTY
2521 3	3	HR 500
2521 4	4	HR 500
2521 5	5	HR 500
2521 6	6	HR 500
2521 8	8	HR 500
2521 10	10	HR 500
2521 12	12	H 300
2521 14	14	100
2521 16	16	100
2521 18	18	100
2521 20	20	100
2521 22	22	100
2521 24	24	100

(for M-type screws)

Specifications

For thread dia. mm	d1 min. mm	d2 max. mm	s mm	h min. mm
M 3	3.1	5.6	1.0	2.0
M 4	4.1	7.0	1.2	2.4
M 5	5.1	8.8	1.6	3.2
M 6	6.1	9.9	1.6	3.2
M 8	8.1	12.7	2.0	4.0
M 10	10.2	16.0	2.5	5.0
M 12	12.2	18.0	2.5	5.0
M 14	14.2	21.1	3.0	6.0
M 16	16.2	24.4	3.5	7.0
M 18	18.2	26.4	3.5	7.0
M 20	20.2	30.6	4.5	9.0
M 22	22.5	32.9	4.5	9.0
M 24	24.5	35.9	5.0	10.0



Serrated Lock Washers DIN 6798 IZ, Galvanized

- Shape IZ – internal teeth
- Galvanized steel

Article No.	Dimension	QTY
2351 3	2,5	100
2351 4	3	100
2351 5	4	100
2351 6	5	100
2351 7	6	100
2351 8	7	100
2351 10	8	100
2351 12	10	100
2351 14	12	100
2351 16	14	100
2351 18	16	100
2351 20	18	100
2351 22	20	100
2351 24	22	100

(for M-type screws)

Specifications

Suitable for thread-Ø	d1 mm	d2 mm	s1 mm
M 3	3,2	6,0	0,4
M 4	4,3	8,0	0,5
M 5	5,3	10,0	0,5
M 6	6,4	11,0	0,7
M 7	7,4	12,5	0,8
M 8	8,4	15,0	0,8
M 10	10,5	18,0	0,9
M 12	12,5	20,5	1,0
M 14	14,5	24,0	1,0
M 16	16,5	26,0	1,2
M 18	19,0	30,0	1,4
M 20	21,0	33,0	1,4
M 22	23,0	36,0	1,5
M 24	25,0	38,0	1,4



Serrated Lock Washers DIN 6798 AZ, Galvanized

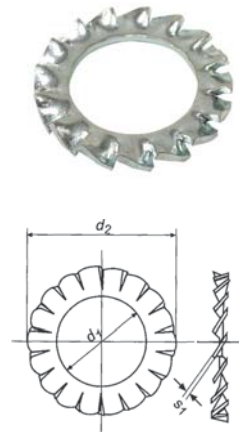
- Shape AZ – external teeth
- Galvanized steel

Article No.	Dimension	QTY
2352 25	2,5	100
2352 3	3	100
2352 4	4	100
2352 5	5	100
2352 6	6	100
2352 7	7	100
2352 8	8	100
2352 10	10	100
2352 12	12	100
2352 14	14	100
2352 16	16	100
2352 18	18	100
2352 20	20	100
2352 22	22	100

(for M-type screws)

Specifications

For thread dia. mm	d1 mm	d2 mm	s1 mm
M 2.5	2.7	5.5	0.4
M 3	3.2	6.0	0.4
M 4	4.3	8.0	0.5
M 5	5.3	10.0	0.5
M 6	6.4	11.0	0.7
M 7	7.4	12.5	0.8
M 8	8.4	15.0	0.8
M 10	10.5	18.0	0.9
M 12	12.5	20.5	1.0
M 14	14.5	24.0	1.0
M 16	16.5	26.0	1.2
M 18	19.0	30.0	1.4
M 20	21.0	33.0	1.4
M 22	23.0	36.0	1.5



Cup Washers, Brass, Black Gunmetal Finish

Article No.	Dimension	QTY
2390 4094	9,0 x 4,0	100
2390 4115	11,0 x 5,0	100
2390 4125	12,7 x 4,8	100
2390 4136	13,0 x 6,0	100
2390 4157	15,0 x 7,0	100

Specifications

OD mm	ID mm	Thickness mm
9.0	4.0	2.6
11.0	5.0	2.4
12.7	4.8	2.7
13.0	6.0	3.0
15.0	7.0	3.4



Cup Washers, Brass, Nickel Plated

Article No.	Dimension	QTY
2391 4094	9,0 x 4,0	100
2391 4115	11,0 x 5,0	100
2391 4125	12,7 x 4,8	100
2391 4136	13,0 x 6,0	100
2391 4157	15,0 x 7,0	100

Specifications

OD mm	ID mm	Thickness mm
9.0	4.0	2.6
11.0	5.0	2.4
12.7	4.8	2.7
13.0	6.0	3.0
15.0	7.0	3.4



Cup Washers, Black/Nickel Plated, Assortment

- 4x9 - 7x15 = 410 pieces

Article No.	Article Description	QTY
9000 239	ASSORTMENT CUP WASHERS	1
9000R 239	TRAY CUP WASHERS	1

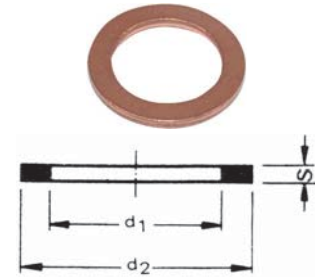


Sealing Rings DIN 7603 Shape A, Solid Copper

Article No.	Dimension	QTY
2600 4 8	4 x 8 x 1,0	100
2600 5 9	5 x 9 x 1,0	fH 300
2600 6 10	6 x 10 x 1,0	fH 300
2600 6 12	6 x 12 x 1,0	fH 300
2600 8 115	8 x 11,5 x 1,0	fH 300
2600 8 12	8 x 12 x 1,0	fH 300
2600 8 14	8 x 14 x 1,0	fH 300
2600 10 135	10 x 13,5 x 1,0	fH 300
2600 10 14	10 x 14 x 1,0	fH 300
2600 10 15	10 x 15 x 1,0	fH 300
2600 10 16	10 x 16 x 1,0	fH 300
2600 10 18	10 x 18 x 1,0	fH 300
2600 10 20	10 x 20 x 1,0	fH 300
2600 12 155	12 x 15,5 x 1,5	fH 300
2600 12 16	12 x 16 x 1,5	fH 300
2600 12 17	12 x 17 x 1,5	fH 300
2600 12 18	12 x 18 x 1,5	fH 300
2600 12 20	12 x 20 x 1,5	fH 300
2600 13 18	13 x 18 x 1,5	fH 300
2600 13 19	13 x 19 x 1,5	fH 300
2600 14 18	14 x 18 x 1,5	fH 300
2600 14 20	14 x 20 x 1,5	H 300
2600 14 22	14 x 22 x 1,5	fH 300
2600 16 20	16 x 20 x 1,5	fH 300
2600 16 22	16 x 22 x 1,5	fH 300
2600 16 24	16 x 24 x 1,5	fH 300

(d1 x d2 x s mm)

Article No.	Dimension	QTY
2600 17 21	17 x 21 x 1,5	fH 300
2600 17 23	17 x 23 x 1,5	fH 300
2600 18 22	18 x 22 x 1,5	fH 300
2600 18 24	18 x 24 x 1,5	fH 300
2600 20 24	20 x 24 x 1,5	fH 300
2600 20 26	20 x 26 x 1,5	fH 300
2600 21 26	21 x 26 x 1,5	fH 300
2600 22 27	22 x 27 x 1,5	fH 300
2600 22 28	22 x 28 x 1,5	fH 300
2600 22 29	22 x 29 x 1,5	fH 300
2600 24 29	24 x 29 x 2,0	fH 300
2600 24 30	24 x 30 x 2,0	fH 300
2600 24 32	24 x 32 x 2,0	fH 300
2600 26 32	26 x 32 x 2,0	fH 300
2600 26 34	26 x 34 x 2,0	f 100
2600 27 32	27 x 32 x 2,0	gf 100
2600 28 34	28 x 34 x 2,0	gf 100
2600 28 36	28 x 36 x 2,0	gf 100
2600 30 36	30 x 36 x 2,0	gf 100
2600 30 38	30 x 38 x 2,0	gf 100
2600 32 38	32 x 38 x 2,0	gf 100
2600 36 42	36 x 42 x 2,0	f 100
2600 38 44	38 x 44 x 2,0	gf 100
2600 40 47	40 x 47 x 2,0	f 100
2600 42 49	42 x 49 x 2,0	gf 100
2600 45 52	45 x 52 x 2,0	gf 100



Sealing Rings 7603 A, Copper, Assortment

• 6 x 10 - 32 x 38 = 1195 pieces

Article No.	Article Description	QTY
9000 2600	ASS.CU SEALING RINGS DIN7603	1
9000R 2600	TRAY SEALING RINGS DIN7603 CU	1

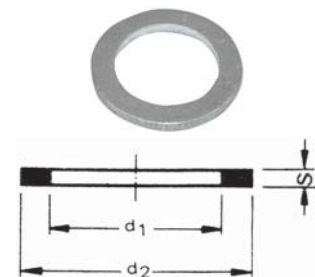


Sealing Rings DIN 7603 Shape A, Solid Alum.

Article No.	Dimension	QTY
2620 5 9	5 x 9 x 1,0	fH 300
2620 6 10	6 x 10 x 1,0	fH 300
2620 6 12	6 x 12 x 1,0	fH 300
2620 8 12	8 x 12 x 1,0	fH 300
2620 8 14	8 x 14 x 1,0	fH 300
2620 10 135	10 x 13,5 x 1,0	500
2620 10 14	10 x 14 x 1,0	fH 300
2620 10 16	10 x 16 x 1,0	fH 300
2620 12 16	12 x 16 x 1,5	fH 300
2620 12 18	12 x 18 x 1,5	fH 300
2620 12 20	12 x 20 x 1,5	fH 300
2620 14 18	14 x 18 x 1,5	fH 300
2620 14 20	14 x 20 x 1,5	fH 300
2620 14 22	14 x 22 x 1,5	fH 300
2620 16 20	16 x 20 x 1,5	fH 300

(d1 x d2 x s mm)

Article No.	Dimension	QTY
2620 16 22	16 x 22 x 1,5	fH 300
2620 18 22	18 x 22 x 1,5	fH 300
2620 18 24	18 x 24 x 1,5	fH 300
2620 20 24	20 x 24 x 1,5	fH 300
2620 20 26	20 x 26 x 1,5	fH 300
2620 22 27	22 x 27 x 1,5	fH 300
2620 22 29	22 x 29 x 1,5	fH 300
2620 24 29	24 x 29 x 2,0	fH 300
2620 24 32	24 x 32 x 2,0	fH 300
2620 26 32	26 x 32 x 2,0	fH 300
2620 26 34	26 x 34 x 2,0	fH 300
2620 28 34	28 x 34 x 2,0	gf 100
2620 32 38	32 x 38 x 2,0	gf 100
2620 38 44	38 x 44 x 2,0	gf 100
2620 45 52	45 x 52 x 2,0	gf 100



Sealing Rings DIN 7603 A, Aluminium in Assortment

• 6 x 10 - 26 x 34 = 1085 pieces

Article No.	Article Description	QTY
9000 2620	ASS.ALU SEALING RINGS DIN7603	1
9000R 2620	TRAY SEALING RINGS DIN7603 ALU	1

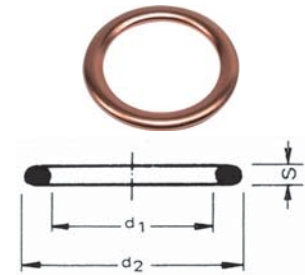


Sealing Rings DIN 7603 Shape C, Copper Filled

Article No.	Dimension	QTY
2610 6 10	6 x 10 x 1,5	fH 300
2610 6 12	6 x 12 x 1,5	fH 300
2610 8 12	8 x 12 x 1,5	fH 300
2610 8 14	8 x 14 x 1,5	fH 300
2610 10 14	10 x 14 x 1,5	fH 300
2610 10 16	10 x 16 x 1,5	fH 300
2610 12 16	12 x 16 x 2,0	fH 300
2610 12 18	12 x 18 x 2,0	fH 300
2610 14 18	14 x 18 x 2,0	fH 300
2610 14 20	14 x 20 x 2,0	fH 300
2610 16 20	16 x 20 x 2,0	fH 300
2610 16 22	16 x 22 x 2,0	fH 300

(d1 x d2 x s mm)

Article No.	Dimension	QTY
2610 18 22	18 x 22 x 2,0	fH 300
2610 18 24	18 x 24 x 2,0	fH 300
2610 20 24	20 x 24 x 2,0	fH 300
2610 20 26	20 x 26 x 2,0	fH 300
2610 22 27	22 x 27 x 2,0	fH 300
2610 22 29	22 x 29 x 2,0	fH 300
2610 24 32	24 x 32 x 2,5	fH 300
2610 26 32	26 x 32 x 2,5	fH 300
2610 26 34	26 x 34 x 2,5	fH 300
2610 30 36	30 x 36 x 2,5	gf 100
2610 30 38	30 x 38 x 2,5	gf 100
2610 32 38	32 x 38 x 2,5	gf 100



Sealing Rings DIN7603 C, Copper Filled, Assortment

- 6 x 10 - 24 x 32 = 535 pieces

Article No.	Article Description	QTY
9000 2610	ASS.SEAL.RINGS 7603C CU-FILL.	1
9000R 2610	TRAY SEAL.RINGS7603C CU-FILL.	1

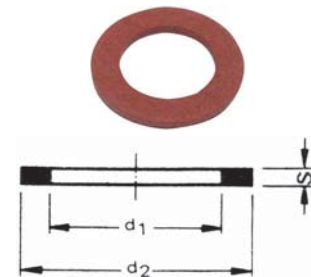


Sealing Rings DIN 7603 Shape A, Vulcanized Fibre

Article No.	Dimension	QTY
2630 5 9	5 x 9 x 1,0	fH 300
2630 6 10	6 x 10 x 1,0	fH 300
2630 6 12	6 x 12 x 1,0	fH 300
2630 8 12	8 x 12 x 1,0	fH 300
2630 8 14	8 x 14 x 1,5	fH 300
2630 10 14	10 x 14 x 1,0	fH 300
2630 10 16	10 x 16 x 1,0	fH 300
2630 12 16	12 x 16 x 1,5	fH 300
2630 12 19	12 x 19 x 1,5	fH 300
2630 12 20	12 x 20 x 1,5	fH 300

(d1 x d2 x s mm)

Article No.	Dimension	QTY
2630 14 18	14 x 18 x 1,5	fH 300
2630 14 20	14 x 20 x 1,5	fH 300
2630 15 23	15 x 23 x 1,5	fH 300
2630 16 22	16 x 22 x 1,5	fH 300
2630 18 24	18 x 24 x 1,5	fH 300
2630 20 26	20 x 26 x 1,5	fH 300
2630 20 27	20 x 27 x 1,5	fH 300
2630 20 28	20 x 28 x 1,5	fH 300
2630 22 26	22 x 26 x 1,5	fH 300
2630 22 27	22 x 27 x 1,5	fH 300



Sealing Rings DIN 7603 A, Vulcanized Fibre

- 5 x 9 - 18 x 24 = 725 pieces

Article No.	Article Description	QTY
9000 2630	ASS.SEALING RINGS 7603A VF	1
9000R 2630	TRAY SEALING RINGS 7603A VF	1



Special-Oil Sealing Rings, Assortment

- 775 pieces

Article No.	Article Description	QTY
9000 260	ASS.SPECIAL OIL SEAL.RINGS	1
9000R 260	TRAY SPEC.OIL SEAL.WASH.ASS.	1



Sealing Rings for Oil Drain Plugs, Assortment

- 12 x 18 - 22 x 27 = 600 pieces

Article No.	Article Description	QTY
9000 26	ASS.OIL DRAIN SEALING RINGS	1
9000R 26	TRAY OIL DRAIN SEALING RINGS	1



Screw Sealing Rings

Article No.	Dimension	QTY
2640 5	5,7 x 10 x 1	20
2640 6	6,7 x 10 x 1	20
2640 7	7,1 x 12 x 1	20
2640 8	8,7 x 13 x 1	f 100
2640 10	10,7 x 16 x 1,5	f 100
2640 12	12,7 x 18 x 1,5	f 100
2640 13	13,7 x 20 x 1,5	f 100
2640 14	14,7 x 22 x 1,5	f 100
2640 16	16,7 x 24 x 1,5	g 50
2640 18	18,7 x 26 x 1,5	g 50
2640 20	20,7 x 28 x 1,5	g 50
2640 22	22,7 x 30 x 2	üg 50
2640 24	24,7 x 32 x 2	g 50
2640 27	27,2 x 36 x 2	g 50

(ID x OD x Material thickness)

- Yellow galvanized steel washers with vulcanised rubber sealing lip
- For securely sealing hex head bolts without sealing flange, plugs and flange connections against high pressure and vacuum
- Reusable



Sealing Rings for Compress. Air Lines (brake ring)

Article No.	Dimension	QTY
2660 12 16	12 x 16	f 100
2660 14 18	14 x 18	f 100
2660 16 21	16 x 21	f 100
2660 18 22	18 x 22	f 100
2660 22 27	22 x 27	f 100

(ID x OD x Material thickness)

- Brass ring with O-ring
- Suitable replacement O-ring:**
- Part No. 2650 2 10
 - Part No. 2650 2 12
 - Part No. 2650 2 15
 - Part No. 2650 2 17
 - Part No. 2650 24 203



Sealing Rings, Zinc for Compressed Air Lines

Article No.	Dimension	QTY
2661 12 19	12 x 19 x 1,5	f 100
2661 14 20	14 x 20 x 1,5	f 100

(ID x OD x Material thickness)

- Yellow-chromated



Sealing Rings for Fuel Lines, Double

Article No.	Dimension	QTY
2609 8 12 8	8 x 12 x 8	fH 300
2609 8 12 13	8 x 12 x 13	fH 300

(ID x OD x Material thickness)



Ford Sealing Rings

Article No.	Dimension	QTY
2665 12 20	12 x 20	fH 300
2665 145 22	14,5 x 22	fH 300
2641 13	13 x 22 x 3	f 100
2641 14	14,7 x 24 x 1,5	f 100
2641 10 20	10 x 20 x 2	f 100

(ID x OD x Material thickness)

Part No. 2665 12 20, 2665 145 22:

- White
- Plastic version

Part No. 2641 13:

- Black
- Rubber version

Part No. 2641 14:

- Gold / black
- Steel / rubber version

Part No. 2641 10 20:

- Copper
- Copper version



Toyota Sealing Rings

Article No.	Dimension	QTY
2666 12 215	12 x 21,5	fH 300
2666 18 285	18 x 28,5	fH 300

(ID x OD x Material thickness)

Part. No. 2666 12 215:

- Toyota No. 9043012011

Part. No. 2666 12 285:

- Toyota No. 9043018244



Nissan Sealing Rings Copper

Article No.	Dimension	QTY
2667 11 17	11 x 17 x 3	f 100

(ID x OD x Material thickness)



Opel Sealing Rings

Article No.	Dimension	QTY
2640 18	18,7 x 26 x 1,5	g 50
2650 2 18	2 x 18	g 100
2668 11 21	11 x 21 x 2,5	f 100

(ID-Ø x OD-Ø x material strength in mm)

Part. No. 2640 18:

- Yellow galvanized steel washer vulcanized rubber sealing lip
- Strength of rubber sealing lip: 2.5 mm
- OE-No.: 652543/93183670

Art. No. 2650 2 18:

- Sealing ring made of Perbunan N
- Temperature resistant: -40°C to +130°C
- Fuel and oil-resistant
- Dimension: 18x22x2
- OE-No.: 652540

Art. No. 2668 11 21:

- Material: NBR
- OE-No.: 652526/3536966



2640 18



2650 2 18



2668 11 21

Subaru Sealing Rings

Article No.	Dimension	QTY
2669 20 26	20 x 26 x 2	f 100

(ID-Ø x OD-Ø x material strength in mm)

- Galvanized steel
- OE No.: 11126AA000



Honda Sealing Rings

Article No.	Dimension	QTY
2664 14 22	14 x 22 x 2	f 100

(ID-Ø x OD-Ø x material strength in mm)

- Aluminium
- OE-No.: 94109-14000



O-Rings, Metric

- Sealing rings made of acrylic nitrile butadien-rubber (e.g. Perbunan N)
- Temperature resistant from -30°C to +120°C
- Fuel and oil resistant

Article No.	Dimension	QTY
2650 15 3	1,5 x 3	25
2650 15 5	1,5 x 5	25
2650 15 7	1,5 x 7	25
2650 15 9	1,5 x 9	25
2650 15 11	1,5 x 11	25
2650 2 6	2 x 6	25
2650 2 8	2 x 8	25
2650 2 10	2 x 10	25
2650 2 12	2 x 12	25
2650 2 14	2 x 14	25
2650 2 15	2 x 15	25
2650 2 17	2 x 17	25
2650 2 18	2 x 18	g 100
2650 2 20	2 x 20	25
2650 24 203	2,4 x 20,3	25
2650 25 5	2,5 x 5	25
2650 25 7	2,5 x 7	25

(Ring thickness x ID in mm)

O-Rings, Metric in Assortment

- 1.5x3 - 3x30 = 360 pieces

Article No.	Article Description	QTY
9000 2650	ASSORTMENT O-RING METRIC	1
9000R 2650	TRAY O-RING METRIC	1

O-Rings, Inch Sizes

- Rings made of Perbunan N

Article No.	Dimension	QTY
2651 178 29	1,78 x 2,9	30
2651 178 369	1,78 x 3,69	30
2651 178 448	1,78 x 4,48	30
2651 178 528	1,78 x 5,28	30
2651 178 607	1,78 x 6,07	30
2651 178 766	1,78 x 7,66	30
2651 178 925	1,78 x 9,25	gf 100
2651 178 1082	1,78 x 10,82	gf 100
2651 178 1242	1,78 x 12,42	gf 100
2651 178 14	1,78 x 14	gf 100
2651 178 156	1,78 x 15,6	gf 100
2651 178 1717	1,78 x 17,17	gf 100
2651 178 1877	1,78 x 18,77	gf 100
2651 178 2035	1,78 x 20,35	gf 100
2651 178 2195	1,78 x 21,95	gf 100
2651 262 919	2,62 x 9,19	gf 100
2651 262 1078	2,62 x 10,78	gf 100
2651 262 1237	2,62 x 12,37	gf 100

(Ring thickness x ID in mm)

O-Ring, Inch Sizes, 450-Pcs in Ass.

- 1.78x2.9 – 2.62x21.89 = 450 pieces

Article No.	Article Description	QTY
9000 2651	ASSORTMENT O-RING INCH	1
9000R 2651	TRAY O-RINGS INCH	1

O-Ring, Inch Sizes, 270-Pcs. in Ass.

- 2.62x23.47 - 3.53x36.10 = 270 pieces

Article No.	Article Description	QTY
9000 2651 1	SORT.O-RINGE ZOLL	1
9000R 2651 1	INLETT O-RINGE ZOLL	1



Schnorr Lock Washers, Black

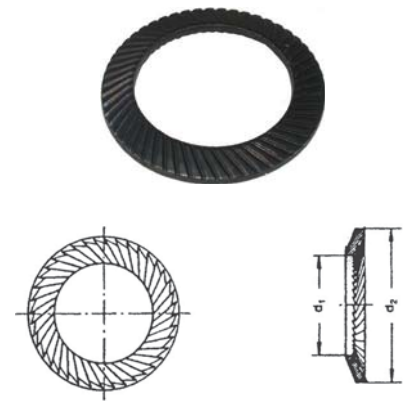
- Black steel

Article No.	Dimension	QTY
2532 3	3	100
2532 4	4	100
2532 5	5	100
2532 6	6	100
2532 8	8	100
2532 10	10	100
2532 12	12	100
2532 14	14	100
2532 16	16	100
2532 18	18	100
2532 20	20	100
2532 22	22	100
2532 24	24	100

(for M-type screws)

Specifications

For thread dia. mm	d1 mm	d2 mm
M 3	3.2	5.5
M 4	4.3	7
M 5	5.3	9
M 6	6.4	10
M 8	8.4	13
M 10	10.5	16
M 12	13.0	18
M 14	15.0	22
M 16	17.0	24
M 18	19.0	27
M 20	21.0	30
M 22	23.0	33
M 24	25.6	36



Retaining Rings DIN 6799 for Shanks

- Phosphated steel

Article No.	Dimension	QTY
2530 012	1,2	100
2530 015	1,5	100
2530 019	1,9	500
2530 23	2,3	100
2530 32	3,2	100
2530 4	4	100
2530 5	5	100
2530 6	6	100
2530 7	7	100
2530 8	8	100
2530 9	9	100
2530 10	10	100
2530 12	12	100
2530 15	15	100
2530 19	19	50
2530 24	24	50

(Nominal Dia. mm)

Specifications

Nom. dia. mm	OD Tensioned mm
1.2	3.25
1.5	4.25
1.9	4.80
2.3	6.30
3.2	7.30
4.0	9.30
5.0	11.30
6.0	12.30
7.0	14.30
8.0	16.30
9.0	18.80
10.0	20.40
12.0	23.40
15.0	37.40
19.0	44.60
24.0	29.60



Retaining Rings DIN 6799, Assortment

- 2.3 - 19.0 = 920 pieces

Article No.	Article Description	QTY
9000 2530	ASSORTM.RETAINING RINGS 6799	1
9000R 2530	TRAY RETAINING RINGS 6799	1



Retaining Rings DIN 471 for Shanks

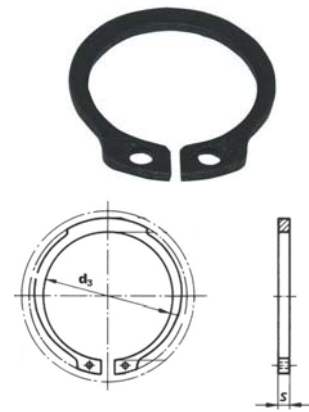
• Phosphated steel

Article No.	Dimension	QTY
2541 3	3	g 100
2541 4	4	g 100
2541 5	5	g 100
2541 6	6	g 100
2541 7	7	g 100
2541 8	8	g 100
2541 9	9	g 100
2541 10	10	g 100
2541 11	11	g 100
2541 12	12	g 100
2541 13	13	g 100
2541 14	14	g 100
2541 15	15	g 100
2541 16	16	g 100
2541 17	17	g 100
2541 18	18	g 100
2541 19	19	g 100
2541 20	20	g 100
2541 21	21	g 100
2541 22	22	g 100
2541 23	23	g 100
2541 24	24	g 100
2541 25	25	g 100
2541 26	26	g 50
2541 27	27	g 50
2541 28	28	g 50
2541 29	29	g 50
2541 30	30	g 50
2541 31	31	g 50
2541 32	32	g 50
2541 33	33	g 50
2541 34	34	g 50
2541 35	35	g 50
2541 36	36	g 50
2541 37	37	g 50
2541 38	38	g 50
2541 39	39	g 50
2541 40	40	g 50
2541 41	41	g 50
2541 42	42	g 50
2541 44	44	g 50
2541 45	45	g 50
2541 46	46	g 50
2541 47	47	g 50
2541 48	48	g 50
2541 50	50	25
2541 52	52	25
2541 54	54	25
2541 55	55	25
2541 56	56	25
2541 57	57	25
2541 58	58	25
2541 60	60	25
2541 62	62	25
2541 65	65	25
2541 67	67	50
2541 70	70	25
2541 75	75	25
2541 80	80	25
2541 85	85	25
2541 90	90	25
2541 100	100	25

(Nominal Dia. mm)

Specifications

Nom. dia.	d3	s
mm	mm	mm
3	2.7	0.40
4	3.7	0.40
5	4.7	0.60
6	5.6	0.70
7	6.5	0.80
8	7.4	0.80
9	8.4	1.00
10	9.3	1.00
11	10.2	1.00
12	11.0	1.00
13	11.9	1.00
14	12.9	1.00
15	13.8	1.00
16	14.7	1.00
17	15.7	1.00
18	16.5	1.20
19	17.5	1.20
20	18.5	1.20
21	19.5	1.20
22	20.5	1.20
23	21.5	1.20
24	22.2	1.20
25	23.2	1.20
26	24.2	1.20
27	24.9	1.20
28	25.9	1.50
29	26.9	1.50
30	27.9	1.50
31	28.6	1.50
32	29.6	1.50
33	30.5	1.50
34	31.5	1.50
35	32.2	1.50
36	33.2	1.75
37	34.2	1.75
38	35.2	1.75
39	36.0	1.75
40	36.5	1.75
41	37.5	1.75
42	38.5	1.75
44	40.5	1.75
45	41.5	1.75
46	42.5	1.75
47	43.5	1.75
48	44.5	1.75
50	45.8	2.00
52	47.8	2.00
54	49.8	2.00
55	50.8	2.00
56	51.8	2.00
57	52.8	2.00
58	53.8	2.00
60	55.8	2.00
62	57.8	2.00
65	60.8	2.50
67	62.6	2.50
70	65.5	2.50
75	70.5	2.50
80	74.5	2.50
85	79.5	3.00
90	84.5	3.00
100	94.5	3.00



Retaining Rings for Shanks DIN 471, Assortment

• 8 - 40 = 715 pieces

Article No.	Article Description	QTY
9000 2541	ASSORTMENT LOCK RINGS DIN 471A	1
9000R 2541	TRAY LOCK RINGS DIN 471 A	1

Retaining Rings DIN 472 for Bores

• Phosphated steel

Article No.	Dimension	QTY
2542 8	8	g 100
2542 9	9	g 100
2542 10	10	g 100
2542 11	11	g 100
2542 12	12	g 100
2542 13	13	g 100
2542 14	14	g 100
2542 15	15	g 100
2542 16	16	g 100
2542 17	17	g 100
2542 18	18	g 100
2542 19	19	g 100
2542 20	20	g 100
2542 21	21	g 100
2542 22	22	g 100
2542 23	23	g 100
2542 24	24	g 100
2542 25	25	g 100
2542 26	26	g 50
2542 27	27	g 50
2542 28	28	g 50
2542 29	29	g 50
2542 30	30	g 50
2542 31	31	g 50
2542 32	32	g 50
2542 33	33	g 50
2542 34	34	g 50
2542 35	35	g 50
2542 36	36	g 50
2542 37	37	g 50
2542 38	38	g 50
2542 39	39	g 50
2542 40	40	g 50
2542 41	41	g 50
2542 42	42	g 50
2542 44	44	g 50
2542 45	45	g 50
2542 46	46	g 50
2542 47	47	g 50
2542 48	48	g 50
2542 50	50	g 50
2542 51	51	g 50
2542 52	52	25
2542 54	54	25
2542 55	55	25
2542 56	56	25
2542 57	57	25
2542 58	58	25
2542 60	60	25
2542 62	62	25
2542 63	63	25
2542 65	65	25
2542 67	67	25
2542 68	68	25
2542 70	70	25
2542 72	72	25
2542 75	75	25
2542 80	80	25
2542 82	82	25
2542 85	85	25
2542 90	90	25
2542 95	95	25
2542 100	100	25
2542 110	110	25

(Nominal Dia. mm)

Specifications

Nom. dia. mm	d3 mm	s mm
8	8.7	0.80
9	9.8	0.80
10	10.8	1.00
11	11.8	1.00
12	13.0	1.00
13	14.1	1.00
14	15.1	1.00
15	16.2	1.00
16	17.3	1.00
17	18.3	1.00
18	19.5	1.00
19	20.5	1.00
20	21.5	1.00
21	22.5	1.00
22	23.5	1.00
23	24.6	1.20
24	25.9	1.20
25	26.9	1.20
26	27.9	1.20
27	29.1	1.20
28	30.1	1.20
29	31.1	1.20
30	32.1	1.20
31	33.4	1.20
32	34.4	1.20
33	35.5	1.20
34	36.5	1.50
35	37.8	1.50
36	38.8	1.50
37	39.8	1.50
38	40.8	1.50
39	42.0	1.50
40	43.5	1.75
41	44.5	1.75
42	45.5	1.75
44	47.5	1.75
45	48.5	1.75
46	49.5	1.75
47	50.5	1.75
48	51.5	1.75
50	54.2	2.00
51	55.2	2.00
52	56.2	2.00
54	58.2	2.00
55	59.2	2.00
56	60.2	2.00
57	61.2	2.00
58	62.2	2.00
60	64.2	2.00
62	66.2	2.00
63	67.2	2.00
65	69.2	2.50
67	71.5	2.50
68	72.5	2.50
70	74.5	2.50
72	76.5	2.50
75	79.5	2.50
80	85.5	2.50
82	87.5	2.50
85	90.5	3.00
90	95.5	3.00
95	100.5	3.00
100	105.5	3.00
110	117.0	4.00



Retaining Rings for Bores DIN 472, Assortment

• 15 - 42 = 480 pieces

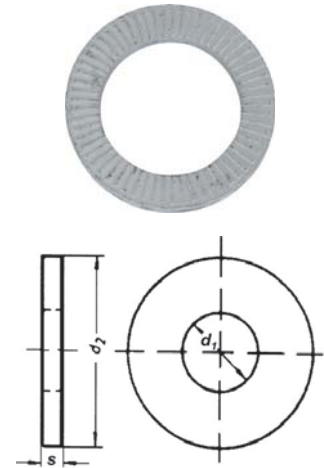
Article No.	Article Description	QTY
9000 2542	ASSORTMENT LOCK RINGS 472 I	1
9000R 2542	TRAY LOCK RINGS 472 I	1

Nord-Lock Retaining Washer, Galvanized

- Twin-bonded
- Galvanized steel
- Hardness HV1>435
- Maximum safety for screw connections up to class 12.9
- Reliable screw retention - also under extreme vibrations or high loads
- Easy to assemble and disassemble
- Safety function not only at high but also at low pre-tension loads
- Protects the surface
- Reusable

Article No.	Dimension	QTY
2533 5	5	200
2533 6	6	200
2533 8	8	200
2533 10	10	200
2533 12	12	200
2533 14	14	50
2533 16	16	50
2533 18	18	50
2533 20	20	50
2533 22	22	50

Specifications			
d	d1	d2	Strength
Thread-Ø	mm	mm	mm
5	5.4	9.0	1.8
6	6.5	10.8	1.8
8	8.7	13.5	2.5
10	10.7	16.6	2.5
12	13.0	19.5	2.5
14	15.2	23.0	3.4
16	17.0	25.4	3.4
18	19.5	29.0	3.4
20	21.4	30.7	3.4
22	23.4	34.5	3.4



Nord-Lock Washer Ø 6-20 mm, Galv. in Assortment

- Galvanized steel (lamellar-coating)
- Content: 355 pieces

Article No.	Article Description	QTY
9000 2533	ASS.NORD-LOCK RET.WASHER6-20MM	1
9000R 2533	TRAY NORD-LOCK RET.WASH.6-20MM	1



Parallel Pins DIN 7979

- In compliance with ISO 8735
- With inside thread
- Shape D
- Steel 600 N/mm²
- Hardened to 60+2HRC
- Tolerance zone m 6

Article No.	Dimension	VPE
2861 4 16	4 x 16	100
2861 5 12	5 x 12	100
2861 5 14	5 x 14	100
2861 5 16	5 x 16	100
2861 5 18	5 x 18	100
2861 5 20	5 x 20	100
2861 5 24	5 x 24	100
2861 5 28	5 x 28	100
2861 5 32	5 x 32	100
2861 6 12	6 x 12	100
2861 6 20	6 x 20	100
2861 6 24	6 x 24	100
2861 6 30	6 x 30	100
2861 6 32	6 x 32	100
2861 6 36	6 x 36	100
2861 6 40	6 x 40	100
2861 8 20	8 x 20	100
2861 8 24	8 x 24	50
2861 8 30	8 x 30	50
2861 8 32	8 x 32	50
2861 8 36	8 x 36	50
2861 8 40	8 x 40	50
2861 8 50	8 x 50	50
2861 8 60	8 x 60	50
2861 8 70	8 x 70	50
2861 8 80	8 x 80	50

Article No.	Dimension	QTY
2861 8 100	8 x 100	10
2861 8 120	8 x 120	10
2861 10 20	10 x 20	50
2861 10 24	10 x 24	50
2861 10 28	10 x 28	50
2861 10 30	10 x 30	50
2861 10 32	10 x 32	50
2861 10 36	10 x 36	50
2861 10 40	10 x 40	50
2861 10 50	10 x 50	50
2861 10 60	10 x 60	50
2861 10 70	10 x 70	50
2861 10 80	10 x 80	50
2861 10 100	10 x 100	50
2861 12 30	12 x 30	25
2861 12 40	12 x 40	25
2861 12 50	12 x 50	25
2861 12 60	12 x 60	25
2861 12 80	12 x 80	25
2861 14 40	14 x 40	25
2861 16 50	16 x 50	25
2861 16 60	16 x 60	25
2861 16 70	16 x 70	25
2861 16 100	16 x 100	25
2861 20 60	20 x 60	10
2861 20 80	20 x 80	10



Specifications			
D	M	T1	T2
mm	mm	mm	mm
5	M 3	4.5	7
6	M 4	6	10
8	M 5	8	12
10	M 6	10	16
12	M 6	10	16
14	M 8	12	20
16	M 8	12	20
20	M 10	16	25

(M x length mm)

Spring Type Straight Pins DIN 1481 Heavy Duty

- In compliance with ISO 8752
- Spring steel, plain



Article No.	Dimension	QTY
2860 2 8	2 x 8	1000
2860 2 10	2 x 10	W 1000
2860 2 12	2 x 12	1000
2860 2 14	2 x 14	1000
2860 2 16	2 x 16	1000
2860 2 20	2 x 20	100
2860 2 22	2 x 22	100
2860 2 24	2 x 24	100
2860 2 30	2 x 30	f 100
2860 3 6	3 x 6	1000
2860 3 8	3 x 8	1000
2860 3 10	3 x 10	1000
2860 3 12	3 x 12	100
2860 3 14	3 x 14	100
2860 3 16	3 x 16	100
2860 3 18	3 x 18	100
2860 3 20	3 x 20	100
2860 3 22	3 x 22	100
2860 3 24	3 x 24	100
2860 3 26	3 x 26	100
2860 3 28	3 x 28	100
2860 3 30	3 x 30	100
2860 3 32	3 x 32	100
2860 3 36	3 x 36	100
2860 3 40	3 x 40	f 100
2860 3 50	3 x 50	100
2860 4 8	4 x 8	100
2860 4 10	4 x 10	100
2860 4 12	4 x 12	100
2860 4 14	4 x 14	200
2860 4 16	4 x 16	100
2860 4 18	4 x 18	100
2860 4 20	4 x 20	100
2860 4 22	4 x 22	100
2860 4 24	4 x 24	100
2860 4 26	4 x 26	100
2860 4 28	4 x 28	100
2860 4 30	4 x 30	f 100
2860 4 32	4 x 32	100
2860 4 36	4 x 36	100
2860 4 40	4 x 40	f 100
2860 4 45	4 x 45	100
2860 4 50	4 x 50	f 100
2860 4 60	4 x 60	100
2860 45 20	4,5 x 20	100
2860 45 30	4,5 x 30	100
2860 45 40	4,5 x 40	100
2860 45 50	4,5 x 50	100
2860 5 10	5 x 10	100
2860 5 14	5 x 14	100
2860 5 16	5 x 16	100

Article No.	Dimension	QTY
2860 5 20	5 x 20	100
2860 5 22	5 x 22	100
2860 5 24	5 x 24	100
2860 5 26	5 x 26	100
2860 5 28	5 x 28	100
2860 5 30	5 x 30	f 100
2860 5 32	5 x 32	100
2860 5 36	5 x 36	100
2860 5 40	5 x 40	f 100
2860 5 45	5 x 45	100
2860 5 50	5 x 50	f 100
2860 5 55	5 x 55	100
2860 5 60	5 x 60	f 100
2860 5 70	5 x 70	f 100
2860 5 80	5 x 80	f 100
2860 6 10	6 x 10	100
2860 6 12	6 x 12	100
2860 6 16	6 x 16	100
2860 6 18	6 x 18	100
2860 6 20	6 x 20	f 100
2860 6 22	6 x 22	100
2860 6 24	6 x 24	100
2860 6 26	6 x 26	100
2860 6 28	6 x 28	100
2860 6 30	6 x 30	f 100
2860 6 32	6 x 32	100
2860 6 36	6 x 36	100
2860 6 40	6 x 40	f 100
2860 6 45	6 x 45	100
2860 6 50	6 x 50	f 100
2860 6 55	6 x 55	100
2860 6 60	6 x 60	f 100
2860 6 70	6 x 70	f 100
2860 6 80	6 x 80	f 100
2860 6 90	6 x 90	100
2860 6 100	6 x 100	100
2860 7 40	7 x 40	50
2860 7 50	7 x 50	50
2860 7 60	7 x 60	50
2860 7 70	7 x 70	50
2860 7 80	7 x 80	50
2860 8 12	8 x 12	100
2860 8 20	8 x 20	100
2860 8 24	8 x 24	100
2860 8 26	8 x 26	100
2860 8 30	8 x 30	f 100
2860 8 36	8 x 36	100
2860 8 40	8 x 40	f 100
2860 8 45	8 x 45	100
2860 8 50	8 x 50	f 100
2860 8 55	8 x 55	f 100

Specifications

Nom. dia. mm	ID mm
2	1.5
3	2.1
4	2.8
5	3.4
6	3.9
8	5.5
10	6.5
12	7.5

Article No.	Dimension	QTY
2860 8 60	8 x 60	f 100
2860 8 70	8 x 70	100
2860 8 80	8 x 80	f 100
2860 8 90	8 x 90	100
2860 8 100	8 x 100	100
2860 9 80	9 x 80	50
2860 10 20	10 x 20	100
2860 10 28	10 x 28	100
2860 10 30	10 x 30	50
2860 10 36	10 x 36	50
2860 10 40	10 x 40	g 50
2860 10 45	10 x 45	g 50
2860 10 50	10 x 50	g 50
2860 10 60	10 x 60	g 50
2860 10 70	10 x 70	g 50
2860 10 80	10 x 80	g 50
2860 10 90	10 x 90	g 50
2860 10 100	10 x 100	g 50
2860 10 120	10 x 120	25
2860 12 30	12 x 30	25
2860 12 40	12 x 40	25
2860 12 50	12 x 50	25
2860 12 55	12 x 55	25
2860 12 60	12 x 60	25
2860 12 70	12 x 70	25
2860 12 80	12 x 80	25
2860 12 90	12 x 90	25
2860 12 100	12 x 100	25
2860 12 120	12 x 120	25

(Nominal Dia. mm x length mm)

Spring Type Straight Pins DIN 1481, Assortment

- 3x30 - 10x60 = 575 pieces

Article No.	Article Description	QTY
9000 2860	ASS.SPRING TYPE STRAI.PIN 1481	1
9000R 2860	INT.SPRING TYPE STR.PIN 1481	1



Cotter Pins DIN 94, Galvanized

- In compliance with ISO 1234
- Galvanized steel



Article No.	Dimension	QTY
2801 1 16	1 x 16	1000
2801 1 20	1 x 20	RF 1000
2801 1 25	1 x 25	RF 1000
2801 1 32	1 x 32	RF 1000
2801 16 16	1,6 x 16	1000
2801 16 20	1,6 x 20	RF 1000
2801 16 25	1,6 x 25	RF 1000
2801 16 32	1,6 x 32	RF 1000
2801 16 36	1,6 x 36	RF 1000
2801 16 40	1,6 x 40	RF 1000
2801 2 20	2 x 20	RF 1000
2801 2 22	2 x 22	HRF 1000
2801 2 25	2 x 25	RF 1000
2801 2 32	2 x 32	HRF 1000
2801 2 36	2 x 36	HRF 1000
2801 2 40	2 x 40	HRF 1000
2801 2 45	2 x 45	RF 1000
2801 2 50	2 x 50	RF 1000
2801 25 20	2,5 x 20	RF 1000
2801 25 25	2,5 x 25	RF 1000
2801 25 32	2,5 x 32	HRF 1000
2801 25 36	2,5 x 36	RF 1000
2801 25 40	2,5 x 40	HRF 1000
2801 25 45	2,5 x 45	RF 1000
2801 25 50	2,5 x 50	RF 1000
2801 32 16	3,2 x 16	500
2801 32 20	3,2 x 20	R 500
2801 32 25	3,2 x 25	HR 500
2801 32 32	3,2 x 32	R 500
2801 32 36	3,2 x 36	R 500
2801 32 40	3,2 x 40	HR 500
2801 32 45	3,2 x 45	R 500
2801 32 50	3,2 x 50	HR 500
2801 32 63	3,2 x 63	R 500
2801 35 20	3,5 x 20	R 500
2801 35 25	3,5 x 25	R 500
2801 35 32	3,5 x 32	R 500
2801 35 36	3,5 x 36	R 500
2801 35 40	3,5 x 40	HR 500
2801 35 45	3,5 x 45	HR 500
2801 35 50	3,5 x 50	R 500
2801 35 56	3,5 x 56	R 500
2801 35 63	3,5 x 63	R 500

(Dia. x length in mm)

Article No.	Dimension	QTY
2801 4 20	4 x 20	R 500
2801 4 25	4 x 25	R 500
2801 4 32	4 x 32	HR 500
2801 4 36	4 x 36	R 500
2801 4 40	4 x 40	HR 500
2801 4 45	4 x 45	R 500
2801 4 50	4 x 50	R 500
2801 4 56	4 x 56	R 500
2801 4 63	4 x 63	HR 500
2801 4 71	4 x 71	R 500
2801 4 80	4 x 80	R 500
2801 45 32	4,5 x 32	H 300
2801 45 36	4,5 x 36	H 300
2801 45 40	4,5 x 40	H 300
2801 45 45	4,5 x 45	H 300
2801 45 50	4,5 x 50	H 300
2801 45 56	4,5 x 56	H 300
2801 45 63	4,5 x 63	H 300
2801 45 71	4,5 x 71	H 300
2801 45 80	4,5 x 80	H 300
2801 5 32	5 x 32	H 300
2801 5 36	5 x 36	H 300
2801 5 40	5 x 40	H 300
2801 5 45	5 x 45	H 300
2801 5 50	5 x 50	H 300
2801 5 56	5 x 56	H 300
2801 5 63	5 x 63	H 300
2801 5 71	5 x 71	H 300
2801 5 80	5 x 80	H 300
2801 55 50	5,5 x 50	H 300
2801 63 40	6,3 x 40	H 300
2801 63 45	6,3 x 45	H 300
2801 63 50	6,3 x 50	H 300
2801 63 56	6,3 x 56	H 300
2801 63 63	6,3 x 63	H 300
2801 63 71	6,3 x 71	H 300
2801 63 80	6,3 x 80	H 300
2801 63 90	6,3 x 90	H 300
2801 63 100	6,3 x 100	H 300
2801 8 40	8 x 40	100
2801 8 50	8 x 50	f 100
2801 8 56	8 x 56	f 100
2801 8 63	8 x 63	f 100

Specifications



Nomi. dia.	d1	a	a	b	c	c
mm	max.	max.	min.	mm	max.	min.
1.0	0.9	1.6	0.80	3.0	1.8	1.6
1.6	1.4	2.5	1.25	3.2	2.8	2.4
2.0	1.8	2.5	1.25	4.0	3.6	3.2
2.5	2.3	2.5	1.25	5.0	4.6	4.0
3.2	2.9	3.2	1.60	6.4	5.8	5.1
4.0	3.7	4.0	2.00	8.0	7.4	6.5
5.0	4.6	4.0	2.00	10.0	9.2	8.0
6.3	5.9	4.0	2.00	12.6	11.8	10.3
8.0	7.5	4.0	2.00	16.0	15.0	13.1
10.0	9.5	6.3	3.20	20.0	19.0	16.6
13.0	12.4	6.3	3.20	26.0	24.8	21.7
16.0	15.4	6.3	3.20	32.0	30.8	27.0
20.0	19.3	6.3	3.20	40.0	38.6	33.8

Article No.	Dimension	QTY
2801 8 71	8 x 71	f 100
2801 8 80	8 x 80	f 100
2801 8 90	8 x 90	f 100
2801 8 100	8 x 100	f 100
2801 8 112	8 x 112	f 100
2801 8 125	8 x 125	f 100
2801 8 140	8 x 140	g 50
2801 10 56	10 x 56	f 100
2801 10 63	10 x 63	f 100
2801 10 71	10 x 71	f 100
2801 10 80	10 x 80	f 100
2801 10 90	10 x 90	f 100
2801 10 100	10 x 100	f 100
2801 10 112	10 x 112	f 100
2801 10 125	10 x 125	f 100
2801 10 140	10 x 140	f 100
2801 13 100	13 x 100	f 100

Cotter Pins DIN 94, Galvanized, Assortment

- 1x20 - 6x63 = 1325 pieces

Article No.	Article Description	QTY
9000 2801	ASSORTMENT COTTER PINS 94 GA	1
9000R 2801	TRAY COTTER PINS 94 GALVANIZED	1



Lynch Pins, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2810 45	4,5	25
2810 6	6	25
2810 8	8	25
2810 95	9,5	25
2810 11	11	25

Technical Data

d1 mm	D mm	L mm	S mm
4.5	39.5	42	3
6	41	42	3.4
8	41	42	3.4
9.5	41	42	3.4
11	41	42	3.4



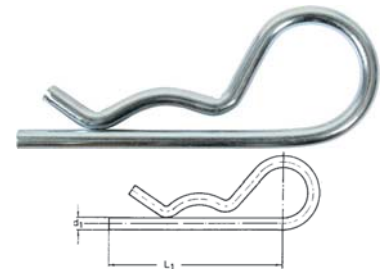
Hitch Pins, Single Version, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2811 2	2	25
2811 3	3	25
2811 4	4	25
2811 5	5	25
2811 6	6	25
2811 8	8	25

Technical Data

d1 mm	L1 mm
2	50
3	60
4	60
5	85
6	105
8	110



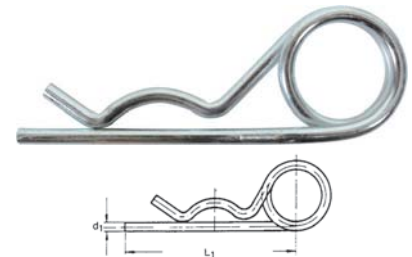
Hitch Pins, Double Version, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2812 2	2	25
2812 3	3	25
2812 4	4	25
2812 5	5	25
2812 6	6	25
2812 8	8	25

Technical Data

d1 mm	L1 mm
2	50
3	62
4	78
5	92
6	120
8	130



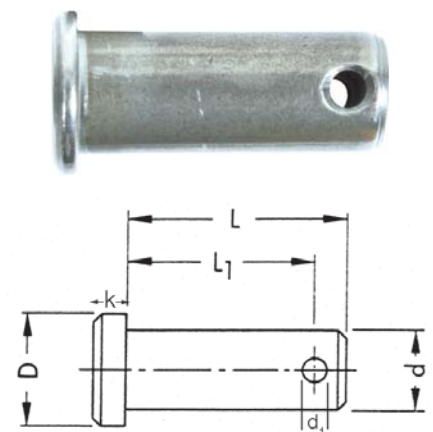
Cotter Pins DIN 1434, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2821 6 135 16	6 x 13,5 x 16	10
2821 6 225 25	6 x 22,5 x 25	10
2821 8 17 20	8 x 17 x 20	10
2821 8 19 22	8 x 19 x 22	10
2821 10 31 35	10 x 31 x 35	10
2821 10 36 40	10 x 36 x 40	10
2821 12 30 35	12 x 30 x 35	10
2821 12 38 42	12 x 38 x 42	10
2821 12 40 45	12 x 40 x 45	10
2821 14 35 40	14 x 35 x 40	10
2821 14 40 45	14 x 40 x 45	10
2821 14 60 65	14 x 60 x 65	10
2821 16 58 64	16 x 58 x 64	10
2821 16 60 65	16 x 60 x 65	10
2821 16 64 85	16 x 64 x 85	10
2821 20 42 50	20 x 42 x 50	10
2821 20 67 75	20 x 67 x 75	10
2821 20 87 95	20 x 87 x 95	10
2821 20 105 112	20 x 105 x 112	10
2821 25 77 85	25 x 77 x 85	10
2821 25 87 95	25 x 87 x 95	10
2821 30 55 65	30 x 55 x 65	10
2821 30 60 70	30 x 60 x 70	10
2821 30 70 80	30 x 70 x 80	10

Technical Data

D mm	k mm	d1 mm
9	1,5	1,6
9	1,5	1,6
12	2	2,0
12	2	2,0
14	2	3,2
14	2	3,2
17	3	4,0
17	3	4,0
17	3	4,0
19	3	4,0
19	3	4,0
19	3	4,0
21	3	4,0
21	3	4,0
21	3	4,0
26	4	5,0
26	4	5,0
26	4	5,0
26	4	5,0
32	5	6,3
32	5	6,3
36	5	6,3
36	5	6,3
36	5	6,3



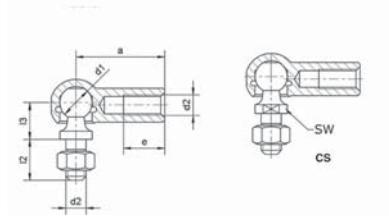
(d / L1 / L)

Ball Joints DIN 71802 Shape CS, Plain Steel

- With retainer
- Plain Steel

Article No.	Dimension	QTY
2890 8	8	z 25
2890 10	10	z 25
2890 13	13	z 25
2890 16 10	16/10	z 25
2890 16 12	16/12	z 25

(Designation AS)



Specifications

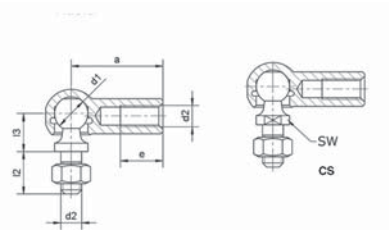
d1	d2	l2	l3	e	d5	l1	a	SW ²	Weight 7.85 kg/dm ³
Nom. dim.		+/- 0.3	+/- 0.3	Min.	h 11	+/- 0.2	+/- 0.3	h14	kg/1000 pieces
8	M 5	10.2	9	10.2	5	4/7.5	22	7	15.2
10	M 6	12.5	11	11.5	6	4.5/8	25	8	25.2
13	M 8	16.5	13	14	8	5/10	30	11	53.1
16	M 10 / M 12*	20	16	15.5	10	6/13	35	13	103.8

Ball Joints, Left, Shape CS, Plain Steel

- With retaining clamp
- Plain Steel

Article No.	Dimension	QTY
2891 8	8	z 25
2891 10	10	z 25
2891 13	13	z 25
2891 16	16	z 25

(Designation AS)



Specifications

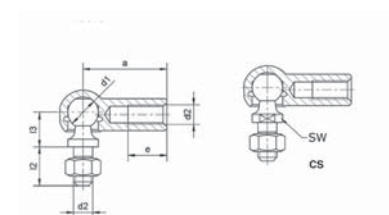
d1	d2	l2	l3	e	d5	l1	a	SW ²	Weight 7.85 kg/dm ³
Nom. dim.		+/- 0.3	+/- 0.3	Min.	h11	+/- 0.2	+/- 0.3	h14	kg/1000 pieces
8	M 5	10.2	9	10.2	5	4/7.5	22	7	15.2
10	M 6	12.5	11	11.5	6	4.5/8	25	8	25.2
13	M 8	16.5	13	14	8	5/10	30	11	53.1
16	M 10 / M12*	20	16	15.5	10	6/13	35	13	103.8

Ball Joints, Long, Shape CS, Plain Steel

- With retainer
- Plain Steel

Article No.	Dimension	QTY
2892 10	10	z 25
2892 13	13	z 25

(Designation AS)



Specifications

d1	d2	l2	l3	e	d5	l1	a	SW ²	Weight 7.85 kg/dm ³
Nom. dim.		+/- 0.3	+/- 0.3	Min.	h 11	+/- 0.2	+/- 0.3	h14	kg/1000 pieces
10	M 6	12.5	11	11.5	6	4.5/8	25	8	25.2
13	M 8	16.5	13	14	8	5/10	30	11	53.1

Retainer DIN 71805 S, Plain Steel

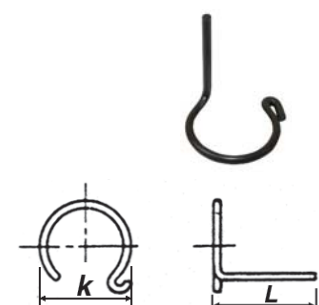
- Plain steel

Article No.	Dimension	QTY
2893 8	8	z 25
2893 10	10	z 25
2893 13	13	z 25
2893 16	16	z 25

(Designation S)

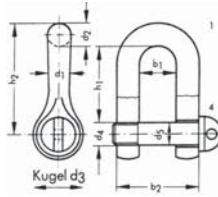
Specifications

k	L
mm	mm
7	10.5
8.7	12.5
11	15.7
13	19



Shackle DIN 82101 Shape A, Galvanized

- With Clevis pin
- Galvanized steel



Article No.	Dimension	QTY
2887 6	6	z 25
2887 8	8	üz 25
2887 10	10	z 25
2887 12	12	z 25
2887 16	16	e 10
2887 20	20	e 10
2887 22	22	e 10
2887 24	24	1
2887 27	27	1
2887 30	30	1
2887 36	36	1
2887 39	39	1

Specifications

Thread	Supporting capacity	Supporting capacity	b2	d1	d2	d3	h2
Dia. mm	Size	t	mm	mm	mm	mm	mm
M 6	0.16	0.16	18	5	6	12	27
M 8	0.25	0.25	25	7	8	16	36
M 10	0.40	0.40	30	8	10	20	45
M 12	0.60	0.63	37	10	12	24	54
M 16	1.00	1.00	47	13	15	32	72
M 20	1.60	1.60	61	17	19	40	90
M 22	2.00	2.00	68	19	21	44	99
M 24	2.00	2.00	75	21	23	48	108
M 27	3.00	3.15	86	24	26	54	123
M 30	4.00	4.00	96	27	29	60	135
M 36	5.00	5.00	107	30	33	72	162
M 39	6.00	6.30	121	34	37	78	176

Carabiners DIN 5299 C, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2885 50 5	50 x 5	z 25
2885 60 6	60 x 6	z 25
2885 70 7	70 x 7	z 25
2885 80 8	80 x 8	z 25
2885 100 10	100 x 10	10
2885 120 11	120 x 11	10
2885 140 12	140 x 12	10
2885 160 13	160 x 13	10

(Length mm / thickness mm)

Specifications

Supp. cap. approx. in t.

0.100
0.120
0.180
0.230
0.350
0.450
0.480
0.510



Stranded Steel Cable Shackle DIN 741, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2880 3	3	25
2880 5	5	25
2880 65	6,5	25
2880 8	8	25
2880 95	9,5	25
2880 11	11	25
2880 13	13	10
2880 14	14	10
2880 16	16	10
2880 19	19	10
2880 26	26	10

(Cable dia. mm)

Specifications

Cable dia. mm	Cable dia. Inches	Shackle- thread
3	1/8"	M 4
5	3/16"	M 5
6.5	1/4"	M 6
8	5/16"	M 8
9,5	3/8"	M 8
11	7/16"	M 8
13	1/2"	M 10
14	9/16"	M 10
16	5/8"	M 12
19	3/4"	M 12
26	1"	M 14



Stranded Steel Cable Shackle DIN 1142, Galvanized

- Yellow galvanized steel

Article No.	Dimension	QTY
2881 5	5	z 25
2881 65	6,5	z 25
2881 8	8	z 25
2881 10	10	z 25
2881 13	13	10

(Cable dia. mm)

Specifications

Cable dia. mm	Cable dia. Inches	Shackle thread
5	3/16"	5
6.5	1/4"	6
8	5/16"	8
10	7/16"	8
10	1/2"	12



Cable Eye Stiffener DIN6899 A, Leight Weight Vers.

- Galvanized steel

Article No.	Dimension	QTY
2882 6	6	25
2882 8	8	25
2882 10	10	25
2882 12	12	25
2882 13	13	25
2882 16	16	25

(Cable dia. mm)

Specifications

Cable dia. mm	Inner width mm	Groove width mm
6	15	7
8	18	9
10	22	11
12	26	13
13	28	14
16	35	18



Tension Spring DIN2097, Spring Steel Wire, Galvan.

Article No.	Dimension	QTY
2920 5 50	5 x 50	15
2920 6 25	6 x 25	20
2920 7 25	7 x 25	15
2920 7 55	7 x 55	10
2920 7 90	7 x 90	10
2920 8 55	8 x 55	10
2920 8 70	8 x 70	10
2920 9 45	9 x 45	5
2920 9 75	9 x 75	5
2920 9 100	9 x 100	10
2920 10 60	10 x 60	15
2920 10 105	10 x 105	5
2920 11 55	11 x 55	5
2920 11 55 13	11 x 55	10
2920 11 70	11 x 70	10
2920 11 130	11 x 130	5
2920 12 65	12 x 65	5
2920 12 85	12 x 85	5
2920 125 75	12,5 x 75	10
2920 125 110	12,5 x 110	5

(D mm x L mm)

D = Outer diameter

L = Length of outside of internal edge of eye to outside of internal edge of eye)

Specifications

Wire thickness mm

0.6
0.6
1.3
0.6
1.0
1.0
1.0
1.0
1.0
1.0
1.3
1.0
1.0
1.5
1.0
1.5
1.5



Tension Springs DIN 2097, Assortment

- 5x50 - 12.5x110 = 185 pieces

Article No.	Article Description	QTY
9000 2920	ASS.TENSION SPRINGS 2097	1
9000R 2920	TRAY TENSION SPRINGS 2097	1



Compression Springs DIN2095, Spring Steel Wire, GA

Article No.	Dimension	QTY
2922 8 42	8 x 42	40
2922 10 32	10 x 32	40
2922 10 40	10 x 40	25
2922 10 45	10 x 45	25
2922 12 35	12 x 35	30
2922 12 35 15	12 x 35	20
2922 12 55	12 x 55	20
2922 12 60	12 x 60	20
2922 15 28	15 x 28	20
2922 15 45	15 x 45	15
2922 15 55	15 x 55	10
2922 15 65	15 x 65	10

(D mm x L mm)

• D = Outer diameter

• L = Length

Specifications

Wire thickness

mm
0.8
1.0
1.0
1.5
1.0
1.5
1.0
1.5
1.5
1.5
1.5



Compression Springs DIN 2095, Assortment

- 8x42 - 15x65 = 250 pieces

Article No.	Article Description	QTY
9000 2922	ASS.COMPRESSION SPRINGS 2095	1
9000R 2922	TRAY COMPRESSION SPRINGS 2095	1



Lubricating Nipples DIN 71412 H1, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2901 6 1	M 6 x 1	f 100
2901 8 1	M 8 x 1	f 100
2901 8 125	M 8 x 1,25	f 100
2901 10 1	M 10 x 1	f 100
2901 10 15	M 10 x 1,5	f 100
2901 14	R 1/4"	50
2901 18	R 1/8"	50

(Thread M/R)



Lubricating Nipples DIN 71412 H 2, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2902 6 1	M 6 x 1	f 100
2902 8 1	M 8 x 1	f 100
2902 8 125	M 8 x 1,25	f 100
2902 10 1	M 10 x 1	f 100
2902 10 15	M 10 x 1,5	f 100
2902 14	R 1/4"	50
2902 18	R 1/8"	50

(Thread M/R)



Lubricating Nipples DIN 71412 H3, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2903 6 1	M 6 x 1	f 100
2903 8 1	M 8 x 1	f 100
2903 8 125	M 8 x 1,25	f 100
2903 10 1	M 10 x 1	f 100
2903 10 15	M 10 x 1,5	f 100
2903 14	R 1/4"	50
2903 18	R 1/8"	50

(Thread M/R)



Lubricating Nipples DIN 73404 M1, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2904 8 1	M 8 x 1	50
2904 10 1	M 10 x 1	50
2904 14	R 1/4"	50
2904 18	R 1/8"	50

(Thread M/R)



Knock-In Type Lubricating Nipples H1, Galvanized

- Galvanized steel

Article No.	Dimension	QTY
2908 6	6	50
2908 8	8	50
2908 10	10	50

(Dia. mm)



Lubricating Nipples DIN 71412 H1, H2, H3, Assortm.

- 150 pieces

Article No.	Article Description	QTY
9000 290	ASS.LUBRICATING NIPPLES 71412	1
9000R 290	TRAY LUBRICAT.NIPPLES 71412	1

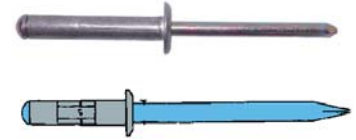


Multiple Range Blind Rivet, Mushroom Head AL/St

Rivet sleeve: Aluminium

Mandrel: Galvanized steel

- Maximum clamping range:
- Minimizes stock
- Reduces sources of error
- Ideal fit in bore and reliable mandrel locking during formation of head
- High strength, splash-proof rivet connection
- Extended bore range



Article No.	Dimension	QTY
2730 32 86	3,2 x 8	HR 500
2730 32 95	3,2 x 9,5	HR 500
2730 32 111	3,2 x 11,1	HR 500
2730 4 95	4 x 9,5	HR 500
2730 4 127	4 x 12	500
2730 4 169	4 x 16	HR 500
2730 48 103	4,8 x 10	HR 500
2730 48 169	4,8 x 17	HR 500
2730 48 248	4,8 x 25	300

(Dia. x length mm)

Specifications

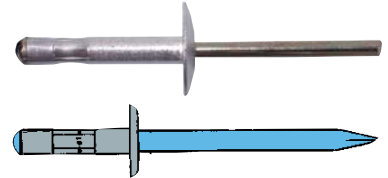
Bore dia. mm	Clamping range mm	Head dia. mm	Head h mm
3.3 - 3.5	1.0 - 5.0	6.0	1.1
3.3 - 3.5	1.3 - 6.4	6.0	1.1
3.3 - 3.5	4.0 - 7.9	6.0	1.4
4.1 - 4.3	1.2 - 6.4	8.0	1.7
4.1 - 4.3	3.5 - 8.5	8.0	1.7
4.1 - 4.3	6.0 - 12.5	8.0	1.7
4.9 - 5.2	1.0 - 6.0	9.5	2.0
4.9 - 5.2	6.4 - 12.7	9.5	2.0
4.9 - 5.2	12.7 - 21.10	9.5	2.0

Multiple Range Blind Rivet, Lg. Mushroom Head AL/S

Rivet sleeve: Aluminium

Mandrel: Galvanized steel

- Maximum clamping range:
- Minimizes stock
- Reduces sources of error
- Ideal fit in bore and reliable mandrel locking during formation of head
- High strength, splash-proof rivet connection
- Extended bore range



Article No.	Dimension	QTY
2731 32 8	3,2 x 8	H 500
2731 32 9	3,2 x 9,5	500
2731 32 11	3,2 x 11	HR 500
2731 4 11	4 x 11,1	HR 500
2731 4 12	4 x 12	HR 500
2731 4 16	4 x 16	500
2731 48 10	4,8 x 10	HR 500
2731 48 16	4,8 x 16	H 500
2731 48 24	4,8 x 24	R 500

(Dia. x length mm)

Specifications

Bore dia. mm	Clamping range mm	Head dia. mm	Head h mm
3.3 - 3.5	0.7 - 4.8	9.5	2.0
3.3 - 3.5	1.3 - 6.4	9.5	2.0
3.3 - 3.5	4.0 - 7.9	9.5	2.0
4.1 - 4.3	1.3 - 6.4	12.0	2.5
4.1 - 4.3	4.0 - 9.6	12.0	2.5
4.1 - 4.3	6.0 - 13.8	12.0	2.5
4.9 - 5.2	1.6 - 6.4	16.0	2.5
4.9 - 5.2	6.3 - 12.7	16.0	2.5
4.9 - 5.2	12.7 - 19.8	16.0	2.5

Multigrade Blind Rivet Countersunk AL/St

Rivet sleeve : aluminium

Mandrel: steel, yellow chromed

- Big clamping area:
- minimized storing
- less sources of error
- Ideal bore-hole filling and safe mandrel locking at the locking of the head
- High-strength and splash-proof rivet connection
- Extended bore-hole area

Article No.	Dimension	QTY
2732 32 97	3,2 x 9,7	500
2732 4 113	4 x 11,3	H 500
2732 48 121	4,8 x 12	500
2732 48 169	4,8 x 16	500

(Ø x length mm)

Specifications

Drill-Ø mm	Clamping area mm	Head Ø mm	Head h mm
3,3 - 3,5	2,3 - 6,4	6,0	1,1
4,1 - 4,3	2,8 - 7,9	8,0	1,3
4,9 - 5,2	2,0 - 8,0	9,5	1,5
4,9 - 5,2	6,0 - 12,0	9,5	1,5

Blind Rivet Truss-head AL/AL Triform

Rivet sleeves and mandrel: aluminium

- Big clamping area: minimum storing = less sources of error
- Ideal for the fixation of soft or brittle sub-constructions e.g. Renault: numberplate holder, bumper, wood, plastic, plaster

Article No.	Dimension	QTY
2721 48 16	4,8 x 16	300
2721 48 21	4,8 x 21	300

(Ø x length mm)

Specifications

Drill-Ø mm	Clamping area mm	Head Ø mm
5,0 - 5,2	1 - 3	9,6
5,0 - 5,2	3 - 9	9,6

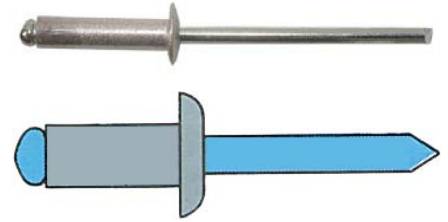


Blind Rivet with Truss-head AL/St

Rivet sleeve: aluminium

Mandrel: steel zinc plated

- For safe fixations of components made of same and different materials
- Connections which can not be loosened (can only be loosened by damage)
- Application possible only from one side, ideal fixation at hollow section-components or at areas difficult of access
- High strength at radial and axial load



Article No.	Dimension	QTY
2710 24 6	2,4 x 6	500
2710 3 4	3 x 4	F 1000
2710 3 6	3 x 6	HRF 1000
2710 3 8	3 x 8	HRF 1000
2710 3 10	3 x 10	HRF 1000
2710 3 12	3 x 12	HR 500
2710 3 16	3 x 16	HR 500
2710 32 6	3,2 x 6	500
2710 32 8	3,2 x 8	500
2710 32 10	3,2 x 10	500
2710 32 12	3,2 x 12	500
2710 4 6	4 x 6	HRF 1000
2710 4 8	4 x 8	HRF 1000
2710 4 10	4 x 10	HRF 1000
2710 4 12	4 x 12	HRF 1000
2710 4 16	4 x 16	HRF 1000
2710 4 18	4 x 18	500
2710 4 20	4 x 20	R 500
2710 4 25	4 x 25	500
2710 4 30	4 x 30	500
2710 48 12	4,8 x 12	500
2710 48 16	4,8 x 16	500
2710 48 25	4,8 x 25	500
2710 48 40	4,8 x 40	500
2710 5 6	5 x 6	F 1000
2710 5 8	5 x 8	HRF 1000
2710 5 10	5 x 10	HRF 1000
2710 5 12	5 x 12	HRF 1000
2710 5 14	5 x 14	HRF 1000
2710 5 16	5 x 16	HRF 1000
2710 5 18	5 x 18	R 500
2710 5 20	5 x 20	HR 500
2710 5 25	5 x 25	HR 500
2710 5 27	5 x 27	300
2710 5 30	5 x 30	500
2710 5 35	5 x 35	500
2710 5 40	5 x 40	500
2710 5 50	5 x 50	500
2710 6 8	6 x 8	R 500
2710 6 10	6 x 10	R 500
2710 6 12	6 x 12	HR 500
2710 6 16	6 x 16	HR 500
2710 6 18	6 x 18	HR 500
2710 6 22	6 x 22	HR 500
2710 6 26	6 x 26	100
2710 64 12	6,4x 12	500
2710 64 15	6,4 x 15	500

(Ø x length mm)

Specifications

Bore dia-Ø mm	Material- strength mm	Head dia. Ø mm	Head h mm
2,4	2,0 - 4,0	5,0	0,55
3,1	0,5 - 1,5	6,5	0,8
3,1	1,5 - 3,5	6,5	0,8
3,1	3,5 - 5,5	6,5	0,8
3,1	5,5 - 7,0	6,5	0,8
3,1	7,0 - 9,0	6,5	0,8
3,1	11,0 - 13,0	6,5	0,8
3,3	1,5 - 3,5	6,5	0,8
3,3	3,5 - 5,0	6,5	0,8
3,3	5,0 - 7,0	6,5	0,8
3,3	7,0 - 9,0	6,5	1,0
4,1	1,5 - 3,0	8,0	1,0
4,1	3,0 - 5,0	8,0	1,0
4,1	5,0 - 6,5	8,0	1,0
4,1	6,5 - 8,5	8,0	1,0
4,1	10,5 - 12,5	8,0	1,0
4,1	12,5 - 14,5	8,0	1,0
4,1	14,5 - 16,5	8,0	1,0
4,1	19,0 - 21,5	8,0	1,0
4,1	21,5 - 26,0	8,0	1,0
4,9	6,0 - 8,0	9,5	1,1
4,9	10,0 - 12,0	9,5	1,1
4,9	18,0 - 21,0	9,5	1,1
4,9	30,0 - 35,0	9,5	1,1
5,1	0,5 - 2,5	9,5	1,1
5,1	2,5 - 4,5	9,5	1,1
5,1	4,5 - 6,0	9,5	1,1
5,1	6,0 - 8,0	9,5	1,1
5,1	8,0 - 10,0	9,5	1,1
5,1	10,0 - 12,0	9,5	1,1
5,1	12,0 - 14,0	9,5	1,1
5,1	14,0 - 17,0	9,5	1,1
5,1	17,0 - 20,0	9,5	1,1
5,1	20,0 - 23,0	9,5	1,1
5,1	23,0 - 25,0	9,5	1,1
5,1	25,0 - 30,0	9,5	1,1
5,1	30,0 - 35,0	9,5	1,1
5,1	40,0 - 45,0	9,5	1,1
6,1	2,0 - 4,0	12,0	1,5
6,1	4,0 - 6,0	12,0	1,5
6,1	6,0 - 8,0	12,0	1,5
6,1	9,0 - 11,0	12,0	1,5
6,1	11,0 - 13,0	12,0	1,5
6,1	13,0 - 17,0	12,0	1,5
6,1	17,0-20,0	12,0	1,5
6,5	4,0-6,0	13,0	1,8
6,5	6,0-9,0	13,0	1,8

Blind Rivets with Mushroom Head Cu/St

Rivet sleeve: Copper

Mandrel: Galvanized steel

- For reliably fastening components of same and different materials
- Connections not detachable (detachment possible only through destruction)
- Installation from one side only, ideal for

fastening to hollow components or hard-to-reach locations.

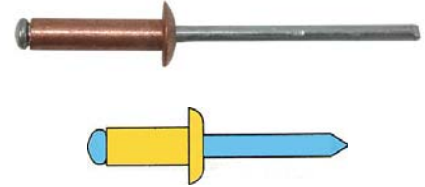
- High strength for radial and axial loads

Specifications

Article No.	Dimension	QTY
2714 3 6	3 x 6	500
2714 3 8	3 x 8	500
2714 3 10	3 x 10	500
2714 3 12	3 x 12	500
2714 4 6	4 x 6	500
2714 4 8	4 x 8	500
2714 4 10	4 x 10	500
2714 4 12	4 x 12	500
2714 4 16	4 x 16	500

(Dia. x length mm)

Bore dia. mm	Material thickness mm	Head h mm	Head h mm
3.1	1.0 - 3.0	6.5	0.8
3.1	3.0 - 5.0	6.5	0.8
3.1	5.0 - 7.0	6.5	0.8
3.1	7.0 - 9.0	6.5	0.8
4.1	1.0 - 2.0	8.0	1.3
4.1	2.0 - 4.0	8.0	1.0
4.1	4.0 - 6.0	8.0	1.0
4.1	6.0 - 8.0	8.0	1.0
4.1	10.0 - 12.0	8.0	1.0



Blind Rivet with Mushroom Head A2/A2

Rivet sleeve and mandrel: Stainless steel A2

- For reliably fastening components of same and different materials
- Connections not detachable (detachment possible only through destruction)

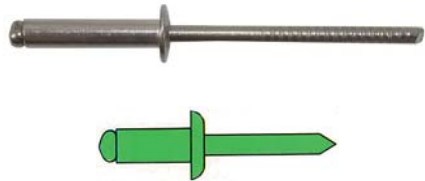
- Installation from one side only, ideal for fastening to hollow components or hard-to-reach locations.
- High strength for radial and axial loads

Specifications

Article No.	Dimension	QTY
2715 3 6	3 x 6	500
2715 3 8	3 x 8	500
2715 3 10	3 x 10	500
2715 3 12	3 x 12	500
2715 3 15	3 x 15	500
2715 32 6	3,2 x 6	500
2715 32 8	3,2 x 8	500
2715 32 9	3,2 x 10	500
2715 32 12	3,2 x 12	500
2715 32 15	3,2 x 15	500
2715 4 6	4 x 6	500
2715 4 8	4 x 8	500
2715 4 10	4 x 10	500
2715 4 12	4 x 13	500
2715 4 15	4 x 16	500
2715 4 18	4 x 18	500
2715 5 8	5 x 8	500
2715 5 10	5 x 10	500
2715 5 12	5 x 12	500
2715 5 15	5 x 16	500
2715 5 18	4,8 x 18	500
2715 5 21	4,8 x 20	300
2715 5 24	4,8 x 25	300

(Dia. x length mm)

Bore dia. mm	Material- thickness mm	Head Ø mm	Head h mm
3.1	1.0 - 3.0	6.5	0.8
3.1	3.0 - 5.0	6.5	0.8
3.1	5.0 - 7.0	6.5	0.8
3.1	7.0 - 9.0	6.5	0.8
3.1	9.0 - 12.0	6.5	0.8
3.3	1.0 - 3.0	6.5	0.8
3.3	3.0 - 5.0	6.5	0.8
3.3	5.0 - 7.0	6.5	0.8
3.3	7.0 - 9.0	6.5	0.8
3.3	9.0 - 12.0	6.5	0.8
4.1	1.0 - 2.5	8.0	0.8
4.1	2.5 - 4.5	8.0	0.8
4.1	4.5 - 6.5	8.0	1.0
4.1	6.5 - 9.5	8.0	1.0
4.1	9.5 - 12.0	8.0	1.0
4.1	12.0 - 14.0	8.0	1.0
5.1	2.0 - 4.0	9.5	1.1
5.1	4.0 - 16.0	9.5	1.1
5.1	6.0 - 8.0	9.5	1.1
5.1	8.0 - 11.0	9.5	1.1
4.9	11.0 - 13.0	9.5	1.1
4.9	11.0 - 15.0	9.5	1.1
4.9	17.0 - 20.0	9.5	1.1



Blind Rivets with Mushroom Head AL Black /St

Rivet sleeve: Aluminium, black enamel finish

Mandrel: Galvanized steel

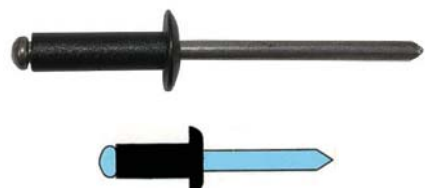
- For reliably fastening components of same and different materials
- Connections not detachable (detachment possible only through destruction)

- Installation from one side only, ideal for fastening to hollow components or hard-to-reach locations.
- High strength for radial and axial loads

Specifications

Article No.	Dimension	QTY
2717 3 8	3 x 8	500
2717 3 10	3 x 10	500
2717 4 8	4 x 8	gH 500
2717 4 10	4 x 10	500
2717 4 12	4 x 12	g 500
2717 5 10	4,8 x 10	500
2717 5 12	4,8 x 12	g 500
2717 5 16	4,8 x 16	g 500

Bore dia. mm	Material- thickness mm	Head dia. mm	Head h mm
3.1	3.5 - 5.5	6.5	0.8
3.1	5.5 - 7.0	6.5	0.8
4.1	3.0 - 5.0	8.0	1.0
4.1	5.0 - 6.5	8.0	1.0
4.1	6.5 - 8.5	8.0	1.0
4.9	4.5 - 6.0	9.5	1.1
4.9	6.0 - 8.0	9.5	1.1
4.9	10.0 - 12.0	9.5	1.1



Blind Rivet with Truss-head St/St

Rivet sleeve: steel zinc plated

Mandrel: steel zinc plated

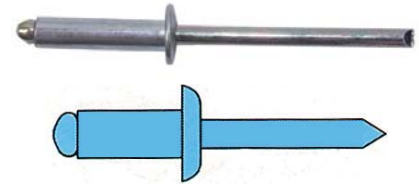
- For safe fixations of components made of same and different materials
- Connections which can not be loosened (can only be loosened by damage)
- Application possible only from one side, ideal fixation at hollow section-components or at areas difficult of access
- High strength at radial and axial load

Article No.	Dimension	QTY
2713 3 6	3 x 6	500
2713 3 8	3 x 8	500
2713 3 10	3 x 10	500
2713 3 16	3 x 14	500
2713 4 6	4 x 6	500
2713 4 8	4 x 8	500
2713 4 10	4 x 10	500
2713 4 12	4 x 12	500
2713 4 16	4 x 16	500
2713 5 8	5 x 8	500
2713 5 10	5 x 10	500
2713 5 12	5 x 12	500
2713 5 14	5 x 14	500
2713 5 16	5 x 16	500
2713 5 20	5 x 20	300
2713 5 25	4,8 x 25	500
2713 6 12	6 x 12	300
2713 6 18	6 x 18	300

(Ø x length mm)

Technical Data

Drill-Ø mm	Material- strength mm	Head Ø mm	Head h mm
3,1	1,5 - 3,0	6,5	0,8
3,1	3,0 - 5,0	6,5	0,8
3,1	5,0 - 7,0	6,5	0,8
3,1	9,0 - 11,0	6,5	0,8
4,1	0,5 - 2,5	8,0	1,0
4,1	2,5 - 4,5	8,0	1,0
4,1	4,5 - 6,5	8,0	1,0
4,1	6,5 - 8,5	8,0	1,0
4,1	8,5 - 10,5	8,0	1,0
5,1	2,5 - 4,0	9,5	1,1
5,1	4,0 - 6,0	9,5	1,1
5,1	6,0 - 8,0	9,5	1,1
5,1	8,0 - 10,0	9,5	1,1
5,1	10,0 - 11,5	9,5	1,1
5,1	13,5 - 15,0	9,5	1,1
5,1	17,0 - 20,0	9,5	1,1
6,1	4,5 - 6,5	12,0	1,5
6,1	9,5 - 12,5	12,0	1,5



Peel Rivet with Mushroom Head AL/St

Rivet sleeve: Aluminium

Mandrel: Galvanized steel

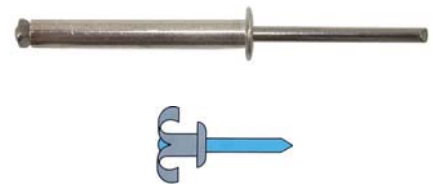
- For fastening to soft or brittle subsurfaces, wood, plastic, plasterboard
- Also usable for oversized bores and varying material thicknesses

Article No.	Dimension	QTY
2719 32 16	3,2 x 16	500
2719 48 12	4,8 x 12	500
2719 48 16	4,8 x 16	HR 500
2719 48 20	4,8 x 20	R 500
2719 48 25	4,8 x 25	R 500
2719 48 30	4,8 x 30	300
2719 48 35	4,8 x 35	300

(Dia. x length mm))

Specifications

Bore dia. mm	Rivettable material thickness mm	Head
max. 5,3	7,0-9,0	0,8
max. 5,3	2,0 - 6,0	1,3
max. 5,3	6,0 - 10,0	1,3
max. 5,3	10,0 - 14,0	1,3
max. 5,3	16,0 - 19,0	1,3
max. 5,3	19,0 - 24,0	1,3
max. 5,3	24,0 - 29,0	1,3



Blind Rivets with Countersunk Head AL/St

Rivet sleeve: Aluminium

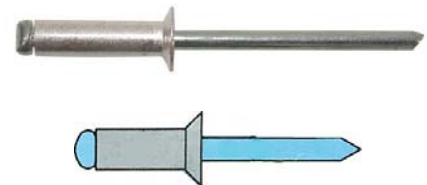
Mandrel: Galvanized steel

Article No.	Dimension	QTY
2711 3 6	3 x 6	500
2711 3 8	3 x 8	500
2711 3 10	3 x 10	500
2711 3 12	3 x 12	500
2711 4 6	4 x 6	500
2711 4 8	4 x 8	500
2711 4 10	4 x 10	500
2711 4 12	4 x 12	500
2711 4 16	4 x 16	500
2711 4 18	4 x 18	500
2711 5 8	5 x 8	500
2711 5 10	5 x 10	500
2711 5 12	5 x 12	500
2711 5 14	5 x 14	500
2711 5 16	5 x 16	500
2711 5 18	5 x 18	500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivettable material thickness mm
3,1	1,5 - 3,5
3,1	3,5 - 5,5
3,1	5,5 - 7,0
3,1	7,0 - 9,0
4,1	1,5 - 3,0
4,1	3,0 - 5,0
4,1	5,0 - 6,5
4,1	6,5 - 8,5
4,1	10,5 - 12,5
4,1	12,5 - 14,5
5,1	2,5 - 4,5
5,1	4,5 - 6,0
5,1	6,0 - 8,0
5,1	8,0 - 10,0
5,1	10,0 - 12,0
5,1	12,0 - 14,0



Blind Rivets with Lg. Mushroom Head AL/St, 11 mm

Rivet sleeve: Aluminium

Mandrel: Galvanized steel

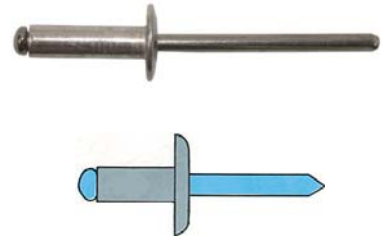
- For fastening sort or brittle materials to metal substructures
- Head: 11 mm

Article No.	Dimension	VPE
2705 5 8	4,8 x 8	500
2705 5 10	4,8 x 10	500
2705 5 12	4,8 x 12	HR 500
2705 5 14	4,8 x 14	500
2705 5 16	4,8 x 16	500
2705 5 18	4,8 x 18	300
2705 5 20	4,8 x 20	300

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material thickness mm	Head h mm
4.9	2.0 - 4.5	1.8
4.9	3.5 - 7.0	1.8
4.9	5.0 - 8.5	1.8
4.9	7.0 - 10.0	1.8
4.9	8.5 - 11.5	1.8
4.9	10.0 - 12.5	1.8
4.9	12.5 - 16.0	1.8



Blind Rivets with Lg. Mushroom Head AL/St, 14 mm

Rivet sleeve: Aluminium

Mandrel: Galvanized steel

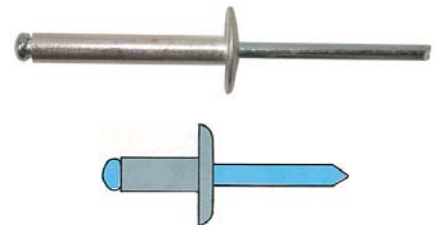
- For fastening sort or brittle materials to metal substructures
- Head: 14 mm

Article No.	Dimension	QTY
2706 5 8	5 x 8	R 500
2706 5 10	5 x 10	HR 500
2706 5 12	5 x 12	HR 500
2706 5 14	5 x 14	HR 500
2706 5 16	5 x 16	HR 500
2706 5 18	5 x 18	R 500
2706 5 20	5 x 21	R 500
2706 5 25	5 x 24	R 500
2706 5 27	5 x 27	R 500
2706 5 30	5 x 30	R 500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material thickness mm	Head h mm
5.1	2.5 - 4.5	2.5
5.1	4.5 - 6.0	2.5
5.1	6.0 - 8.0	2.5
5.1	8.0 - 10.0	2.5
5.1	10.0 - 12.0	2.5
5.1	12.0 - 14.0	2.5
5.1	14.0 - 17.0	2.5
5.1	17.0 - 20.0	2.5
5.1	20.0 - 23.0	2.5
5.1	23.0 - 26.0	2.5



Blind Rivets with Lg. Mushroom HD AL Black/St 12mm

Rivet sleeve: Aluminium black enamel finish

Mandrel: Galvanized steel

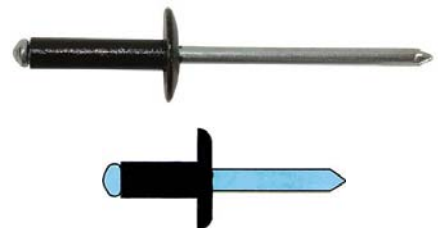
- For fastening sort or brittle materials to metal substructures
- Head: 12 mm

Article No.	Dimension	QTY
2707 4 10	4 x 10	HR 500
2707 4 12	4 x 12	HR 500
2707 4 14	4 x 14	HR 500
2707 4 16	4 x 16	HR 500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material thickness mm	Head h mm
4.1	5.0 - 6.5	2.5
4.1	6.5 - 8.5	2.5
4.1	10.5 - 12.5	2.8
4.1	10.5 - 12.5	2.5



Blind Rivets with Lg. Mushroom HD AL Black/St 14mm

Rivet sleeve: Aluminium black enamel finish

Mandrel: Galvanized steel

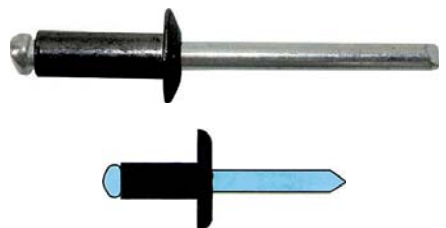
- For fastening soft or brittle materials to metal substructures
- Head: 14 mm

Article No.	Dimension	QTY
2708 5 12	4,8 x 12	HR 500
2708 5 14	4,8 x 14	HR 500
2708 5 16	4,8 x 16	HR 500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material thickness mm	Head h mm
4.9	6.0 - 8.0	2.5
4.9	8.0 - 10.0	2.5
4.9	10.0 - 12.0	2.5



Closed End Blind Rivets with Mushroom Head AL/St

Rivet sleeve: Aluminium

Mandrel: Greased steel

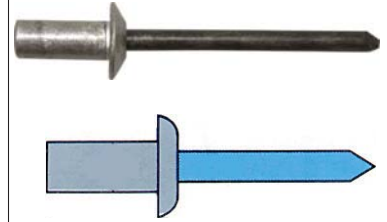
- Air and water-tight blind rivet

Article No.	Dimension	QTY
2718 32 65	3,2 x 6,5	500
2718 32 8	3,2 x 8	500
2718 32 95	3,2 x 9,5	500
2718 32 11	3,2 x 11	500
2718 32 125	3,2 x 12,5	500
2718 4 8	4 x 8	500
2718 4 95	4 x 9,5	500
2718 4 11	4 x 11	500
2718 4 125	4 x 12,7	500
2718 48 95	4,8 x 9,5	500
2718 48 11	4,8 x 11	500
2718 48 125	4,8 x 12,5	500
2718 48 14	4,8 x 14	500
2718 48 16	4,8 x 16	500
2718 48 18	4,8 x 18	500
2718 48 21	4,8 x 21	250
2718 48 25	4,8 x 25	500

(Dia. x length mm)

Specifications

Bore dia.	Rivetable material	Head dia.	Head h
mm	thickness mm	mm	mm
3.3	0.5 - 2.0	6.0	1.4
3.3	2.0 - 3.5	6.0	1.4
3.3	3.5 - 5.0	6.0	1.4
3.3	5.0 - 6.5	6.0	1.4
3.3	6.5 - 8.0	6.0	1.4
4.1	0.5 - 3.5	8.0	1.7
4.1	3.5 - 4.5	8.0	1.7
4.1	4.5 - 6.5	8.0	1.7
4.1	6.5 - 8.0	8.0	1.7
4.9	3.0 - 4.5	9.5	2.0
4.9	4.5 - 6.0	9.5	2.0
4.9	6.0 - 7.5	9.5	2.0
4.9	7.5 - 9.0	9.5	2.0
4.9	9.0 - 11.0	9.5	2.0
4.9	11.0 - 13.0	9.5	2.0
4.9	13.0 - 16.0	9.5	2.0
4.9	16.0 - 19.0	9.5	2.0



Closed End Blind Rivets with Mushroom Head AL/A2

Rivet sleeve: Aluminium

Mandrel: Stainless steel A2

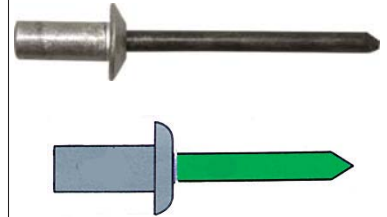
- Air and water-tight blind rivet

Article No.	Dimension	QTY
2723 32 65	3,2 x 6	500
2723 32 8	3,2 x 8	500
2723 32 95	3,2 x 9,5	500
2723 32 11	3,2 x 11	500
2723 32 127	3,2 x 12,7	500
2723 4 8	4 x 8	500
2723 4 95	4 x 9,5	500
2723 4 11	4 x 11	500
2723 4 127	4 x 12,7	500
2723 48 95	4,8 x 9,5	500
2723 48 11	4,8 x 11	500
2723 48 125	4,8 x 12,5	500
2723 48 14	4,8 x 14	500
2723 48 16	4,8 x 16	500
2723 48 21	4,8 x 21	500

(Dia. x length mm)

Specifications

Bore dia.	Rivetable material	Head dia.	Head h
mm	thickness mm	mm	mm
3.3	0.5 - 2.0	6.0	1.4
3.3	2.0 - 3.5	6.0	1.4
3.3	3.5 - 5.0	6.0	1.4
3.3	5.0 - 6.5	6.0	1.4
3.3	6.5 - 8.0	6.0	1.4
4.1	0.5 - 3.5	8.0	1.7
4.1	3.5 - 5.0	8.0	1.7
4.1	5.0 - 6.5	8.0	1.7
4.1	6.5 - 8.0	8.0	1.7
4.9	3.0 - 4.5	9.5	2.0
4.9	4.5 - 6.0	9.5	2.0
4.9	6.0 - 7.5	9.5	2.0
4.9	7.5 - 9.0	9.5	2.0
4.9	9.0 - 11.0	9.5	2.0
4.9	13.0 - 16.0	9.5	2.0



Closed End Blind Rivets with Mushroom Head Cu/St

Rivet sleeve: Copper

Mandrel: Greased steel

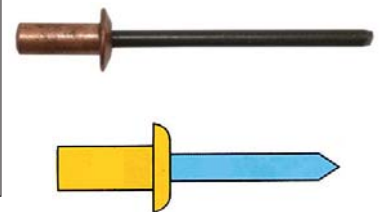
- Air and water-tight blind rivet

Article No.	Dimension	QTY
2724 32 65	3,2 x 6,5	500
2724 32 8	3,2 x 8	500
2724 32 95	3,2 x 9,5	500
2724 4 8	4 x 8	500
2724 4 95	4 x 10	500

(Dia. x length mm)

Specifications

Bore dia.	Rivetable material	Head dia.	Head h
mm	thickness mm	mm	mm
3.3	0.5 - 2.0	6.0	1.4
3.3	2.0 - 3.5	6.0	1.4
3.3	3.5 - 5.0	6.0	1.4
4.1	0.5 - 3.5	8.0	1.7
4.1	3.5 - 5.0	8.0	1.7



Closed End Blind Rivets with Mushroom Head Cu/A2

Rivet sleeve: Copper

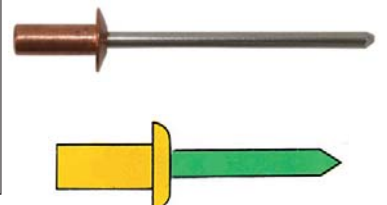
Mandrel: Stainless steel A2

- Air and water-tight blind rivet

Article No.	Dimension	QTY
2725 32 65	3,2 x 6,5	500
2725 32 8	3,2 x 8	500
2725 32 95	3,2 x 10	500
2725 4 8	4 x 8	500
2725 4 95	4 x 10	500

Specifications

Bore dia.	Rivetable material	Head dia.	Head h
mm	thickness mm	mm	mm
3.3	0.5 - 2.0	6.0	1.4
3.3	2.0 - 3.5	6.0	1.4
3.3	3.5 - 5.0	6.0	1.4
4.1	0.5 - 3.5	8.0	1.7
4.1	3.5 - 5.0	8.0	1.7



Plumber's Rivets with Mushroom Head St/St

Rivet sleeve and mandrel: Galvanized steel

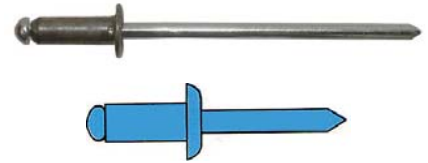
- For the riveting gutters and accessories

Article No.	Dimension	QTY
2726 32 63	3,2 x 6,3	F 1000
2726 32 8	3,2 x 8	500
2726 32 93	3,2 x 9,3	500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material thickness mm
3.3	1.5 - 3.5
3.3	3.5 - 5.5
3.3	5.5 - 7.0



Plumber's Rivet with Mushroom Head CU/Bronze

Rivet sleeve: Copper

Mandrel: Bronze

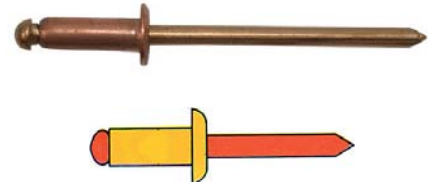
- For the riveting gutters and accessories

Article No.	Dimension	QTY
2727 32 5	3,2 x 5	F 1000
2727 32 6	3,2 x 6	F 1000
2727 32 8	3,2 x 9	500
2727 32 10	3,2 x 10	500

(Dia. x length mm)

Specifications

Bore dia. mm	Rivetable material Thickness mm	Head
3.3	0.5 - 1.5	0.8
3.3	1.5 - 2.5	0.8
3.3	3.5 - 5.5	0.8
3.3	5.5 - 7.5	0.8



Plumber's Rivet with Mushroom Head Tin/St

Rivet sleeve: Tin

Mandrel: Galvanized steel

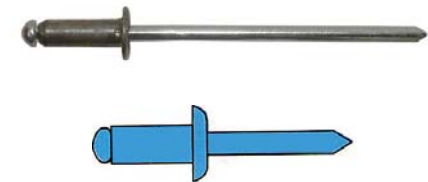
- For the riveting gutters and accessories
- Tin-plated and can be soldered easily

Article No.	Dimension	QTY
2728 32 6	3,2 x 6	500
2728 32 8	3,2 x 8	500
2728 32 10	3,2 x 10	500

(Dia. x length mm))

Specifications

Bore dia. mm	Rivetable material thickness mm
3.3	0.5 - 2.5
3.3	2.5 - 4.5
3.3	4.5 - 6.5



Plumber's Rivet with Mushroom Head Monel/A2

Rivet sleeve: monel

Mandrel: Stainless steel A2

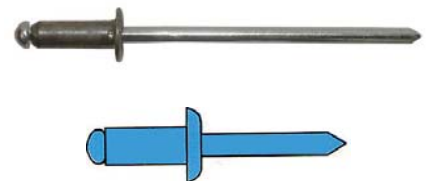
- For the riveting gutters and accessories
- Suitable for UGINOX soldering

Article No.	Dimension	QTY
2729 32 6	3,2x6	500
2729 32 8	3,2x8	500
2729 32 10	3,2x10	500

(Dia. x length mm))

Specifications

Bore dia. mm	Rivetable material thickness mm
3.3	0.5 - 3.0
3.3	3.0 - 5.0
3.3	5.0 - 7.0



Blind Rivets, Coloured, with Mushroom Head AL/St

Rivet sleeve: Aluminium

Mandrel: Steel

- For reliably fastening components of same and different materials
- Connections not detachable (detachment possible only through destruction)
- High strength for radial and axial loads

			Specifications				
Items no.	Dimension	QTY	Bore dia. mm	Material thickness mm	Head dia. mm	Head h mm	Colour
2709 32 6 0	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	p-brown
2709 32 6 1	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	copper brown
2709 32 6 2	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	white
2709 32 6 3	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	anthracite
2709 32 6 4	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	moss green
2709 32 6 5	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	grey
2709 32 6 7	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	t-brown
2709 32 6 8	3,2 x 6	500	3.3	1.0 - 3.0	6.5	0.8	oxide red
2709 32 8 0	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	p-brown
2709 32 8 1	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	copper brown
2709 32 8 2	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	white
2709 32 8 3	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	anthracite
2709 32 8 4	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	moss grey
2709 32 8 5	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	grey
2709 32 8 7	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	p-brown
2709 32 8 8	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	oxide red
2709 40 8 0	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	p-brown
2709 40 8 1	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	copper brown
2709 40 8 2	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	white
2709 40 8 3	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	anthracite
2709 40 8 4	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	moss green
2709 40 8 5	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	grey
2709 40 8 7	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	t-brown
2709 40 8 8	4,0 x 8	500	4.1	2.5 - 4.5	8	0.8	oxide red

(Dia. x length mm)



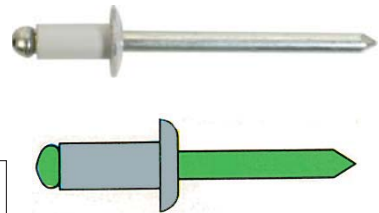
Blind Rivets, Coloured, with Mushroom Head AL/A2

Rivet sleeve: Aluminium

Mandrel: Steel

- For reliably fastening components of same and different materials
- Connections not detachable (detachment possible only through destruction)
- High strength for radial and axial loads
- Splashproof

			Specifications				
Article No.	Dimension	QTY	Drill-Ø mm	Material- strength mm	Head Ø mm	Head h mm	Colour
2709 32 8 9 0	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	p-brown
2709 32 8 9 1	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	copper brown
2709 32 8 9 2	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	white
2709 32 8 9 3	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	anthracite
2709 32 8 9 4	3,2 x 8	500	3.3	3.5 - 5.5	6.5	0.8	moss green
2709 40 10 9 0	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	p-brown
2709 40 10 9 1	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	copper brown
2709 40 10 9 2	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	white
2709 40 10 9 3	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	anthracite
2709 40 10 9 4	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	moss green
2709 40 10 9 5	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	grey
2709 40 10 9 6	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	light blue
2709 40 10 9 7	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	t-brown
2709 40 10 9 8	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	oxide red
2709 40 10 9 9	4,0 x 10	500	4.1	0.5 - 6.5	8.0	1.0	aluminium white



Plastic Rivets in Assortment

- 81-piece
- For the fixing of inner linings, inner mud guards, dasbparde etc.
- Usable for different vehicles such as BMW, Chrysler, Saab, Jaguar, Ford, etc.

Article No.	Article Description	QTY
9000 3040 3	ASSORTMENT PLASTIC RIVETS	1
9000R 3040 3	TRAY FOR PLASTIC RIVETS	1

Contents:

- 20x Art. No. 3040 4001 Plastic rivets 5.0 x 17.2 mm
- 20x Art. No. 3040 4002 Plastic rivets 5.0 x 15.8 mm
- 20x Art. No. 3040 4003 Plastic rivets 6.3 x 25.2 mm
- 20x Art. No. 3040 4004 Plastic rivets 6.6 x 17.2 mm
- 1x Art. No. 2722 20 1 Rivet gun for plastic rivets



Hand Rivet Gun for Plastic Rivets

- For plastic rivets 5.0 - 6.6 mm

Article No.	Article Description	QTY
2722 20 1	RIVET GUN FOR PLASTIC RIVETS	1



Hand Rivet Gun MFX 150 B

- With spring
- Robust design for 2.4 - 5.0 mm blind rivets
- Also suitable for stainless steel rivets
- Including nosepieces with diameter 3.0 - 5.0 mm

Article No.	Article Description	QTY
2722 1	MX150B HAND RIVET GUN	1
2722 3 24	REPL.NOSEPIECE RIVET 2.4MM	1
2722 3 32	REPL.NOSEPIECE RIVET 3/3.2MM	1
2722 3 4	REPL.NOSEPIECE RIVET 4MM	1
2722 3 5	REPL.NOSEPIECE RIVET 4.8/5MM	1



Hand Rivet Gun - Flipper

- For 2.4 - 5.0 mm aluminium blind rivets and 2.4 - 4.0 mm stainless rivets

Article No.	Article Description	QTY
2722 12	FLIPPER HAND RIVET GUN	1
2722 12 2	(PAIR)REP.CLAMP.JAWS F.FLIPPER	1



Hand Rivet Gun MFX 10 000

- For 2.4 - 5.0 mm aluminium rivets and 2.4 - 4.0 mm stainless steel rivets
- Adjustable to horizontal or vertical position
- Especially suitable for working in hard-to-reach areas

Article No.	Article Description	QTY
2722 3	HAND RIVETER MFX10000	1
2722 3 1	REPLACEMENT CLAMPING JAW-SET	1
2722 3 24	REPL.NOSEPIECE RIVET 2.4MM	1
2722 3 32	REPL.NOSEPIECE RIVET 3/3.2MM	1
2722 3 4	REPL.NOSEPIECE RIVET 4MM	1
2722 3 5	REPL.NOSEPIECE RIVET 4.8/5MM	1



Hand Rivet Gun MFX 260 Lever Type

- For easy processing of 3.0 - 6.4 mm blind rivets
- Also suitable for stainless steel rivets

Article No.	Article Description	QTY
2722 9	LEVER-ASSIST.HAND RIVET.MFX260	1
2722 9 1	REPL.CLAMP.JAW-SET(3P)F.MFX260	1
2722 9 32	REPL.NOSEPI.RIV.3/3.2MM MFX260	1
2722 9 4	REPL.NOSEPI.RIV.4MM MFX260	1
2722 9 5	REPL.NOSEPI.RIV.4.8/5MM MFX260	1
2722 9 6	REPL.NOSEPI.RIV.6MM MFX260	1
2722 9 64	REPL.NOSEPI.RIV.6.4MM MFX260	1



Pneumatic Blind Rivet Gun 6700

- Field of application: Blind rivet diameter 2.4 - 5.0 mm made of aluminium and copper
- Without pin suction

Technical Data

Pulling force (6.3 bar):	12000 N
Air consumption:	1.2 l/stroke
Weight:	1.6 Kg
Dimension LxHxW:	225 x 280 x 100 mm
Air connection:	1/4"
Suitable plug nipple	Art. No. 3926 14 1

Article No.	Article Description	QTY
2722 15	PNEUMATIC BLIND RIVET GUN 6700	1



Multi-Compressed Air-Blind Rivet Gun 501

- Field of application: Blind rivet diameter 2.4 - 5.0 made of aluminium, copper, steel, stainless steel
- Without pin suction
- With 40 cm hose connection including adapter

Technical Data

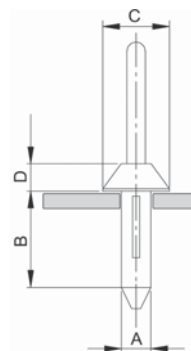
Pulling force (5.7 bar):	9000 N
Air consumption:	0.8 L/stroke
Weight:	1.5 kg
Dimension LxHxW:	220 x 280 x 100 mm

Article No.	Article Description	QTY
2722 16	MULTI-BLIND RIV.PNEUM.GUN 501	1



Plastic rivets

- For securing interior panelling, interior fenders, dashboards, etc.
- Simple installation with rivet gun for plastic rivets Art.-No. 2722 20 2
- Protected against corrosion and contact corrosion
- Non-conductive installation possible
- Art.-No. 3040 4003: for BMW, Original no. 07142151750
- Art.-No. 3040 4005: for BMW, Original no. 51717002953
- Due to the wide range of potential applications, the protrusion of the bolt cannot be excluded in every installation scenario.



Article No.	Article Description	QTY
3040 4001	PLASTIC RIVETS 5.0X17.2MM	w 100
3040 4002	PLASTIC RIVETS 5.0X15.8MM	w 100
3040 4003	PLASTIC RIVETS 6.3X25.2MM	w 100
3040 4004	PLASTIC RIVETS 6.8X17.2MM	w 100
3040 4005	PLASTIC RIVETS 6.0X19.3MM	w 100

Technical Data

Fastening hole Ø mm	A mm	B mm	C mm	D mm	Fastening thickness mm
5.00	4.90	17.20	12.30	2.00	3.00 – 5.00
5.00	4.90	15.80	11.80	3.30	1.50 – 4.50
6.30 – 6.50	6.30	25.20	16.90	2.50	4.00 – 10.00
6.70 – 7.00	6.60	17.30	13.00	2.50	2.50 – 5.00
6.00	5.80	19.00	20.00	2.70	2.80 – 5.00

Plastic Rivets in Assortment

- 81-piece
- For the fixing of inner linings, inner mud guards, dasbpards etc.
- Usable for different vehicles such as BMW, Chrysler, Saab, Jaguar, Ford, etc.

Article No.	Article Description	QTY
9000 3040 3	ASSORTMENT PLASTIC RIVETS	1
9000R 3040 3	TRAY FOR PLASTIC RIVETS	1

Contents:

- 20x Art.-No. 3040 4001: Plastic rivets 5.0 x 17.2 mm
- 20x Art.-No. 3040 4002: Plastic rivets 5.0 x 15.8 mm
- 20x Art.-No. 3040 4003: Plastic rivets 6.3 x 25.2 mm
- 20x Art.-No. 3040 4004: Plastic rivets 6.6 x 17.2 mm
- 1x Art.-No. 2722 20 2: Rivet gun for plastic rivets



Battery Powered Rivet Tool 14.4V

- Field of application: Blind rivet up to 5 mm diameter all materials

Technical Data

Pulling strength:	8500 N	
Total stroke:	20 mm	
Weight:	2.0 kg (with batt.)	
Perf. per batt. charge:		
Blind riv.-Ø mm	Material	Battery autonomy
2.4	Aluminium	1.500
3.0 and 3.2	Aluminium	800
3.0 and 3.2	Steel	800
3.0 and 3.2	Stainless steel	800
4.0	Aluminium	800
4.0	Steel	700
4.0	Stainless steel	640
4.8 and 5.0	Aluminium	550
4.8 and 5.0	Steel	420
4.8 and 5.0	Stainless steel	320



Article No.	Article Description	QTY
2722 11	GESIPA ACCU-BIRD-SET 14.4V	1
2722 11 1	QUICK-CHANGE.BATT.14.4V F.A.B.	1
2722 11 2	CHARGING DEVICE 14.4V LI-ION	1

Set includes:

- Accu-Bird with one rechargeable battery and battery charger in metal carrying case

Blind Rivet Nut Pliers Set MFX 306 S

- In aluminium case
- Robust design for blind rivet nuts with diameters M3, M4, M5, M6 galvanised steel

Article No.	Article Description	QTY
2748 1	BLIND RIV.NUT PL.SET MFX 306S	1

Set consist of:

- 1x Blind rivet nut pliers MFX 306
- 1x Art. No. 2748 1 3 Mandrel M3 with o-ring
- 1x Art. No. 2748 1 4 Mandrel M4 with o-ring
- 1x Art. No. 2748 1 5 Mandrel M5 with o-ring
- 1x Art. No. 2748 1 6 Mandrel M6 with o-ring
- 1x Nosepiece M3, M4, M5, M6
- 50x Art. No. 2742 3 3 Blind rivet nut flat head, corrugated M3-3
- 50x Art. No. 2742 4 3 Blind rivet nut flat head, corrugated M4-3
- 50x Art. No. 2742 5 3 Blind rivet nut flat head, corrugated M5-3
- 25x Art. No. 2742 6 3 Blind rivet nut flat head, corrugated M6-3



Blind Rivet Nut Pliers Set MFX 306 S - Accessories

Article No.	Article Description	QTY
2748 1 3	MANDR.M3 WITH O-RING F.MFX 306	1
2748 1 4	MANDR.M4 WITH O-RING F.MFX 306	1
2748 1 5	MANDR.M5 WITH O-RING F.MFX 306	1
2748 1 6	MANDR.M6 WITH O-RING F.MFX 306	1
2742 3 25	FH-BLIN.RIV.NUT ST RIB.M 3-2.5	f 100
2742 4 3	FH-BLIN.RIV.NUT ST RIB.M 4-3	gf 100
2742 5 3	FH-BLIN.RIV.NUT ST RIB.M 5-3	gf 100
2742 6 3	FH-BLIN.RIV.NUT ST RIB.M 6-3	gf 100



Blind Rivet Nut Pliers Set MFX 360 S

- In aluminium case
- Solid design for blind rivet nuts with Ø M3, M4, M5, M6 galvanised steel + blind rivet screws M4 - M6 galvanised steel

Article No.	Article Description	QTY
2748 5	BLIND RIV.NUT PL.SET MFX 360S	1

Set Consists of:

- 1x Blind rivet nut pliers MFX 360
- 1x Art. No. 2748 5 4 1 Threaded sleeve M4 with o-ring
- 1x Art. No. 2748 5 5 1 Threaded sleeve M5 with o-ring
- 1x Art. No. 2748 5 6 1 Threaded sleeve M6 with o-ring
- 1x Art. No. 2748 5 3 Mandrel M3 with o-ring
- 1x Art. No. 2748 5 4 Mandrel M4 with o-ring
- 1x Art. No. 2748 5 5 Mandrel M5 with o-ring
- 1x Art. No. 2748 5 6 Mandrel M6 with o-ring
- 1x Nosepiece M3, M4, M5, M6
- 30x Art. No. 2742 4 3 Blind rivet nut flat head, corrugated M4-3
- 30x Art. No. 2742 5 3 Blind rivet nut flat head, corrugated M5-3
- 30x Art. No. 2742 6 3 Blind rivet nut flat head, corrugated M6-3
- 30x Art. No. 2745 4 Blind rivet nut, small countersunk head, corrugated M4-2,5
- 30x Art. No. 2745 5 Blind rivet nut, small countersunk head, corrugated M5-3
- 30x Art. No. 2745 6 Blind rivet nut, small countersunk head, corrugated M6-3



Blind Rivet Nut Pliers Set MFX 360 S - Accessories



Article No.	Article Description	QTY
2748 5 4 1	THRE.SLEE.M4 W.O-RING F.MFX360	1
2748 5 5 1	THRE.SLEE.M5 W.O-RING F.MFX360	1
2748 5 6 1	THRE.SLEE.M6 W.O-RING F.MFX360	1
2748 5 3	MANDREL M3 W.O-RING F.MFX 360	1
2748 5 4	MANDREL M4 W.O-RING F.MFX 360	1
2748 5 5	MANDREL M5 W.O-RING F.MFX 360	1
2748 5 6	MANDREL M6 W.O-RING F.MFX 360	1
2742 4 3	FH-BLIN.RIV.NUT ST RIB.M 4-3	gf 100
2742 5 3	FH-BLIN.RIV.NUT ST RIB.M 5-3	gf 100
2742 6 3	FH-BLIN.RIV.NUT ST RIB.M 6-3	gf 100
2745 4	MINI CSK KN.BL.R.NUT ST.M4-2,5	gf 100
2745 5	MINI CSK KN.BL.R.NUT ST.M 5-3	gf 100
2745 6	MINI CSK KN.BL.R.NUT ST.M 6-3	gf 100

Lever-Rivet Nut Pliers Set MFX 510 QI

- In aluminium case
- For standard processing of blind rivet guns M5, M6, M8, M10, and blind rivet screws M5, M6, M8
- Quick-change system

Article No.	Article Description	QTY
2748 4	LEV.RIV.NUT PL.SET MFX 510 QI	1

Contents:

- 1x Blind rivet nut pliers MFX 510 QI
- 1x Art. No. 2748 4 5 Mandrel M5
- 1x Art. No. 2748 4 6 Mandrel M6
- 1x Art. No. 2748 4 8 Mandrel M8
- 1x Art. No. 2748 4 10 Mandrel M10
- 1x Art. No. 2748 4 5 1 Threaded sleeve M5
- 1x Art. No. 2748 4 6 1 Threaded sleeve M6
- 1x Art. No. 2748 4 8 1 Threaded sleeve M8



Lever-Rivet Nut Pliers Set MFX 510 QI Accessories



Article No.	Article Description	QTY
2748 4 5	MANDR.M5 F.LEV.PL.MFX 510 QI	1
2748 4 6	MANDR.M6 F.LEV.PL.MFX 510 QI	1
2748 4 8	MANDR.M8 F.LEV.PL.MFX 510 QI	1
2748 4 10	MANDR.M10 F.LEV.PL.MFX 510 QI	1
2748 4 5 1	THREAD.SLEEVE M5 F.MFX 510 QI	1
2748 4 6 1	THREAD.SLEEVE M6 F.MFX 510 QI	1
2748 4 8 1	THREAD.SLEEVE M8 F.MFX 510 QI	1

Blind Rivet Nuts, Flat Head, Aluminium AIMg 2.5

- For heavy duty bolted connections in thin walled materials and components accessible on one side only, e.g. hollow channels, tanks, etc.
- Combination application possibilities e.g. riveting 2 sheets and attaching additional component with bolt

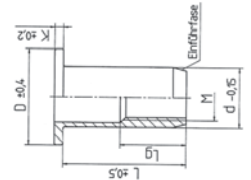


Article No.	Dimension	QTY
2740 3 25	M 3-2,5	f 100
2740 3 35	M 3-3,5	f 100
2740 4 45	M 4-4,5	gf 100
2740 5 55	M 5-5,5	gf 100
2740 5 8	M 5-8	gf 100
2740 6 55	M 6-5,5	gf 100
2740 6 8	M 6-8	gf 100
2740 8 55	M 8-5,5	gf 100
2740 8 8	M 8-8	g 50
2740 8 105	M 8-10,5	g 50
2740 10 9	M 10-9	g 50
2740 10 12	M 10-12	g 50
2740 12 4	M 12-4	g 50
2740 12 7	M 12-7	g 50
2740 12 10	M 12-10	g 50
2740 4 3	M 4-3	gf 100
2740 10 6	M 10-6	gf 100
2740 5 3	M 5-3	gf 100
2740 6 3	M 6-3	gf 100
2740 8 3	M 8-3	gf 100
2740 10 3	M 10-3	gf 100

(Thread mm / clamping range up to mm)

Technical Data

Clamp. range mm	Drill-Ø mm	d mm	D mm	L mm	K mm
0,5 - 2,5	5,0	4,9	7,0	10,5	0,9
2,5 - 3,5	5,0	4,9	7,0	11,5	0,9
0,5 - 3,0	6,0	5,9	9,0	11,0	1,1
3,0 - 4,5	6,0	5,9	9,0	14,0	1,1
0,5 - 3,0	7,0	6,9	10,0	13,0	1,1
3,0 - 5,5	7,0	6,9	10,0	16,0	1,1
5,5 - 8,0	7,0	6,9	10,0	19,0	1,1
0,5 - 3,0	9,0	8,9	12,0	16,0	1,6
3,0 - 5,5	9,0	8,9	12,0	18,5	1,6
5,5 - 8,0	9,0	8,9	12,0	21,0	1,6
0,5 - 3,0	11,0	10,9	15,0	17,5	1,6
3,0 - 5,5	11,0	10,9	15,0	20,0	1,6
5,5 - 8,0	11,0	10,9	15,0	22,5	1,6
8,0 - 10,5	11,0	10,9	15,0	25,0	1,6
0,5 - 3,0	12,0	11,9	16,0	19,0	2,1
3,0 - 6,0	12,0	11,9	16,0	24,0	2,1
6,0 - 9,0	12,0	11,9	16,0	27,0	2,1
9,0 - 12,0	12,0	11,9	16,0	30,0	2,1
1,0 - 4,0	16,0	15,9	22,0	25,0	2,1
4,0 - 7,0	16,0	15,9	22,0	28,0	2,1
7,0 - 10,0	16,0	15,9	22,0	31,0	2,1



Blind Rivet Nuts Flat Head, Galvanized Steel

- For heavy duty screw connections in thin-walled materials and components that are accessible from only one side, e.g. hollow profiles, containers etc.
- Combined application possibilities e.g. direct riveting of 2 sheets and attachment of an additional component via screwing

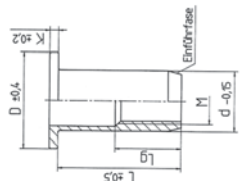


Article No.	Dimension	QTY
2742 3 25	M 3-2,5	f 100
2742 3 4	M 3-4	f 100
2742 4 3	M 4-3	gf 100
2742 4 55	M 4-5,5	gf 100
2742 5 3	M 5-3	gf 100
2742 5 55	M 5-5,5	gf 100
2742 5 8	M 5-8	gf 100
2742 6 3	M 6-3	gf 100
2742 6 55	M 6-5,5	gf 100
2742 6 8	M 6-8	gf 100
2742 8 3	M 8-3	gf 100
2742 8 55	M 8-5,5	gf 100
2742 8 8	M 8-8	g 50
2742 8 105	M 8-10,5	g 50
2742 10 3	M 10-3	gf 100
2742 10 6	M 10-6	gf 100
2742 10 9	M 10-9	g 50
2742 10 12	M 10-12	g 50
2742 12 4	M 12-4	g 50
2742 12 7	M 12-7	g 50
2742 12 10	M 12-10	g 50

(Thread mm / clamping range up to mm)

Technical Data

Clamp. range mm	Drill-Ø mm	d mm	D mm	L mm	K mm
0,5 - 2,5	5,0	4,9	7,0	10,5	0,9
2,5 - 4,0	5,0	4,9	7,0	11,5	0,9
0,5 - 3,0	6,0	5,9	9,0	11,0	1,1
3,0 - 5,5	6,0	5,9	9,0	14,0	1,1
0,5 - 3,0	7,0	6,9	10,0	13,0	1,1
3,0 - 5,5	7,0	6,9	10,0	16,0	1,1
5,5 - 8,0	7,0	6,9	10,0	19,0	1,1
0,5 - 3,0	9,0	8,9	12,0	16,0	1,6
3,0 - 5,5	9,0	8,9	12,0	18,5	1,6
5,5 - 8,0	9,0	8,9	12,0	21,0	1,6
0,5 - 3,0	11,0	10,9	15,0	17,5	1,6
3,0 - 5,5	11,0	10,9	15,0	20,0	1,6
5,5 - 8,0	11,0	10,9	15,0	22,5	1,6
8,0 - 10,5	11,0	10,9	15,0	25,0	1,6
0,5 - 3,0	12,0	11,9	16,0	19,0	2,1
3,0 - 6,0	12,0	11,9	16,0	24,0	2,1
6,0 - 9,0	12,0	11,9	16,0	27,0	2,1
9,0 - 12,0	12,0	11,9	16,0	30,0	2,1
1,0 - 4,0	16,0	15,9	22,0	25,0	2,1
4,0 - 7,0	16,0	15,9	22,0	28,0	2,1
7,0 - 10,0	16,0	15,9	22,0	31,0	2,1



Blind Rivet Nuts, Countersunk Head, 90° Aluminium

- For flush connections

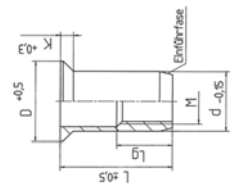


Article No.	Dimension	QTY
2741 4 25	M 4-2,5	gf 100
2741 4 4	M 4-4	gf 100
2741 5 35	M 5-3,5	gf 100
2741 5 45	M 5-4,5	gf 100
2741 6 3	M 6-3	gf 100
2741 6 45	M 6-4,5	gf 100
2741 8 3	M 8-3	gf 100
2741 8 45	M 8-4,5	gf 100
2741 10 3	M 10-3	gf 100

(Thread dia. x length mm)

Specifications

Clamping range mm	Drill dia. mm	d mm	D mm	L mm	K mm
1.5 - 2.5	6.1	6.0	7.0	11.5	0.5
2.5 - 3.5	6.1	6.0	7.0	12.5	0.5
0.5 - 1.5	7.1	7.0	8.0	11.0	0.5
1.5 - 2.5	7.1	7.0	8.0	12.0	0.5
1.0 - 2.5	7.1	7.0	8.0	13.0	0.5
2.5 - 3.5	9.1	9.0	10.0	14.0	0.5
1.0 - 2.5	9.1	9.0	10.0	15.5	0.5
2.5 - 4.0	11.1	11.0	12.0	15.5	0.5
2.5 - 4.0	11.1	11.0	12.0	17.0	0.5



Blind Rivet Nuts Flat Head

- Galvanized steel
- With hex shank in clamping zone to prevent twisting

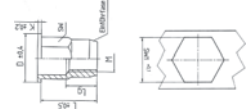


Article No.	Dimension	QTY
2743 4	M 4	gf 100
2743 5	M 5	gf 100
2743 6	M 6	gf 100
2743 8	M 8	gf 100

(Thread dia.)

Specifications

Clamping range mm	Hole SW 1	SW	D mm	L mm	K mm
0.5 - 3.0	6.1	6.0	9.3	11.5	1.0
0.5 - 3.0	7.1	7.0	10.3	13.5	1.0
0.5 - 3.0	9.1	9.0	12.3	15.5	1.5
0.5 - 3.0	11.1	11.0	14.3	17.5	1.5



Blind Rivet Nuts Miniature Countersunk Head

- Galvanized steel
- For flush connections without countersinking holes

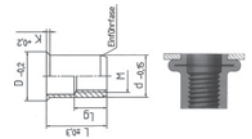


Article No.	Dimension	QTY
2744 4	M 4	gf 100
2744 5	M 5	gf 100
2744 6	M 6	gf 100
2744 8	M 8	gf 100
2744 10	M 10	gf 100

(Thread dia.)

Specifications

Rivettable material thickness mm	Drill dia. mm	Shank dia. mm	L mm
0.5 - 3.0	7.0	6.95	10.5
0.5 - 3.0	7.0	6.95	11.5
0.5 - 2.5	8.0	7.95	13.0
0.5 - 3.0	10.0	9.95	15.5
0.5 - 3.0	12.0	11.95	17.5



Blind Rivet Nuts, Small Countersunk Head, Knurled

- Galvanized steel
- For high resistance to twisting in soft materials
e.g. plastic, aluminium, wool, asbestos etc.

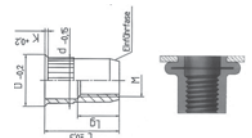


Article No.	Dimension	QTY
2745 4	M 4	gf 100
2745 5	M 5	gf 100
2745 6	M 6	gf 100
2745 8	M 8	gf 100
2745 10	M 10	gf 100

(Thread dia.)

Specifications

Rivettable material thickness mm	Drill dia. mm	Shank dia. mm	L mm
0.5 - 3.0	6.0	5.9	10.0
0.5 - 3.0	7.0	6.9	11.5
0.5 - 3.0	9.0	8.9	14.0
0.5 - 3.0	11.0	10.9	15.5
0.8 - 3.5	12.0	11.9	22.0



TORRO Hose Clamps

- Housing not welded or riveted
- Does not twist away when tightening
- Short housing saddle guarantees optimum lock and uniform clamping pressure around entire circumference
- Hex head with combination slots for slotted or Phillips screwdrivers
- Strap with raised edges to prevent damage to hose wall



TORRO W2 Hose Clamps



Specifications

Abbreviation	Material	Strap width
W2	Stainless steel strap and housing (1.4016), galvanized steel screw	7.5 / 9 mm

Article No.	Article Description	QTY
3200 8 12	HOSE CL TOR 7,5MM SW6 W2 8-12	f 100
3200 8 16	HOSE CL TOR 9MM SW7 W2 8-16	f 100
3200 10 16	HOSE CL TOR 7,5MM SW6 W2 10-16	f 100
3200 12 20	HOSE CL TOR 9MM SW7 W2 12-20	f 100
3200 16 25	HOSE CL TOR 9MM SW7 W2 16-25	f 100
3200 20 32	HOSE CL TOR 9MM SW7 W2 20-32	f 100
3200 23 35	HOSE CL TOR 9MM SW7 W2 23-35	f 100
3200 25 40	HOSE CL TOR 9MM SW7 W2 25-40	f 100
3200 32 50	HOSE CL TOR 9MM SW7 W2 32-50	g 50
3200 40 60	HOSE CL TOR 9MM SW7 W2 40-60	g 50
3200 50 70	HOSE CL TOR 9MM SW7 W2 50-70	25
3200 60 80	HOSE CL TOR 9MM SW7 W2 60-80	25
3200 70 90	HOSE CL TOR 9MM SW7 W2 70-90	25
3200 80 100	HOSE CL TOR 9MM SW7 W2 80-100	25
3200 90 110	HOSE CL TOR 9MM SW7 W2 90-110	25

(Strp width / screw head / material / clamping range)

TORRO W1 Hose Clamp



Specifications

Abbreviation	Material	Strap width
W1	All galvanized steel	12 mm

Article No.	Article Description	QTY
3201 16 25	HOSE CL TOR 12MM SW7 W1 16- 27	50
3201 20 32	HOSE CL TOR 12MM SW7 W1 20- 32	50
3201 25 40	HOSE CL TOR 12MM SW7 W1 25- 40	g 50
3201 32 50	HOSE CL TOR 12MM SW7 W1 35- 50	50
3201 40 60	HOSE CL TOR 12MM SW7 W1 40- 60	25
3201 50 70	HOSE CL TOR 12MM SW7 W1 50- 70	25
3201 60 80	HOSE CL TOR 12MM SW7 W1 60- 80	25
3201 70 90	HOSE CL TOR 12MM SW7 W1 70- 90	25
3201 80 100	HOSE CL TOR 12MM SW7 W1 80-100	25
3201 90 110	HOSE CL TOR 12MM SW7 W1 90-110	25
3201 100 120	HOSE CL TOR 12MM SW7 W1 100-12	25
3201 110 130	HOSE CL TOR 12MM SW7 W1 110-13	25
3201 120 140	HOSE CL TOR 12MM SW7 W1 120-14	25
3201 130 150	HOSE CL TOR 12MM SW7 W1 130-15	25
3201 140 160	HOSE CL TOR 12MM SW7 W1 140-16	25
3201 150 170	HOSE CL TOR 12MM SW7 W1 150-17	10
3201 160 180	HOSE CL TOR 12MM SW7 W1 160-18	10
3201 170 190	HOSE CL TOR 12MM SW7 W1 170-19	10
3201 180 200	HOSE CL TOR 12MM SW7 W1 180-20	10
3201 190 210	HOSE CL TOR 12MM SW7 W1 190-210	10

(Strap width/ SW / material / clamping range)

TORRO W4 Hose Clamps



Specifications

Abbreviation	Material	Strap width	Intern. stand.
W4	All stainless steel 1.4301	9 mm	AFNOR Z6 CN 18-09 AISI AS 304 B, S, 304 S 15 SS 2332 SUS 304

Article No.	Article Description	QTY
3203 8 16	HOSE CL TOR 9MM SW7 W4 8-16	g 100
3203 12 20	HOSE CL TOR 9MM SW7 W4 12-20	g 100
3203 16 25	HOSE CL TOR 9MM SW7 W4 16-25	g 100
3203 20 32	HOSE CL TOR 9MM SW7 W4 20-32	g 100
3203 25 40	HOSE CL TOR 9MM SW7 W4 25-40	g 100
3203 32 50	HOSE CL TOR 9MM SW7 W4 32-50	g 50
3203 40 60	HOSE CL TOR 9MM SW7 W4 40-60	g 50

(Strap width/ screw head / material / clamping range)

Recommended static tightening torque			
Clamping range	TORRO W2	TORRO W4	TORROW1 + W4
-	7.5 / 9 mm	9 mm	12 mm
8 - 12	1.5 Nm	1.5 Nm	-
8 - 16	2.0 Nm	2.0 Nm	-
from 12 - 22	3.0 Nm	3.0 Nm	-
from 16 - 27	-	-	5.0 Nm

TORRO W4 Hose Clamp



Specifications

Abbreviation	Material	Strap width	Intern. stand.
W4	All stainless steel 1.4301	12 mm	AFNOR Z6 CN 18-09 AISI AS 304 B, S, 304 S 15 SS 2332 SUS 304

Article No.	Article Description	QTY
3204 16 25	HOSE CL TOR 12MM SW7 W4 16- 27	g 50
3204 20 32	HOSE CL TOR 12MM SW7 W4 20- 32	g 50
3204 25 40	HOSE CL TOR 12MM SW7 W4 25- 40	g 50
3204 32 50	HOSE CL TOR 12MM SW7 W4 32- 50	g 50
3204 40 60	HOSE CL TOR 12MM SW7 W4 40- 60	25
3204 50 70	HOSE CL TOR 12MM SW7 W4 50- 70	z 25
3204 60 80	HOSE CL TOR 12MM SW7 W4 60- 80	25
3204 70 90	HOSE CL TOR 12MM SW7 W4 70- 90	25
3204 80 100	HOSE CL TOR 12MM SW7 W4 80-100	10
3204 90 110	HOSE CL TOR 12MM SW7 W4 90-110	10
3204 100 120	HOSE CL TOR 12MM SW7 W4 100-12	10
3204 110 130	HOSE CL TOR 12MM SW7 W4 110-13	10
3204 120 140	HOSE CL TOR 12MM SW7 W4 120-14	10
3204 130 150	HOSE CL TOR 12MM SW7 W4 130-15	10

(Strap width/ screw head / material / clamping range)

TORRO Hose Clamp Set

- With 450 hose clamps B 9 mm, W2
- Robust workshop container with carrying handle, tool tray and 12 slide-in boxes
- Dimensions W 360 x H 450 x D 170 mm

Article No.	Article Description	QTY
3290 450	TORRO-HOSE CLAMPS SET	1

Contents:

- 155x Clamping range 8 - 16 mm
- 60x Clamping range 12 - 22 mm
- 100x Clamping range 16 - 27
- 50x Clamping range 20 - 32
- 50x Clamping range 25 - 40 mm
- 15x Clamping range 35 - 50 mm
- 20x Clamping range 50 70 mm



Torro Hose Clamp Set

- Provides optimum view of stock
- Hose clamps arranged clearly, saving space and allowing optimum access at a glance

Article No.	Article Description	QTY
3290 10	HOSE CLAMP WALL SET (117 PCS)	1

Content:

Article No.	Article Description	Quantity
3200 8 12	HOSE CL TOR 7,5MM SW6 W2 8-12	20
3200 10 16	HOSE CL TOR 7,5MM SW6 W2 10-16	20
3200 12 20	HOSE CL TOR 9MM SW7 W2 12-22	20
3200 16 25	HOSE CL TOR 9MM SW7 W2 16-25	10
3200 20 32	HOSE CL TOR 9MM SW7 W2 20-32	10
3200 25 40	HOSE CL TOR 9MM SW7 W2 25-40	10
3200 32 50	HOSE CL TOR 9MM SW7 W2 32-50	10
3200 40 60	HOSE CL TOR 9MM SW7 W2 40-60	10
3200 50 70	HOSE CL TOR 9MM SW7 W2 50-70	5
3290 100	HOSE CLAMP HOLDER - EMPTY	1
3295 7	A HEX SPEED WRENCH FLEX W. 7	1



Hex Speed Wrench Flexible

- With flexible shaft
- Blade length 160 mm

Article No.	Article Description	QTY
3295 6	A HEX SPEED WRENCH FLEX SW 6	1
3295 7	A HEX SPEED WRENCH FLEX W. 7	1
3295 8	A HEX SPEED WRENCH FLEX SW 8	1



Hose Clamps SGL W2

Strap:

- Width 8 mm
- Punched thread for optimum curve

Strap and housing:

- Stainless steel 1.4016. AISI430

Screw:

- Galvanized steel, yellow chromated

Article No.	Article Description	QTY
3202 8 12	CLAMP SGL 8MM SW6 W2 8-12	100
3202 10 16	CLAMP SGL 8MM SW6 W2 10-16	100

(Strap width/ screw head / material / clamping range in mm)



Miniflex W2

Strap:

- Width 5 mm
- Stamped, smooth inside
- Stainless steel

Housing and screw:

- Galvanized steel
- Delivered in open state

Article No.	Article Description	QTY
3210 7 11	MINIFLEX HOSE CLIP SX5 7-11MM	f 100
3210 11 19	MINIFLEX HOSE CLIP SX5 11-19MM	f 100

(Strap width/ screw head / clamping range in mm)

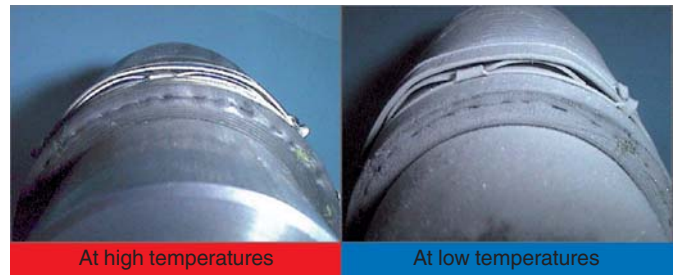


TORRO Hose Clamps with Wave Spring

- Integrated spring
- Compensates for variations in diameter
- Also suitable for thermoplastic pipes
- Wave spring in W4



Article No.	Article Description	QTY
3205 30 45	HOSE CL.TORRO 12MMSW7 W3 30-45	50
3205 35 50	HOSE CL.TORRO 12MMSW7 W3 35-50	50
3205 50 70	HOSE CL.TORRO 12MMSW7 W3 50-70	25
3205 60 80	HOSE CL.TORRO 12MMSW7 W3 60-80	25
3205 70 90	HOSE CL.TORRO 12MMSW7 W3 70-90	25
3205 80 100	HOSE CL.TORRO 12MMSW7 W3 80-100	25
3205 90 110	HOSE CL.TORRO 12MMSW7 W3 90-110	20



At high temperatures

- Diameter of hose increases
- Spring is compressed

At low temperatures

- Diameter of hoses decreases
- Spring extends
- Clamping force is maintained
- Clamp seals perfectly

Norma Hose Clamps

- Hose clamps with clamping jaws according to DIN 3017
- Norma hose clamps are suitable for fastening rubber and plastic hoses or rubber sleeves on pipe ends or hose fittings
- Steel strap, galvanized

Strap width 7 mm: slotted cheese head screw, M 3 x 16

Strap width 9 mm: slotted cheese head screw, M4 x 22

Strap width 12 mm: slotted hex head screw, M5 x 25

Strap width 15 mm: slotted hex head screw, M 6 x 30



Article No.	Article Description	QTY
3211 7	NORMA CLAMP B 7MM D 7MM	gf 100
3211 8	NORMA CLAMP B 7MM D 8MM	gf 100
3212 9	NORMA CLAMP B 9MM D 9MM	gf 100
3212 10	NORMA CLAMP B 9MM D 10MM	gf 100
3212 11	NORMA CLAMP B 9MM D 11MM	gf 100
3212 12	NORMA CLAMP B 9MM D 12MM	gf 100
3212 13	NORMA CLAMP B 9MM D 13MM	gf 100
3212 14	NORMA CLAMP B 9MM D 14MM	gf 100
3212 15	NORMA CLAMP B 9MM D 15MM	gf 100
3212 16	NORMA CLAMP B 9MM D 16MM	gf 100
3212 17	NORMA CLAMP B 9MM D 17MM	gf 100
3212 18	NORMA CLAMP B 9MM D 18MM	gf 100
3212 19	NORMA CLAMP B 9MM D 19MM	gf 100

(Strap width/ clamping range)

Article No.	Article Description	QTY
3212 20	NORMA CLAMP B 9MM D 20MM	gf 100
3212 22	NORMA CLAMP B 9MM D 22MM	gf 100
3212 25	NORMA CLAMP B 9MM D 25MM	gf 100
3212 32	NORMA CLAMP B 9MM D 32MM	gf 100
3213 12	NORMA CLAMP B12MM D 12MM	gf 100
3213 16	NORMA CLAMP B12MM D 16MM	gf 100
3213 18	NORMA CLAMP B12MM D 18MM	gf 100
3213 19	NORMA CLAMP B12MM D 19MM	gf 100
3214 20	NORMA CLAMP B15MM D 20MM	gf 100
3214 22	NORMA CLAMP B15MM D 22MM	gf 100
3214 25	NORMA CLAMP B15MM D 25MM	gf 100

Hose Clamps, Assortment

- Contents: 145 pieces

Article No.	Article Description	QTY
9000 32	ASSORTMENT HOSE CLAMPS	1
9000R 32	TRAY HOSE CLAMPS	1



Pivot Shaft Hose Clamps

- Pivot shaft hose clamps acc. to DIN 3017
- Pivot shaft hose clamps are particularly suited for fastening vacuum and pressure hoses with particularly high Shore hardness or with plastic or steel linings and are distinguished by their extremely high strap tension forces.
- All parts galvanized steel

Article No.	Article Description	QTY
3219 43 47	PIV.SHAFT HOSE CL.B20MM 43 47	25
3219 47 51	PIV.SHAFT HOSE CL.B20MM 47 51	50
3219 51 55	PIV.SHAFT HOSE CL.B20MM 51 55	50
3219 55 59	PIV.SHAFT HOSE CL.B20MM 55 59	50
3219 59 63	PIV.SHAFT HOSE CL.B20MM 59 63	50
3219 63 68	HEAVY DUTY CLAMPS B20MM 63 68	50



Article No.	Article Description	QTY
3219 68 73	PIV.SHAFT HOSE CL.B25MM 68 73	25
3219 73 79	PIV.SHAFT HOSE CL.B25MM 73 79	25
3219 79 85	PIV.SHAFT HOSE CL.B25MM 79 85	25
3219 85 91	PIV.SHAFT HOSE CL.B25MM 85 91	25
3219 91 97	PIV.SHAFT HOSE CL.B25MM 91 97	25
3219 97 104	PIV.SHAFT HOSE CL.B25MM 97 104	25
3219 104 112	PIV.SHAFT HOSE CL.B25MM104 112	25
3219 112 121	PIV.SHAFT HOSE CL.B25MM112 121	25

Pebra Hose Clamps

- Worm drive hose clamps according to DIN 3017, heavy duty version
- Strap, saddle and housing made of stainless steel 1.4310
- Worm made of tempered steel, galvanized
- Strap width 14.3 mm
- Hex head screw, 8 mm with slot

Part No. 3221 11 20 to 3221 20 32

- Aero series without quick-clamp fastener

Part No. 3221 25 40 to 3221 160 180

- Aero series with quick-clamp fastener

Article No.	Article Description	QTY
3221 11 20	PEBRA HOSE CL.AERO SW8 12-22	f 100
3221 16 25	PEBRA HOSE CL.AERO SW8 16-27	50
3221 20 32	PEBRA HOSE CL.AERO SW8 20-32	60
3221 25 40	PEBRA HOSE CL.AERO SW8 25-40	50
3221 32 50	PEBRA HOSE CL.AERO SW8 35-50	50
3221 40 60	PEBRA HOSE CL.AERO SW8 40-60	50
3221 50 70	PEBRA HOSE CL.AERO SW8 50-70	60
3221 60 80	PEBRA HOSE CL.AERO SW8 60-80	50
3221 70 90	PEBRA HOSE CL.AERO SW8 70-90	40

(Head size / clamping range in mm)



Article No.	Article Description	QTY
3221 80 100	PEBRA HOSE CL.AERO SW8 80-100	30
3221 90 110	PEBRA HOSE CL.AERO SW8 90-110	30
3221 100 120	PEBRA HOSE CL.AERO SW8 100-120	25
3221 110 130	PEBRA HOSE CL.AERO SW8 110-130	25
3221 120 140	PEBRA HOSE CL.AERO SW8 120-140	25
3221 130 150	PEBRA HOSE CL.AERO SW8 130-150	25
3221 140 160	PEBRA HOSE CL.AERO SW8 140-160	25
3221 150 170	PEBRA HOSE CL.AERO SW8 150-170	25
3221 160 180	PEBRA HOSE CL.AERO SW8 160-180	25

Endless Clamping Strap - Stainless Steel 8 mm

- Any clamp size from 16 mm available

Materials:

- Endless strap and housing made of rust-free steel
- Screw made of galvanized steel

Article No.	Article Description	QTY
3240 8	RO(5M)END.STR.STAINL.STEEL 8MM	1
3241 8	C(25)TURNBUCKLE FOR.ENDL.STRAP	1



Endless Clamping Strap - Stainless Steel 9 mm

- Perfect alternative for conventional hose clamps
- The 30 m long stainless steel strap is flexible and can be used for various hose diameters
- The turnbuckles with its worm drive thread guarantees sealed and resistant hose-nozzle-connection
- Space and time saving solution

Art. No. 8626 1:

- Stainless steel AISI 430/W3

Sizes:

- Length: 30 m
- Width: 9 mm
- Thickness: 0.6 mm

Art. No. 8626 2:

- Low carbon steel, nickel-faced
- Lock: stainless steel AISI 430/W3
- Screw: 7 mm cross recessed, galvanised steel

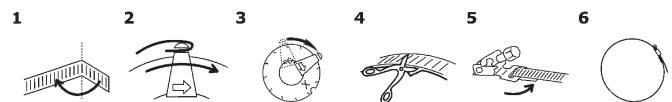
Art. No. 8626 3:

- Stainless steel AISI 304/W4
- Screw: 7 mm cross recessed, stainless steel AISI 304/W4



Article No.	Article Description	QTY
8626 1	RO(30M)ENDLESS STRAP A2 9MM	1
8626 2	TURNBUCKLE GA FOR ENDL.STRAP	25
8626 3	TURNBUCKLE A2 FOR ENDL.STRAP	25

Assembly instructions:



Endless Clamping Strap

- Suitable for fixing and repair works under difficult conditions e.g. mountings, sealing of pipes, fixation of signs and reservoirs as well as for tying in hoses
- Re-usable
- Galvanised

Article No.	Article Description	QTY
3240 5	RO(50M)HOSE STRAP 5MM	1
3240 9	RO(50M)HOSE STRAP 9MM	1



Locks for Endless Clamping Straps

- Galvanised

Article No.	Article Description	QTY
3241 5	HOSE STRAP LOCKS 5MM	50
3241 9	HOSE STRAP LOCKS 9MM	50

Cobra Hose Clamps

- Hose clamp without screw, produced from one piece
- Chrome-nickel Stainless steel
- Low overall height permits installation in tight spaces
- Delivery state: Open
- Installation: Simply slide over hose and press together with installation pliers, Part No. 3226 1
- Integrated bead prevents clamping strap from sliding
- Cobra hose clamps can be opened with a screwdriver without damaging the clamp

Specifications

Size	Clamping range mm	Colour
7.5	8.0 - 9.0	white
8	8.5 - 9.5	yellow
8.5	9.0 - 10.0	green
9	9.5 - 10.5	violet
9,5	10.0 - 11.0	black
10	10.5 - 11.5	white
11	11.5 - 12.5	green
12	12.5 - 14.0	black
13	13.5 - 15.0	yellow
14	14.5 - 16.0	violet
16	16.5 - 18.0	green
17	17.5 - 19.0	black

Article No.	Article Description	QTY
3226 75	HOSE CLAMP COBRA B7MM D 7,5MM	gf 100
3226 8	HOSE CLAMP COBRA B7MM D 8MM	gf 100
3226 85	HOSE CLAMP COBRA B7MM D 8,5MM	gf 100
3226 9	HOSE CLAMP COBRA B7MM D 9MM	gf 100
3226 95	HOSE CLAMP COBRA B7MM D 9,5MM	gf 100
3226 10	HOSE CLAMP COBRA B7MM D 10MM	gf 100
3226 11	HOSE CLAMP COBRA B7MM D 11MM	gf 100
3226 12	HOSE CLAMP COBRA B8MM D 12MM	gf 100
3226 13	HOSE CLAMP COBRA B8MM D 13MM	gf 100
3226 14	HOSE CLAMP COBRA B8MM D 14MM	gf 100
3226 16	HOSE CLAMP COBRA B8MM D 16MM	gf 100
3226 17	HOSE CLAMP COBRA B8MM D 17MM	gf 100

(B=strap width)

Cobra Hose Clamp Pliers

- For the reliably closing Cobra hose clamps
- For the reliably closing and opening Clic hose clamps

Article No.	Article Description	QTY
3226 1	COBRA HOSE CLAMP PLIERS	1

Cobra-Hose Clamps

- Contents: 195 pieces
- Size 7,5 - 16 mm chucking range
- 1x Cobra-hose clamp pliers

Article No.	Article Description	QTY
9000 3226	ASS.COBRA HOSE CLAMPS	1
9000R 3226	TRAY HOSE CLAMPS CLIC	1

Content:

Article No.	Article Description	Quantity
3226 1	COBRA HOSE CLAMP PLIERS	1
3226 75	HOSE CLAMP COBRA B7MM D 7,5MM	20
3226 85	HOSE CLAMP COBRA B7MM D 8,5MM	20
3226 9	HOSE CLAMP COBRA B7MM D 9MM	20
3226 95	HOSE CLAMP COBRA B7MM D 9,5MM	20
3226 10	HOSE CLAMP COBRA B7MM D 10MM	20
3226 11	HOSE CLAMP COBRA B7MM D 11MM	20
3226 12	HOSE CLAMP COBRA B8MM D 12MM	20
3226 13	HOSE CLAMP COBRA B8MM D 13MM	20
3226 14	HOSE CLAMP COBRA B8MM D 14MM	20
3226 16	HOSE CLAMP COBRA B8MM D 16MM	15



Close with pliers



Open with screwdriver



Power Clamps



Technical Data

Short sign	Material Band and housing	Material Screw	Band-width
W2	stainless steel	zinc-coated	7.5 / 9 mm

Article No.	Dimension	QTY
3250 8 12	POW.CLAMP 7,5MM/W2 (430) 8-12	100
3250 8 16	POW.CLAMP 7,5MM/W2 (430) 8-16	100
3250 10 16	POW.CLAMP 9MM/W2 (430) 10-16	100
3250 12 20	POW.CLAMP 9MM/W2 (430) 12-20	100
3250 16 25	POW.CLAMP 9MM/W2 (430) 16-25	100
3250 20 32	POW.CLAMP 9MM/W2 (430) 20-32	100
3250 23 35	POW.CLAMP 9MM/W2 (430) 23-35	100
3250 25 40	POW.CLAMP 9MM/W2 (430) 25-40	100

Article No.	Dimension	QTY
3250 32 50	POW.CLAMP 9MM/W2 (430) 32-50	50
3250 40 60	POW.CLAMP 9MM/W2 (430) 40-60	50
3250 50 70	POW.CLAMP 9MM/W2 (430) 50-70	25
3250 60 80	POW.CLAMP 9MM/W2 (430) 60-80	25
3250 70 90	POW.CLAMP 9MM/W2 (430) 70-90	25
3250 80 100	POW.CLAMP 9MM/W2 (430) 80-100	25
3250 90 110	POW.CLAMP 9MM/W2 (430) 90-110	25

Stainless steel endless tape 8 mm

- Create clamps of any size from 16 mm, when and where you need them

Materials:

- Endless tape made of stainless steel

Article No.	Article Description	QTY
3240 8	RO(5M)END.STR.STAINL.STEEL 8MM	1



Tension lock for endless tape 8 mm

- Housing made of stainless steel
- Galvanised steel screw

Article No.	Article Description	QTY
3241 8	C(25)TURNBUCKLE FOR.ENDL.STRAP	1



Endless Clamp. Strap - Stainless St. 9mm **ROMOS**

- Perfect alternative for standard hose clamps
- The 30 m long stainless steel strap is flexible and can be used for various hose diameters
- The turnbuckles with its worm drive thread guarantees sealed and resistant hose-nozzle-connection
- Space and time saving solution

Art.-No. 8626 1:

- Stainless steel AISI 430/W3
- Dimension:
 - Length: 30 m
 - Width: 9 mm
 - Thickness: 0.6 mm

Art.-No. 8626 2:

- Low carbon steel, nickel-faced
- Lock: stainless steel AISI 430/W3
- Screw: 7 mm cross recessed, galvanised steel

Art.-No. 8626 3:

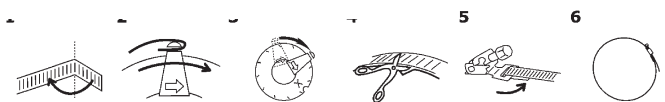
- Stainless steel AISI 304/W4
- Screw: 7 mm cross recessed, stainless steel AISI 304/W4



8626 1
8626 2
8626 3

Article No.	Article Description	QTY
8626 1	RO(30M)ENDLESS STRAP A2 9MM	1 z
8626 2	TURNBUCKLE GA FOR ENDL.STRAP	25
8626 3	TURNBUCKLE A2 FOR ENDL.STRAP	25

Assembly instructions:



Endless Clamping Strap

- Suitable for fixing and repair works under difficult conditions e.g. mountings, sealing of pipes, fixation of signs and reservoirs as well as for tying in hoses
- Re-usable
- Zinc-plated

Article No.	Article Description	QTY
3240 5	RO(50M)HOSE STRAP 5MM	1
3241 5	HOSE STRAP LOCKS 5MM	50
3240 9	RO(50M)HOSE STRAP 9MM	1
3241 9	HOSE STRAP LOCKS 9MM	50



Oetiker Hose Clamps

- Stainless steel, rust-free
- 1-ear version with ring
- For efficient, sealed hose fittings
- Ring ensures protective and absolutely safe application



Article No.	Article Description	QTY
3222 41	ÖTIKER ZERO CLAMP 2,9- 3,7 TYP	g 50
3222 51	ÖTIKER ZERO CLAMP 3,7- 4,7 W4	g 50
3222 66	ÖTIKER ZERO CLAMP 5,2- 6,2 W4	g 50
3222 75	ÖTIKER ZERO CLAMP 5,9- 7,0 W4	g 50
3222 87	ÖTIKER ZERO CLAMP 7,0- 8,2 W4	g 50
3222 95	ÖTIKER ZERO CLAMP 7,5- 9,0 W4	g 50
3222 100	ÖTIKER ZERO CLAMP 8,0- 9,5 W4	g 50
3222 105	ÖTIKER ZERO CLAMP 8,5-10,0 W4	g 50
3222 113	ÖTIKER ZERO CLAMP 9,1-10,8 W4	g 50
3222 118	ÖTIKER ZERO CLAMP 9,6-11,3 W4	g 50
3222 123	ÖTIKER ZERO CLAMP 9,8-11,8 W4	g 50
3222 133	ÖTIKER ZERO CLAMP 10,6-12,6 W4	g 50
3222 138	ÖTIKER ZERO CLAMP 11,1-13,1 W4	g 50
3222 145	ÖTIKER ZERO CLAMP 11,8-13,8 W4	g 50
3222 155	ÖTIKER ZERO CLAMP 12,8-14,8 W4	g 50
3222 160	ÖTIKER ZERO CLAMP 13,1-15,3 W4	g 50
3222 168	ÖTIKER ZERO CLAMP 13,9-16,1 W4	g 50
3222 175	ÖTIKER ZERO CLAMP 14,6-16,8 W4	g 50
3222 185	ÖTIKER ZERO CLAMP 15,6-17,8 W4	g 50
3222 195	ÖTIKER ZERO CLAMP 16,5-18,8 W4	g 50
3222 200	ÖTIKER ZERO CLAMP 17,1-19,3 W4	g 50
3222 207	ÖTIKER ZERO CLAMP 17,1-20,0 W4	g 50
3222 218	ÖTIKER ZERO CLAMP 18,8-21,1 W4	g 50
3222 225	ÖTIKER ZERO CLAMP 19,2-21,8 W4	g 50
3222 235	ÖTIKER ZERO CLAMP 20,2-22,8 W4	g 50
3222 245	ÖTIKER ZERO CLAMP 21,0-23,8 W4	g 50
3222 255	ÖTIKER ZERO CLAMP 22,0-24,8 W4	g 50
3222 270	ÖTIKER ZERO CLAMP 23,3-26,3 W4	g 50
3222 307	ÖTIKER ZERO CLAMP 26,5-30,0 W4	g 50

(Clamping range/ type)

Oetiker Hose Clamps in Assortment

- Contents: 190 hose clamps of type 95 - 185
- 1x Art. No. 4681 200 mechanic's nippers, length 200 mm



Article No.	Article Description	QTY
9000 3222	ASS.OETIKER-HOSE CLAMPS	1
9000R 3222	TRAY OETIKER-HOSE CLAMPS	1

Oetiker Hose Clamp Pliers

- For 1-ear and 2-ear clamps
- With front and side cutting edge for use in limited spaces



Article No.	Article Description	QTY
3222 1	HOSE CLAMP PLIERS OETIKER	1 s

Hose Clamps 1-Ear, Stepless

- Stainless steel, rust-free according to DIN 1.4301 or UNS S30400
- 360° stepless design, no steps at inner circumference or overlappings
- Narrow band, concentrated clamping force transmission
- Band width: 7 mm
- Band thickness: 0.6 mm



Article No.	Article Description	QTY
3225 128	EAR-CLAMP STEPLESS 10.3-12.8	g 50
3225 148	EAR-CLAMP STEPLESS 12.3-14.8	g 50
3225 168	EAR-CLAMP STEPLESS 14.3-16.8	g 50
3225 198	EAR-CLAMP STEPLESS 16.6-19.8	g 50
3225 256	EAR-CLAMP STEPLESS 22.4-25.6	g 50

Oetiker Hose Clamps, 2-Ear

- Galvanised steel
- For fluid and air ducts



Article No.	Article Description	QTY
3224 5 7	2-EAR CLAMP 5.0-7.0MM GA	g 50
3224 7 9	2-EAR CLAMP 7.0-9.0MM GA	g 50
3224 9 11	2-EAR CLAMP 8.8-11.0MM GA	g 50
3224 11 13	2-EAR CLAMP 10.8-13.0MM GA	g 50
3224 13 15	2-EAR CLAMP 12.5-15.0MM GA	g 50
3224 15 18	2-EAR CLAMP 15.0-18.0MM GA	g 50
3224 19 23	2-EAR CLAMP 19.0-23.0MM GA	g 50
3224 23 27	2-EAR CLAMP 22.5-27.0MM GA	g 50
3224 27 31	2-EAR CLAMP 27.0-31.0MM GA	g 50
3224 29 34	2-EAR CLAMP 29.3-34.0MM GA	g 50
3224 32 37	2-EAR CLAMP 32.0-37.0 GA	g 50
3224 35 40	2-EAR CLAMP 35.0-40.0MM GA	g 50

RSGU Clamps

- Complies with DIN 3016 for pipes, cables, hoses etc.
- Steel strap clamps with reinforced strap edges, galvanised with rubber profile
- To reduce vibration, covers the clamping point, prevents ingress of water e.g. salt water in automotive winter operation



RSGU Clamps, B 12 mm

Article No.	Article Description	QTY
3232 5	RSGU RUB/STEEL CLAMP B 12 5MM	g 50
3232 6	RSGU RUB/STEEL CLAMP B 12 6MM	g 50
3232 8	RSGU RUB/STEEL CLAMP B 12 8MM	g 50
3232 10	RSGU RUB/STEEL CLAMP B 12 10MM	g 50 H
3232 12	RSGU RUB/STEEL CLAMP B 12 12MM	g 50
3232 14	RSGU RUB/STEEL CLAMP B 12 14MM	g 50
3232 15	RSGU RUB/STEEL CLAMP B 12 15MM	g 50
3232 18	RSGU RUB/STEEL CLAMP B 12 18MM	g 50
3232 20	RSGU RUB/STEEL CLAMP B 12 20MM	g 50
3232 22	RSGU RUB/STEEL CLAMP B 12 22MM	g 50

B = Strap width: Steel strip measured without rubber covering
Mounting hole dia.: M 5

RSGU Clamps, B 20 mm

Article No.	Article Description	QTY
3234 10	RSGU RUB/STEEL CLAMP B 20 10MM	g 50
3234 12	RSGU RUB/STEEL CLAMP B 20 12MM	g 50
3234 15	RSGU RUB/STEEL CLAMP B 20 15MM	g 50
3234 18	RSGU RUB/STEEL CLAMP B 20 18MM	g 50
3234 20	RSGU RUB/STEEL CLAMP B 20 20MM	g 50
3234 22	RSGU RUB/STEEL CLAMP B 20 22MM	g 50
3234 25	RSGU RUB/STEEL CLAMP B 20 25MM	g 50
3234 30	RSGU RUB/STEEL CLAMP B 20 30MM	g 50
3234 34	RSGU RUB/STEEL CLAMP B 20 34MM	g 50
3234 38	RSGU RUB/STEEL CLAMP B 20 38MM	g 50

B = Strap width: Steel strip measured without rubber covering
Mounting hole dia.: M 8

RSGU Clamps, B 15 mm

Article No.	Article Description	QTY
3233 6	RSGU RUB/STEEL CLAMP B 15 6MM	g 50
3233 8	RSGU RUB/STEEL CLAMP B 15 8MM	g 50
3233 10	RSGU RUB/STEEL CLAMP B 15 10MM	g 50
3233 12	RSGU RUB/STEEL CLAMP B 15 12MM	g 50
3233 14	RSGU RUB/STEEL CLAMP B 15 14MM	g 50
3233 15	RSGU RUB/STEEL CLAMP B 15 15MM	g 50
3233 16	RSGU RUB/STEEL CLAMP B 15 16MM	25
3233 18	RSGU RUB/STEEL CLAMP B 15 18MM	g 50
3233 20	RSGU RUB/STEEL CLAMP B 15 20MM	g 50
3233 22	RSGU RUB/STEEL CLAMP B 15 22MM	g 50
3233 25	RSGU RUB/STEEL CLAMP B 15 25MM	g 50
3233 46	RSGU RUB/STEEL CLAMP B 15 46MM	25

B = Strap width: Steel strip measured without rubber covering
Mounting hole dia.: M 6

RSGU Clamps, B 25 mm

Article No.	Article Description	QTY
3235 18	RSGU RUB/STEEL CLAMP B 25 18MM	g 50
3235 20	RSGU RUB/STEEL CLAMP B 25 20MM	g 50
3235 30	RSGU RUB/STEEL CLAMP B 25 30MM	g 50
3235 48	RSGU RUB/STEEL CLAMP B 25 48MM	g 50
3235 50	RSGU RUB/STEEL CLAMP B 25 50MM	g 50

B = Strap width: Steel strip measured without rubber covering
Mounting hole dia.: M 10

RSGU Clamps in Assortment

- Contents: 60 pieces
- Width: from 12 mm Ø 5 mm to 15 mm Ø 25 mm

Article No.	Article Description	QTY
9000 3232	ASSORTMENT RSGU CLAMPS	1
9000R 3232	TRAY RSGU CLAMPS	1



Hose Clamps

- Complies with DIN 3016
- Steel strap clamps with reinforced strap edges, galvanised
- For fixing of gas lines



Article No.	Article Description	QTY
3237 006	HOSE CLAMP B12 6MM	f 100
3237 008	HOSE CLAMP B12 8MM	f 100
3237 010	HOSE CLAMP B12 10MM	f 100

Hex Head Bolts DIN 931, Stainless Steel A2

- In compliance with ISO 4014



Article No.	Dimension	QTY
1005 5 30	M 5 x 30	500
1005 5 35	M 5 x 35	200
1005 5 40	M 5 x 40	200
1005 5 45	M 5 x 45	200
1005 5 50	M 5 x 50	200
1005 5 55	M 5 x 55	200
1005 5 60	M 5 x 60	200
1005 5 70	M 5 x 70	200
1005 6 30	M 6 x 30	200
1005 6 35	M 6 x 35	200
1005 6 40	M 6 x 40	200
1005 6 45	M 6 x 45	200
1005 6 50	M 6 x 50	200
1005 6 55	M 6 x 55	200
1005 6 60	M 6 x 60	200
1005 6 65	M 6 x 65	200
1005 6 70	M 6 x 70	200
1005 6 75	M 6 x 75	200
1005 6 80	M 6 x 80	200
1005 6 90	M 6 x 90	100
1005 6 100	M 6 x 100	100
1005 6 110	M 6 x 110	100
1005 6 120	M 6 x 120	100
1005 6 130	M 6 x 130	100
1005 6 140	M 6 x 140	100
1005 6 150	M 6 x 150	100
1005 6 160	M 6 x 160	100
1005 6 170	M 6 x 170	100
1005 6 180	M 6 x 180	100
1005 8 35	M 8 x 35	200
1005 8 40	M 8 x 40	200
1005 8 45	M 8 x 45	200
1005 8 50	M 8 x 50	200
1005 8 55	M 8 x 55	200
1005 8 60	M 8 x 60	200
1005 8 65	M 8 x 65	200
1005 8 70	M 8 x 70	100
1005 8 75	M 8 x 75	100
1005 8 80	M 8 x 80	100
1005 8 90	M 8 x 90	100
1005 8 100	M 8 x 100	100
1005 8 110	M 8 x 110	100
1005 8 120	M 8 x 120	100
1005 8 130	M 8 x 130	50
1005 8 140	M 8 x 140	50
1005 8 150	M 8 x 150	50
1005 8 160	M 8 x 160	50
1005 8 170	M 8 x 170	50
1005 8 180	M 8 x 180	50
1005 8 190	M 8 x 190	25
1005 8 200	M 8 x 200	50
1005 8 210	M 8 x 210	25
1005 8 220	M 8 x 220	25
1005 10 40	M 10 x 40	100
1005 10 45	M 10 x 45	100
1005 10 50	M 10 x 50	100
1005 10 55	M 10 x 55	100
1005 10 60	M 10 x 60	100
1005 10 65	M 10 x 65	100
1005 10 70	M 10 x 70	100
1005 10 75	M 10 x 75	100
1005 10 80	M 10 x 80	100
1005 10 90	M 10 x 90	50
1005 10 100	M 10 x 100	50
1005 10 110	M 10 x 110	50
1005 10 120	M 10 x 120	50
1005 10 130	M 10 x 130	50
1005 10 140	M 10 x 140	50
1005 10 150	M 10 x 150	50

(d thread dia. x length mm)

Article No.	Dimension	QTY
1005 10 160	M 10 x 160	50
1005 10 170	M 10 x 170	50
1005 10 180	M 10 x 180	50
1005 10 190	M 10 x 190	25
1005 10 200	M 10 x 200	25
1005 10 210	M 10 x 210	25
1005 10 220	M 10 x 220	25
1005 12 45	M 12 x 45	100
1005 12 50	M 12 x 50	100
1005 12 55	M 12 x 55	50
1005 12 60	M 12 x 60	100
1005 12 65	M 12 x 65	50
1005 12 70	M 12 x 70	50
1005 12 75	M 12 x 75	50
1005 12 80	M 12 x 80	50
1005 12 90	M 12 x 90	50
1005 12 100	M 12 x 100	50
1005 12 110	M 12 x 110	50
1005 12 120	M 12 x 120	25
1005 12 130	M 12 x 130	25
1005 12 140	M 12 x 140	25
1005 12 150	M 12 x 150	25
1005 12 160	M 12 x 160	25
1005 12 170	M 12 x 170	25
1005 12 180	M 12 x 180	25
1005 12 190	M 12 x 190	25
1005 12 200	M 12 x 200	25
1005 12 210	M 12 x 210	25
1005 12 220	M 12 x 220	25
1005 12 230	M 12 x 230	25
1005 12 240	M 12 x 240	25
1005 12 250	M 12 x 250	25
1005 14 55	M 14 x 55	50
1005 14 60	M 14 x 60	50
1005 14 65	M 14 x 65	50
1005 14 70	M 14 x 70	50
1005 14 80	M 14 x 80	50
1005 14 90	M 14 x 90	50
1005 14 100	M 14 x 100	50
1005 14 110	M 14 x 110	50
1005 14 120	M 14 x 120	50
1005 14 130	M 14 x 130	50
1005 14 140	M 14 x 140	25
1005 14 150	M 14 x 150	25
1005 16 55	M 16 x 55	50
1005 16 60	M 16 x 60	50
1005 16 65	M 16 x 65	25
1005 16 70	M 16 x 70	25
1005 16 75	M 16 x 75	25
1005 16 80	M 16 x 80	25
1005 16 90	M 16 x 90	25
1005 16 100	M 16 x 100	25
1005 16 110	M 16 x 110	25
1005 16 120	M 16 x 120	25
1005 16 130	M 16 x 130	25
1005 16 140	M 16 x 140	25
1005 16 150	M 16 x 150	25
1005 16 160	M 16 x 160	25
1005 16 170	M 16 x 170	25
1005 16 180	M 16 x 180	25
1005 16 190	M 16 x 190	25
1005 16 200	M 16 x 200	25
1005 16 210	M 16 x 210	25
1005 16 220	M 16 x 220	25
1005 16 230	M 16 x 230	25
1005 16 240	M 16 x 240	25
1005 16 250	M 16 x 250	10
1005 16 260	M 16 x 260	25
1005 16 270	M 16 x 270	10

Specifications

Thread	Head size	k	b	b	b
Dia.			L < 125	L 125 - 200	L > 200
mm	mm	mm	mm	mm	mm
M 5	8	3.5	16	22	-
M 6	10	4	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 22	30	14	50	56	69
M 24	36	15	54	60	73
M 27	36	17	54	60	73
M 30	46	18.7	66	72	85
M 33	50	21	72	78	91
M 36	55	22.5	78	84	97

Article No.	Dimension	QTY
1005 16 280	M 16 x 280	25
1005 16 290	M 16 x 290	10
1005 16 300	M 16 x 300	10
1005 18 65	M 18 x 65	25
1005 18 70	M 18 x 70	25
1005 18 75	M 18 x 75	25
1005 18 80	M 18 x 80	25
1005 18 90	M 18 x 90	25
1005 18 100	M 18 x 100	25
1005 18 110	M 18 x 110	25
1005 18 120	M 18 x 120	25
1005 18 130	M 18 x 130	25
1005 18 140	M 18 x 140	25
1005 18 150	M 18 x 150	25
1005 20 65	M 20 x 65	25
1005 20 70	M 20 x 70	25
1005 20 75	M 20 x 75	25
1005 20 80	M 20 x 80	25
1005 20 90	M 20 x 90	25
1005 20 100	M 20 x 100	25
1005 20 110	M 20 x 110	25
1005 20 120	M 20 x 120	25
1005 20 130	M 20 x 130	25
1005 20 140	M 20 x 140	10
1005 20 150	M 20 x 150	10
1005 20 160	M 20 x 160	10
1005 20 170	M 20 x 170	10
1005 20 180	M 20 x 180	10
1005 20 190	M 20 x 190	10
1005 20 200	M 20 x 200	10
1005 20 210	M 20 x 210	10
1005 20 220	M 20 x 220	10
1005 20 230	M 20 x 230	10
1005 20 240	M 20 x 240	10
1005 20 250	M 20 x 250	10
1005 20 260	M 20 x 260	10
1005 20 270	M 20 x 270	10
1005 20 280	M 20 x 280	10
1005 20 290	M 20 x 290	10
1005 20 300	M 20 x 300	10
1005 22 80	M 22 x 80	25
1005 22 90	M 22 x 90	25
1005 22 100	M 22 x 100	25

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Hex Head Bolts DIN 931, Stainless Steel A2

- In compliance with ISO 4014

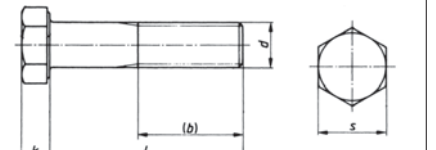


Article No.	Dimension	QTY
1005 22 110	M 22 x 110	20
1005 22 120	M 22 x 120	20
1005 22 130	M 22 x 130	20
1005 22 140	M 22 x 140	20
1005 22 150	M 22 x 150	20
1005 22 160	M 22 x 160	10
1005 24 75	M 24 x 75	10
1005 24 80	M 24 x 80	10
1005 24 90	M 24 x 90	10
1005 24 100	M 24 x 100	10
1005 24 110	M 24 x 110	10
1005 24 120	M 24 x 120	10
1005 24 130	M 24 x 130	10
1005 24 140	M 24 x 140	10
1005 24 150	M 24 x 150	10
1005 24 160	M 24 x 160	10
1005 24 170	M 24 x 170	10
1005 24 180	M 24 x 180	10
1005 24 190	M 24 x 190	10
1005 24 200	M 24 x 200	10
1005 24 210	M 24 x 210	10
1005 24 220	M 24 x 220	10
1005 24 230	M 24 x 230	10
1005 24 240	M 24 x 240	10
1005 24 250	M 24 x 250	10
1005 27 80	M 27 x 80	10
1005 27 90	M 27 x 90	10
1005 27 100	M 27 x 100	10
1005 27 110	M 27 x 110	10
1005 27 120	M 27 x 120	10
1005 27 130	M 27 x 130	10
1005 27 140	M 27 x 140	10
1005 27 150	M 27 x 150	10
1005 27 160	M 27 x 160	5
1005 27 170	M 27 x 170	5
1005 27 180	M 27 x 180	5
1005 27 190	M 27 x 190	5
1005 27 200	M 27 x 200	5
1005 27 210	M 27 x 210	5
1005 27 220	M 27 x 220	5
1005 27 230	M 27 x 230	5
1005 27 240	M 27 x 240	5
1005 27 250	M 27 x 250	5
1005 30 80	M 30 x 80	10
1005 30 90	M 30 x 90	10
1005 30 100	M 30 x 100	10
1005 30 110	M 30 x 110	10

(d Thread. Dia. x length mm)

Article No.	Dimension	QTY
1005 30 120	M 30 x 120	10
1005 30 130	M 30 x 130	10
1005 30 140	M 30 x 140	10
1005 30 150	M 30 x 150	10
1005 30 160	M 30 x 160	10
1005 30 170	M 30 x 170	5
1005 30 180	M 30 x 180	5
1005 30 190	M 30 x 190	5
1005 30 200	M 30 x 200	5
1005 30 210	M 30 x 210	5
1005 30 220	M 30 x 220	5
1005 30 230	M 30 x 230	5
1005 30 240	M 30 x 240	5
1005 30 250	M 30 x 250	5
1005 33 90	M 33 x 90	10
1005 33 100	M 33 x 100	10
1005 33 110	M 33 x 110	10
1005 33 120	M 33 x 120	10
1005 33 130	M 33 x 130	10
1005 33 140	M 33 x 140	10
1005 33 150	M 33 x 150	10
1005 33 160	M 33 x 160	5
1005 33 170	M 33 x 170	5
1005 33 180	M 33 x 180	5
1005 33 190	M 33 x 190	5
1005 33 200	M 33 x 200	5
1005 33 210	M 33 x 210	5
1005 33 220	M 33 x 220	5
1005 33 230	M 33 x 230	5
1005 33 240	M 33 x 240	5
1005 33 250	M 33 x 250	5
1005 36 100	M 36 x 100	5
1005 36 110	M 36 x 110	5
1005 36 120	M 36 x 120	5
1005 36 130	M 36 x 130	5
1005 36 140	M 36 x 140	5
1005 36 150	M 36 x 150	5
1005 36 160	M 36 x 160	5
1005 36 170	M 36 x 170	5
1005 36 180	M 36 x 180	5
1005 36 190	M 36 x 190	5
1005 36 200	M 36 x 200	5
1005 36 210	M 36 x 210	5
1005 36 220	M 36 x 220	5
1005 36 230	M 36 x 230	5
1005 36 240	M 36 x 240	5
1005 36 250	M 36 x 250	5

Specifications



Thread	Head	k	b	b	b
Dia.	size		L < 125	L 125 - 200	L > 200
mm	mm	mm	mm	mm	mm
M 5	8	3.5	16	22	-
M 6	10	4	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 22	30	14	50	56	69
M 24	36	15	54	60	73
M 27	36	17	54	60	73
M 30	46	18.7	66	72	85
M 33	50	21	72	78	91
M 36	55	22.5	78	84	97

Hex Head Bolts DIN 931, Stainless Steel A2

• In compliance with ISO 4014

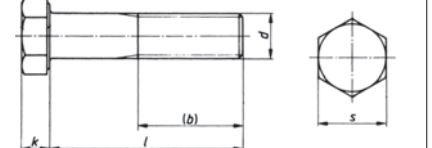


Article No.	Dimension	QTY
1006 5 30	M 5 x 30	500
1006 5 35	M 5 x 35	200
1006 5 40	M 5 x 40	200
1006 5 45	M 5 x 45	200
1006 5 50	M 5 x 50	200
1006 5 55	M 5 x 55	200
1006 5 60	M 5 x 60	200
1006 5 70	M 5 x 70	200
1006 6 30	M 6 x 30	200
1006 6 35	M 6 x 35	200
1006 6 40	M 6 x 40	200
1006 6 45	M 6 x 45	100
1006 6 50	M 6 x 50	100
1006 6 55	M 6 x 55	100
1006 6 60	M 6 x 60	100
1006 6 65	M 6 x 65	100
1006 6 70	M 6 x 70	100
1006 6 75	M 6 x 75	100
1006 6 80	M 6 x 80	100
1006 6 90	M 6 x 90	100
1006 6 100	M 6 x 100	100
1006 6 110	M 6 x 110	100
1006 6 120	M 6 x 120	100
1006 6 130	M 6 x 130	100
1006 6 140	M 6 x 140	100
1006 6 150	M 6 x 150	100
1006 6 160	M 6 x 160	100
1006 6 170	M 6 x 170	100
1006 6 180	M 6 x 180	100
1006 8 35	M 8 x 35	100
1006 8 40	M 8 x 40	100
1006 8 45	M 8 x 45	100
1006 8 50	M 8 x 50	100
1006 8 55	M 8 x 55	100
1006 8 60	M 8 x 60	100
1006 8 65	M 8 x 65	50
1006 8 70	M 8 x 70	50
1006 8 75	M 8 x 75	50
1006 8 80	M 8 x 80	50
1006 8 90	M 8 x 90	50
1006 8 100	M 8 x 100	50
1006 8 110	M 8 x 110	50
1006 8 120	M 8 x 120	50
1006 8 130	M 8 x 130	50
1006 8 140	M 8 x 140	50
1006 8 150	M 8 x 150	50
1006 8 160	M 8 x 160	25
1006 8 170	M 8 x 170	25
1006 8 180	M 8 x 180	25
1006 8 190	M 8 x 190	25
1006 8 200	M 8 x 200	25
1006 8 210	M 8 x 210	25
1006 8 220	M 8 x 220	25
1006 10 40	M 10 x 40	100
1006 10 45	M 10 x 45	100
1006 10 50	M 10 x 50	50
1006 10 55	M 10 x 55	50
1006 10 60	M 10 x 60	50
1006 10 65	M 10 x 65	50
1006 10 70	M 10 x 70	50
1006 10 75	M 10 x 75	50
1006 10 80	M 10 x 80	50
1006 10 90	M 10 x 90	50
1006 10 100	M 10 x 100	50
1006 10 110	M 10 x 110	50
1006 10 120	M 10 x 120	50
1006 10 130	M 10 x 130	50
1006 10 140	M 10 x 140	50
1006 10 150	M 10 x 150	50

(d thread dia. x length mm)

Article No.	Dimension	QTY
1006 10 160	M 10 x 160	25
1006 10 170	M 10 x 170	25
1006 10 180	M 10 x 180	25
1006 10 190	M 10 x 190	25
1006 10 200	M 10 x 200	25
1006 10 210	M 10 x 210	10
1006 10 220	M 10 x 220	10
1006 12 45	M 12 x 45	50
1006 12 50	M 12 x 50	50
1006 12 55	M 12 x 55	50
1006 12 60	M 12 x 60	50
1006 12 65	M 12 x 65	50
1006 12 70	M 12 x 70	50
1006 12 75	M 12 x 75	25
1006 12 80	M 12 x 80	25
1006 12 90	M 12 x 90	25
1006 12 100	M 12 x 100	25
1006 12 110	M 12 x 110	25
1006 12 120	M 12 x 120	25
1006 12 130	M 12 x 130	25
1006 12 140	M 12 x 140	25
1006 12 150	M 12 x 150	25
1006 12 160	M 12 x 160	10
1006 12 170	M 12 x 170	10
1006 12 180	M 12 x 180	10
1006 12 190	M 12 x 190	10
1006 12 200	M 12 x 200	10
1006 12 210	M 12 x 210	10
1006 12 220	M 12 x 220	10
1006 12 230	M 12 x 230	10
1006 12 240	M 12 x 240	10
1006 12 250	M 12 x 250	10
1006 14 55	M 14 x 55	50
1006 14 60	M 14 x 60	50
1006 14 65	M 14 x 65	50
1006 14 70	M 14 x 70	50
1006 14 80	M 14 x 80	50
1006 14 90	M 14 x 90	50
1006 14 100	M 14 x 100	50
1006 14 110	M 14 x 110	25
1006 14 120	M 14 x 120	25
1006 14 130	M 14 x 130	25
1006 14 140	M 14 x 140	25
1006 14 150	M 14 x 150	25
1006 16 55	M 16 x 55	25
1006 16 60	M 16 x 60	25
1006 16 65	M 16 x 65	25
1006 16 70	M 16 x 70	25
1006 16 75	M 16 x 75	25
1006 16 80	M 16 x 80	25
1006 16 90	M 16 x 90	25
1006 16 100	M 16 x 100	25
1006 16 110	M 16 x 110	25
1006 16 120	M 16 x 120	25
1006 16 130	M 16 x 130	25
1006 16 140	M 16 x 140	25
1006 16 150	M 16 x 150	25
1006 16 160	M 16 x 160	10
1006 16 170	M 16 x 170	10
1006 16 180	M 16 x 180	10
1006 16 190	M 16 x 190	10
1006 16 200	M 16 x 200	10
1006 16 210	M 16 x 210	10
1006 16 220	M 16 x 220	10
1006 16 230	M 16 x 230	10
1006 16 240	M 16 x 240	10
1006 16 250	M 16 x 250	10
1006 16 260	M 16 x 260	10
1006 16 270	M 16 x 270	10

Specifications



Thread	Head size	k	b	b	b
Dia.	mm	mm	L 125	L 125 - 200	L 200
M 5	8	3.5	16	22	-
M 6	10	4.0	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 22	30	14.0	50	56	69
M 24	36	15.0	54	60	73
M 27	36	17.0	54	60	73
M 30	46	18.7	66	72	85
M 33	50	21.0	72	78	91
M 36	55	22.5	78	84	97

Article No.	Dimension	QTY
1006 16 280	M 16 x 280	10
1006 16 290	M 16 x 290	10
1006 16 300	M 16 x 300	10
1006 18 65	M 18 x 65	25
1006 18 70	M 18 x 70	25
1006 18 75	M 18 x 75	25
1006 18 80	M 18 x 80	25
1006 18 90	M 18 x 90	25
1006 18 100	M 18 x 100	25
1006 18 110	M 18 x 110	25
1006 18 120	M 18 x 120	25
1006 18 130	M 18 x 130	25
1006 18 140	M 18 x 140	25
1006 18 150	M 18 x 150	25
1006 20 65	M 20 x 65	25
1006 20 70	M 20 x 70	25
1006 20 75	M 20 x 75	25
1006 20 80	M 20 x 80	25
1006 20 90	M 20 x 90	25
1006 20 100	M 20 x 100	25
1006 20 110	M 20 x 110	25
1006 20 120	M 20 x 120	25
1006 20 130	M 20 x 130	25
1006 20 140	M 20 x 140	25
1006 20 150	M 20 x 150	10
1006 20 160	M 20 x 160	25
1006 20 170	M 20 x 170	25
1006 20 180	M 20 x 180	25
1006 20 190	M 20 x 190	25
1006 20 200	M 20 x 200	25
1006 20 210	M 20 x 210	25
1006 20 220	M 20 x 220	25
1006 20 230	M 20 x 230	25
1006 20 240	M 20 x 240	25
1006 20 250	M 20 x 250	25
1006 20 260	M 20 x 260	25
1006 20 270	M 20 x 270	25
1006 20 280	M 20 x 280	25
1006 20 290	M 20 x 290	25
1006 20 300	M 20 x 300	25
1006 22 80	M 22 x 80	25
1006 22 90	M 22 x 90	25
1006 22 100	M 22 x 100	25

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Hex Head Bolts DIN 931, Stainless Steel A2

- In compliance with ISO 4014

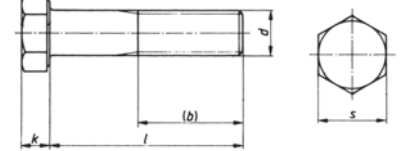


Article No.	Dimension	QTY
1006 22 110	M 22 x 110	20
1006 22 120	M 22 x 120	20
1006 22 130	M 22 x 130	20
1006 22 140	M 22 x 140	20
1006 22 150	M 22 x 150	20
1006 22 160	M 22 x 160	10
1006 24 75	M 24 x 75	10
1006 24 80	M 24 x 80	10
1006 24 90	M 24 x 90	10
1006 24 100	M 24 x 100	10
1006 24 110	M 24 x 110	10
1006 24 120	M 24 x 120	10
1006 24 130	M 24 x 130	10
1006 24 140	M 24 x 140	10
1006 24 150	M 24 x 150	10
1006 24 160	M 24 x 160	10
1006 24 170	M 24 x 170	10
1006 24 180	M 24 x 180	10
1006 24 190	M 24 x 190	10
1006 24 200	M 24 x 200	10
1006 24 210	M 24 x 210	5
1006 24 220	M 24 x 220	5
1006 24 230	M 24 x 230	5
1006 24 240	M 24 x 240	5
1006 24 250	M 24 x 250	5
1006 27 80	M 27 x 80	10
1006 27 90	M 27 x 90	10
1006 27 100	M 27 x 100	10
1006 27 110	M 27 x 110	10
1006 27 120	M 27 x 120	10
1006 27 130	M 27 x 130	10
1006 27 140	M 27 x 140	10
1006 27 150	M 27 x 150	10
1006 27 160	M 27 x 160	5
1006 27 170	M 27 x 170	5
1006 27 180	M 27 x 180	5
1006 27 190	M 27 x 190	5
1006 27 200	M 27 x 200	5
1006 27 210	M 27 x 210	5
1006 27 220	M 27 x 220	5
1006 27 230	M 27 x 230	5
1006 27 240	M 27 x 240	5
1006 27 250	M 27 x 250	5
1006 30 80	M 30 x 80	10
1006 30 90	M 30 x 90	10
1006 30 100	M 30 x 100	10
1006 30 110	M 30 x 110	10

Article No.	Dimension	QTY
1006 30 120	M 30 x 120	10
1006 30 130	M 30 x 130	10
1006 30 140	M 30 x 140	10
1006 30 150	M 30 x 150	10
1006 30 160	M 30 x 160	5
1006 30 170	M 30 x 170	5
1006 30 180	M 30 x 180	5
1006 30 190	M 30 x 190	5
1006 30 200	M 30 x 200	5
1006 30 210	M 30 x 210	5
1006 30 220	M 30 x 220	5
1006 30 230	M 30 x 230	5
1006 30 240	M 30 x 240	5
1006 30 250	M 30 x 250	5
1006 33 90	M 33 x 90	10
1006 33 100	M 33 x 100	10
1006 33 110	M 33 x 110	10
1006 33 120	M 33 x 120	10
1006 33 130	M 33 x 130	5
1006 33 140	M 33 x 140	5
1006 33 150	M 33 x 150	5
1006 33 160	M 33 x 160	5
1006 33 170	M 33 x 170	5
1006 33 180	M 33 x 180	5
1006 33 190	M 33 x 190	5
1006 33 200	M 33 x 200	5
1006 33 210	M 33 x 210	5
1006 33 220	M 33 x 220	5
1006 33 230	M 33 x 230	5
1006 33 240	M 33 x 240	5
1006 33 250	M 33 x 250	5
1006 36 100	M 36 x 100	10
1006 36 110	M 36 x 110	10
1006 36 120	M 36 x 120	10
1006 36 130	M 36 x 130	5
1006 36 140	M 36 x 140	5
1006 36 150	M 36 x 150	5
1006 36 160	M 36 x 160	5
1006 36 170	M 36 x 170	5
1006 36 180	M 36 x 180	5
1006 36 190	M 36 x 190	5
1006 36 200	M 36 x 200	5
1006 36 210	M 36 x 210	5
1006 36 220	M 36 x 220	5
1006 36 230	M 36 x 230	5
1006 36 240	M 36 x 240	5
1006 36 250	M 36 x 250	5

(d Thread. Dia. x length mm)

Specifications



Thread Dia.	Head size	k	b	b	b
mm	mm	mm	L 125	L 125 - 200	L 200
M 5	8	3.5	16	22	-
M 6	10	4.0	18	24	-
M 8	13	5.3	22	28	41
M 10	17	6.4	26	32	45
M 12	18	7.5	30	36	49
M 14	22	8.8	34	40	53
M 16	24	10	38	44	57
M 18	27	11.5	42	48	61
M 20	30	12.5	46	52	65
M 22	30	14.0	50	56	69
M 24	36	15.0	54	60	73
M 27	36	17.0	54	60	73
M 30	46	18.7	66	72	85
M 33	50	21.0	72	78	91
M 36	55	22.5	78	84	97

Hex Head Bolts DIN 933, Stainless Steel A2

• In compliance with ISO 4017

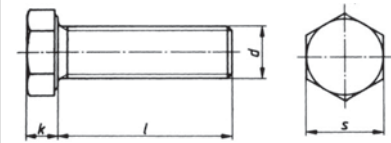


Article No.	Dimension	QTY
1015 2 4	M 2 x 4	1000
1015 2 5	M 2 x 5	1000
1015 2 6	M 2 x 6	1000
1015 2 8	M 2 x 8	1000
1015 2 10	M 2 x 10	1000
1015 2 12	M 2 x 12	1000
1015 2 16	M 2 x 16	1000
1015 2 20	M 2 x 20	1000
1015 25 4	M 2,5 x 4	1000
1015 25 6	M 2,5 x 6	1000
1015 25 8	M 2,5 x 8	1000
1015 25 10	M 2,5 x 10	1000
1015 25 12	M 2,5 x 12	1000
1015 25 20	M 2,5 x 20	1000
1015 3 6	M 3 x 6	1000
1015 3 8	M 3 x 8	1000
1015 3 10	M 3 x 10	1000
1015 3 12	M 3 x 12	1000
1015 3 14	M 3 x 14	1000
1015 3 16	M 3 x 16	1000
1015 3 20	M 3 x 20	1000
1015 3 25	M 3 x 25	1000
1015 3 30	M 3 x 30	1000
1015 3 40	M 3 x 40	500
1015 3 50	M 3 x 50	200
1015 4 6	M 4 x 6	1000
1015 4 8	M 4 x 8	1000
1015 4 10	M 4 x 10	1000
1015 4 12	M 4 x 12	1000
1015 4 14	M 4 x 14	1000
1015 4 16	M 4 x 16	200
1015 4 18	M 4 x 18	1000
1015 4 20	M 4 x 20	W 500
1015 4 22	M 4 x 22	500
1015 4 25	M 4 x 25	W 500
1015 4 30	M 4 x 30	W 500
1015 4 35	M 4 x 35	500
1015 4 40	M 4 x 40	HW 500
1015 4 50	M 4 x 50	HW 500
1015 4 60	M 4 x 60	H 500
1015 5 6	M 5 x 6	W 500
1015 5 8	M 5 x 8	W 500
1015 5 10	M 5 x 10	HW 500
1015 5 12	M 5 x 12	W 500
1015 5 14	M 5 x 14	500
1015 5 16	M 5 x 16	HW 500
1015 5 18	M 5 x 18	W 500
1015 5 20	M 5 x 20	HW 500
1015 5 22	M 5 x 22	200
1015 5 25	M 5 x 25	HW 500
1015 5 30	M 5 x 30	HW 500
1015 5 35	M 5 x 35	HW 500
1015 5 40	M 5 x 40	HW 500
1015 5 45	M 5 x 45	HW 500
1015 5 50	M 5 x 50	HW 500
1015 5 55	M 5 x 55	200
1015 5 60	M 5 x 60	200
1015 5 70	M 5 x 70	100
1015 6 8	M 6 x 8	HW 500
1015 6 10	M 6 x 10	HW 500
1015 6 12	M 6 x 12	HW 500
1015 6 14	M 6 x 14	500
1015 6 16	M 6 x 16	HW 500
1015 6 18	M 6 x 18	HW 500
1015 6 20	M 6 x 20	HW 500
1015 6 22	M 6 x 22	HW 500
1015 6 25	M 6 x 25	HW 500
1015 6 30	M 6 x 30	H 200
1015 6 35	M 6 x 35	H 200

(d thread dia. x length mm)

Article No.	Dimension	QTY
1015 6 40	M 6 x 40	H 200
1015 6 45	M 6 x 45	H 200
1015 6 50	M 6 x 50	H 200
1015 6 55	M 6 x 55	100
1015 6 60	M 6 x 60	H 200
1015 6 65	M 6 x 65	100
1015 6 70	M 6 x 70	H 200
1015 6 75	M 6 x 75	100
1015 6 80	M 6 x 80	H 200
1015 6 90	M 6 x 90	100
1015 6 100	M 6 x 100	100
1015 6 110	M 6 x 110	50
1015 6 120	M 6 x 120	50
1015 8 10	M 8 x 10	HW 500
1015 8 12	M 8 x 12	HW 500
1015 8 14	M 8 x 14	W 500
1015 8 16	M 8 x 16	HW 500
1015 8 18	M 8 x 18	W 500
1015 8 20	M 8 x 20	HW 500
1015 8 22	M 8 x 22	W 500
1015 8 25	M 8 x 25	HW 500
1015 8 30	M 8 x 30	HW 500
1015 8 35	M 8 x 35	HW 500
1015 8 40	M 8 x 40	HW 500
1015 8 45	M 8 x 45	H 200
1015 8 50	M 8 x 50	H 200
1015 8 55	M 8 x 55	100
1015 8 60	M 8 x 60	H 200
1015 8 65	M 8 x 65	H 200
1015 8 70	M 8 x 70	H 200
1015 8 75	M 8 x 75	50
1015 8 80	M 8 x 80	50
1015 8 90	M 8 x 90	50
1015 8 100	M 8 x 100	50
1015 8 110	M 8 x 110	50
1015 8 120	M 8 x 120	50
1015 8 130	M 8 x 130	50
1015 8 140	M 8 x 140	50
1015 8 150	M 8 x 150	50
1015 8 160	M 8 x 160	25
1015 8 170	M 8 x 170	25
1015 8 180	M 8 x 180	25
1015 10 10	M 10 x 10	100
1015 10 12	M 10 x 12	100
1015 10 14	M 10 x 14	100
1015 10 16	M 10 x 16	H 200
1015 10 18	M 10 x 18	100
1015 10 20	M 10 x 20	H 200
1015 10 22	M 10 x 22	100
1015 10 25	M 10 x 25	H 200
1015 10 30	M 10 x 30	H 200
1015 10 35	M 10 x 35	H 200
1015 10 40	M 10 x 40	H 200
1015 10 45	M 10 x 45	100
1015 10 50	M 10 x 50	100
1015 10 55	M 10 x 55	100
1015 10 60	M 10 x 60	100
1015 10 65	M 10 x 65	100
1015 10 70	M 10 x 70	100
1015 10 75	M 10 x 75	100
1015 10 80	M 10 x 80	100
1015 10 90	M 10 x 90	100
	M 10 x 100	100
1015 10 110	M 10 x 110	50
1015 10 120	M 10 x 120	50
1015 10 130	M 10 x 130	50
1015 10 140	M 10 x 140	50
1015 10 150	M 10 x 150	50
1015 10 160	M 10 x 160	25

Specifications



Thread Dia. mm	Head size mm	k mm
M 2	4	1.4
M 2.5	5	1.7
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 30	46	18.7
M 33	50	21.0
M 36	55	22.5

Article No.	Dimension	QTY
1015 10 170	M 10 x 170	25
1015 10 180	M 10 x 180	25
1015 10 190	M 10 x 190	25
1015 10 200	M 10 x 200	25
1015 12 16	M 12 x 16	100
1015 12 20	M 12 x 20	100
1015 12 22	M 12 x 22	100
1015 12 25	M 12 x 25	100
1015 12 30	M 12 x 30	f 100
1015 12 35	M 12 x 35	f 100
1015 12 40	M 12 x 40	f 100
1015 12 45	M 12 x 45	f 100
1015 12 50	M 12 x 50	f 100
1015 12 55	M 12 x 55	100
1015 12 60	M 12 x 60	f 100
1015 12 65	M 12 x 65	50
1015 12 70	M 12 x 70	50
1015 12 75	M 12 x 75	25
1015 12 80	M 12 x 80	25
1015 12 90	M 12 x 90	25
1015 12 100	M 12 x 100	25
1015 12 110	M 12 x 110	25
1015 12 120	M 12 x 120	25
1015 12 130	M 12 x 130	25
1015 12 140	M 12 x 140	25
1015 12 150	M 12 x 150	25
1015 12 160	M 12 x 160	10
1015 12 170	M 12 x 170	10
1015 12 180	M 12 x 180	10
1015 12 190	M 12 x 190	10
1015 12 200	M 12 x 200	10
1015 14 20	M 14 x 20	50
1015 14 25	M 14 x 25	50
1015 14 30	M 14 x 30	50
1015 14 35	M 14 x 35	50
1015 14 40	M 14 x 40	50
1015 14 45	M 14 x 45	50
1015 14 50	M 14 x 50	50
1015 14 55	M 14 x 55	50
1015 14 60	M 14 x 60	50
1015 14 65	M 14 x 65	50

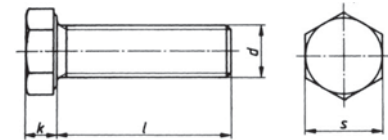
Continued on next page

Hex Head Bolts DIN 933, Stainless Steel A2

• In compliance with ISO 4017



Specifications



Thread Dia.	Head size	k
mm	mm	mm
M 2	4	1.4
M 2.5	5	1.7
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 30	46	18.7
M 33	50	21.0
M 36	55	22.5

Article No.	Dimension	QTY
1015 14 70	M 14 x 70	25
1015 14 75	M 14 x 75	50
1015 14 80	M 14 x 80	50
1015 14 90	M 14 x 90	50
1015 14 100	M 14 x 100	50
1015 14 110	M 14 x 110	25
1015 14 120	M 14 x 120	25
1015 14 130	M 14 x 130	25
1015 14 140	M 14 x 140	25
1015 14 150	M 14 x 150	25
1015 16 20	M 16 x 20	25
1015 16 25	M 16 x 25	25
1015 16 30	M 16 x 30	25
1015 16 35	M 16 x 35	25
1015 16 40	M 16 x 40	g 50
1015 16 45	M 16 x 45	25
1015 16 50	M 16 x 50	25
1015 16 55	M 16 x 55	25
1015 16 60	M 16 x 60	25
1015 16 65	M 16 x 65	25
1015 16 70	M 16 x 70	25
1015 16 75	M 16 x 75	25
1015 16 80	M 16 x 80	25
1015 16 90	M 16 x 90	25
1015 16 100	M 16 x 100	25
1015 16 110	M 16 x 110	25
1015 16 120	M 16 x 120	25
1015 16 130	M 16 x 130	25
1015 16 140	M 16 x 140	25
1015 16 150	M 16 x 150	25
1015 16 160	M 16 x 160	25
1015 16 170	M 16 x 170	25
1015 16 180	M 16 x 180	10
1015 16 190	M 16 x 190	10
1015 16 200	M 16 x 200	10
1015 18 30	M 18 x 30	25
1015 18 35	M 18 x 35	25
1015 18 40	M 18 x 40	25
1015 18 45	M 18 x 45	25
1015 18 50	M 18 x 50	25
1015 18 55	M 18 x 55	25
1015 18 60	M 18 x 60	25
1015 18 65	M 18 x 65	25
1015 18 70	M 18 x 70	25
1015 18 75	M 18 x 75	25
1015 18 80	M 18 x 80	25
1015 18 90	M 18 x 90	25
1015 18 100	M 18 x 100	25
1015 18 110	M 18 x 110	25
1015 18 120	M 18 x 120	25
1015 18 130	M 18 x 130	25
1015 18 140	M 18 x 140	25
1015 18 150	M 18 x 150	25
1015 20 30	M 20 x 30	25
1015 20 35	M 20 x 35	25
1015 20 40	M 20 x 40	25
1015 20 45	M 20 x 45	25
1015 20 50	M 20 x 50	25
1015 20 55	M 20 x 55	25
1015 20 60	M 20 x 60	25
1015 20 65	M 20 x 65	25
1015 20 70	M 20 x 70	25
1015 20 75	M 20 x 75	25
1015 20 80	M 20 x 80	25
1015 20 90	M 20 x 90	25
1015 20 100	M 20 x 100	25
1015 20 110	M 20 x 110	25
1015 20 120	M 20 x 120	25
1015 20 130	M 20 x 130	25

(d Thread. Dia. x length mm)

Article No.	Dimension	QTY
1015 20 140	M 20 x 140	25
1015 20 150	M 20 x 150	25
1015 20 160	M 20 x 160	25
1015 20 170	M 20 x 170	25
1015 20 180	M 20 x 180	20
1015 20 190	M 20 x 190	20
1015 20 200	M 20 x 200	20
1015 22 30	M 22 x 30	25
1015 22 35	M 22 x 35	25
1015 22 40	M 22 x 40	25
1015 22 45	M 22 x 45	25
1015 22 50	M 22 x 50	25
1015 22 55	M 22 x 55	25
1015 22 60	M 22 x 60	25
1015 22 65	M 22 x 65	25
1015 22 70	M 22 x 70	25
1015 22 75	M 22 x 75	25
1015 22 80	M 22 x 80	25
1015 22 90	M 22 x 90	25
1015 22 100	M 22 x 100	25
1015 22 110	M 22 x 110	20
1015 22 120	M 22 x 120	20
1015 22 130	M 22 x 130	20
1015 22 140	M 22 x 140	20
1015 22 150	M 22 x 150	10
1015 24 40	M 24 x 40	10
1015 24 45	M 24 x 45	10
1015 24 50	M 24 x 50	10
1015 24 55	M 24 x 55	10
1015 24 60	M 24 x 60	10
1015 24 65	M 24 x 65	10
1015 24 70	M 24 x 70	10
1015 24 75	M 24 x 75	10
1015 24 80	M 24 x 80	10
1015 24 90	M 24 x 90	10
1015 24 100	M 24 x 100	10
1015 24 110	M 24 x 110	10
1015 24 120	M 24 x 120	10
1015 24 130	M 24 x 130	10
1015 24 140	M 24 x 140	10
1015 24 150	M 24 x 150	10
1015 24 160	M 24 x 160	10
1015 24 170	M 24 x 170	10
1015 24 180	M 24 x 180	5
1015 24 190	M 24 x 190	5
1015 24 200	M 24 x 200	5
1015 27 50	M 27 x 50	10
1015 27 55	M 27 x 55	10
1015 27 60	M 27 x 60	10
1015 27 65	M 27 x 65	10
1015 27 70	M 27 x 70	10
1015 27 80	M 27 x 80	10
1015 27 90	M 27 x 90	10
1015 27 100	M 27 x 100	10
1015 27 110	M 27 x 110	10
1015 27 120	M 27 x 120	10
1015 30 60	M 30 x 60	10
1015 30 65	M 30 x 65	10
1015 30 70	M 30 x 70	10
1015 30 80	M 30 x 80	10
1015 30 90	M 30 x 90	10
1015 30 100	M 30 x 100	10
1015 30 110	M 30 x 110	10
1015 30 120	M 30 x 120	10
1015 33 70	M 33 x 70	10
1015 33 80	M 33 x 80	10
1015 33 90	M 33 x 90	10
1015 33 100	M 33 x 100	10
1015 33 110	M 33 x 110	10

Article No.	Dimension	QTY
1015 33 120	M 33 x 120	10
1015 36 80	M 36 x 80	5
1015 36 90	M 36 x 90	5
1015 36 100	M 36 x 100	5
1015 36 110	M 36 x 110	5
1015 36 120	M 36 x 120	5

Hex Head Bolts DIN 933, Stainless Steel A4

• In compliance with ISO 4017

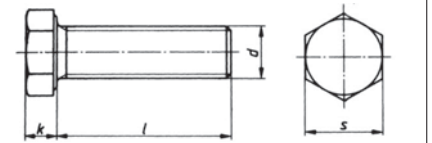


Article No.	Dimension	QTY
1016 2 4	M 2 x 4	1000
1016 2 5	M 2 x 5	1000
1016 2 6	M 2 x 6	1000
1016 2 8	M 2 x 8	1000
1016 2 10	M 2 x 10	1000
1016 2 12	M 2 x 12	1000
1016 2 16	M 2 x 16	1000
1016 2 20	M 2 x 20	1000
1016 25 4	M 2,5 x 4	1000
1016 25 5	M 2,5 x 5	1000
1016 25 6	M 2,5 x 6	1000
1016 25 8	M 2,5 x 8	1000
1016 25 10	M 2,5 x 10	1000
1016 25 12	M 2,5 x 12	1000
1016 25 16	M 2,5 x 16	1000
1016 25 20	M 2,5 x 20	1000
1016 3 5	M 3 x 5	1000
1016 3 6	M 3 x 6	1000
1016 3 8	M 3 x 8	1000
1016 3 10	M 3 x 10	1000
1016 3 12	M 3 x 12	1000
1016 3 14	M 3 x 14	1000
1016 3 16	M 3 x 16	1000
1016 3 20	M 3 x 20	1000
1016 3 25	M 3 x 25	1000
1016 3 30	M 3 x 30	1000
1016 3 40	M 3 x 40	500
1016 3 50	M 3 x 50	200
1016 4 6	M 4 x 6	1000
1016 4 8	M 4 x 8	1000
1016 4 10	M 4 x 10	500
1016 4 12	M 4 x 12	W 500
1016 4 14	M 4 x 14	500
1016 4 16	M 4 x 16	500
1016 4 18	M 4 x 18	500
1016 4 20	M 4 x 20	W 500
1016 4 22	M 4 x 22	500
1016 4 25	M 4 x 25	W 500
1016 4 30	M 4 x 30	W 500
1016 4 35	M 4 x 35	500
1016 4 40	M 4 x 40	HW 500
1016 4 50	M 4 x 50	HW 500
1016 4 60	M 4 x 60	500
1016 5 6	M 5 x 6	W 500
1016 5 8	M 5 x 8	W 500
1016 5 10	M 5 x 10	HW 500
1016 5 12	M 5 x 12	W 500
1016 5 14	M 5 x 14	500
1016 5 16	M 5 x 16	HW 500
1016 5 18	M 5 x 18	W 500
1016 5 20	M 5 x 20	HW 500
1016 5 22	M 5 x 22	200
1016 5 25	M 5 x 25	HW 500
1016 5 30	M 5 x 30	200
1016 5 35	M 5 x 35	HW 500
1016 5 40	M 5 x 40	200
1016 5 45	M 5 x 45	HW 500
1016 5 50	M 5 x 50	200
1016 5 55	M 5 x 55	200
1016 5 60	M 5 x 60	200
1016 5 70	M 5 x 70	100
1016 6 8	M 6 x 8	HW 500
1016 6 10	M 6 x 10	HW 500
1016 6 12	M 6 x 12	HW 500
1016 6 14	M 6 x 14	100
1016 6 16	M 6 x 16	HW 500
1016 6 18	M 6 x 18	HW 500
1016 6 20	M 6 x 20	HW 500
1016 6 22	M 6 x 22	HW 500

(d thread dia. x length)

Article No.	Dimension	QTY
1016 6 25	M 6 x 25	HW 500
1016 6 30	M 6 x 30	H 200
1016 6 35	M 6 x 35	H 200
1016 6 40	M 6 x 40	H 200
1016 6 45	M 6 x 45	H 200
1016 6 50	M 6 x 50	H 200
1016 6 55	M 6 x 55	100
1016 6 60	M 6 x 60	H 200
1016 6 65	M 6 x 65	100
1016 6 70	M 6 x 70	H 200
1016 6 75	M 6 x 75	100
1016 6 80	M 6 x 80	H 200
1016 6 90	M 6 x 90	100
1016 6 100	M 6 x 100	100
1016 6 110	M 6 x 110	50
1016 6 120	M 6 x 120	50
1016 8 10	M 8 x 10	HW 500
1016 8 12	M 8 x 12	HW 500
1016 8 14	M 8 x 14	W 500
1016 8 16	M 8 x 16	HW 500
1016 8 18	M 8 x 18	W 500
1016 8 20	M 8 x 20	HW 500
1016 8 22	M 8 x 22	W 500
1016 8 25	M 8 x 25	HW 500
1016 8 30	M 8 x 30	HW 500
1016 8 35	M 8 x 35	HW 500
1016 8 40	M 8 x 40	HW 500
1016 8 45	M 8 x 45	H 200
1016 8 50	M 8 x 50	H 200
1016 8 55	M 8 x 55	100
1016 8 60	M 8 x 60	H 200
1016 8 65	M 8 x 65	H 200
1016 8 70	M 8 x 70	H 200
1016 8 75	M 8 x 75	50
1016 8 80	M 8 x 80	50
1016 8 90	M 8 x 90	50
1016 8 100	M 8 x 100	50
1016 8 110	M 8 x 110	50
1016 8 120	M 8 x 120	50
1016 8 130	M 8 x 130	50
1016 8 140	M 8 x 140	50
1016 8 150	M 8 x 150	50
1016 8 160	M 8 x 160	25
1016 8 170	M 8 x 170	25
1016 8 180	M 8 x 180	25
1016 8 200	M 8 x 200	25
1016 10 12	M 10 x 12	100
1016 10 14	M 10 x 14	100
1016 10 16	M 10 x 16	H 200
1016 10 18	M 10 x 18	200
1016 10 20	M 10 x 20	H 200
1016 10 22	M 10 x 22	200
1016 10 25	M 10 x 25	H 200
1016 10 30	M 10 x 30	H 200
1016 10 35	M 10 x 35	H 200
1016 10 40	M 10 x 40	H 200
1016 10 45	M 10 x 45	100
1016 10 50	M 10 x 50	100
1016 10 55	M 10 x 55	100
1016 10 60	M 10 x 60	100
1016 10 65	M 10 x 65	100
1016 10 70	M 10 x 70	100
1016 10 75	M 10 x 75	100
1016 10 80	M 10 x 80	100
1016 10 90	M 10 x 90	100
1016 10 100	M 10 x 100	100
1016 10 110	M 10 x 110	50
1016 10 120	M 10 x 120	50
1016 10 130	M 10 x 130	50

Specifications



Thread Dia.	Head size	k
mm	mm	mm
M 2	4	1.4
M 2.5	5	1.7
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 30	46	18.7
M 33	50	21.0
M 36	55	22.5

Article No.	Dimension	QTY
1016 10 140	M 10 x 140	50
1016 10 150	M 10 x 150	50
1016 10 160	M 10 x 160	25
1016 10 170	M 10 x 170	25
1016 10 180	M 10 x 180	25
1016 10 200	M 10 x 200	25
1016 12 16	M 12 x 16	100
1016 12 20	M 12 x 20	100
1016 12 22	M 12 x 22	100
1016 12 25	M 12 x 25	100
1016 12 30	M 12 x 30	100
1016 12 35	M 12 x 35	100
1016 12 40	M 12 x 40	100
1016 12 45	M 12 x 45	100
1016 12 50	M 12 x 50	100
1016 12 55	M 12 x 55	100
1016 12 60	M 12 x 60	100
1016 12 65	M 12 x 65	50
1016 12 70	M 12 x 70	50
1016 12 75	M 12 x 75	25
1016 12 80	M 12 x 80	25
1016 12 90	M 12 x 90	25
1016 12 100	M 12 x 100	25
1016 12 110	M 12 x 110	25
1016 12 120	M 12 x 120	25
1016 12 130	M 12 x 130	25
1016 12 140	M 12 x 140	25
1016 12 150	M 12 x 150	25
1016 12 160	M 12 x 160	10
1016 12 170	M 12 x 170	10
1016 12 180	M 12 x 180	10
1016 12 190	M 12 x 190	10
1016 12 200	M 12 x 200	10
1016 14 20	M 14 x 20	50
1016 14 25	M 14 x 25	50
1016 14 30	M 14 x 30	50
1016 14 35	M 14 x 35	50
1016 14 40	M 14 x 40	50
1016 14 45	M 14 x 45	50

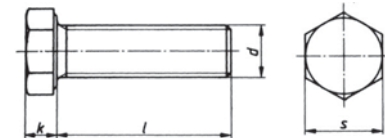
(Continued on next page)

Hex Head Bolts DIN 933, Stainless Steel A4

• In compliance with ISO 4017



Specifications



Thread Dia.	Head size	k
mm	mm	mm
M 2	4	1.4
M 2.5	5	1.7
M 3	5.5	2.0
M 4	7	2.8
M 5	8	3.5
M 6	10	4.0
M 8	13	5.3
M 10	17	6.4
M 12	18	7.5
M 14	22	8.8
M 16	24	10.0
M 18	27	11.5
M 20	30	12.5
M 22	32	14.0
M 24	36	15.0
M 30	46	18.7
M 33	50	21.0
M 36	55	22.5

Article No.	Dimension	QTY
1016 33 80	M 33 x 80	10
1016 33 90	M 33 x 90	10
1016 33 100	M 33 x 100	10
1016 33 110	M 33 x 110	10
1016 33 120	M 33 x 120	10
1016 36 80	M 36 x 80	5
1016 36 90	M 36 x 90	5
1016 36 100	M 36 x 100	5
1016 36 110	M 36 x 110	5
1016 36 120	M 36 x 120	5

Article No.	Dimension	QTY
1016 14 50	M 14 x 50	50
1016 14 55	M 14 x 55	50
1016 14 60	M 14 x 60	50
1016 14 65	M 14 x 65	50
1016 14 70	M 14 x 70	50
1016 14 75	M 14 x 75	50
1016 14 80	M 14 x 80	50
1016 14 90	M 14 x 90	50
1016 14 100	M 14 x 100	50
1016 14 110	M 14 x 110	25
1016 14 120	M 14 x 120	25
1016 14 130	M 14 x 130	25
1016 14 140	M 14 x 140	25
1016 14 150	M 14 x 150	25
1016 16 20	M 16 x 20	50
1016 16 25	M 16 x 25	50
1016 16 30	M 16 x 30	50
1016 16 35	M 16 x 35	50
1016 16 40	M 16 x 40	50
1016 16 45	M 16 x 45	50
1016 16 50	M 16 x 50	50
1016 16 55	M 16 x 55	50
1016 16 60	M 16 x 60	50
1016 16 65	M 16 x 65	25
1016 16 70	M 16 x 70	25
1016 16 75	M 16 x 75	25
1016 16 80	M 16 x 80	25
1016 16 90	M 16 x 90	25
1016 16 100	M 16 x 100	25
1016 16 110	M 16 x 110	25
1016 16 120	M 16 x 120	25
1016 16 130	M 16 x 130	25
1016 16 140	M 16 x 140	25
1016 16 150	M 16 x 150	25
1016 16 160	M 16 x 160	25
1016 16 170	M 16 x 170	25
1016 16 180	M 16 x 180	25
1016 16 190	M 16 x 190	25
1016 16 200	M 16 x 200	25
1016 18 30	M 18 x 30	50
1016 18 35	M 18 x 35	50
1016 18 40	M 18 x 40	50
1016 18 45	M 18 x 45	50
1016 18 50	M 18 x 50	50
1016 18 55	M 18 x 55	25
1016 18 60	M 18 x 60	25
1016 18 65	M 18 x 65	25
1016 18 70	M 18 x 70	25
1016 18 75	M 18 x 75	25
1016 18 80	M 18 x 80	25
1016 18 90	M 18 x 90	25
1016 18 100	M 18 x 100	25
1016 18 110	M 18 x 110	10
1016 18 120	M 18 x 120	10
1016 18 130	M 18 x 130	10
1016 18 140	M 18 x 140	10
1016 18 150	M 18 x 150	10
1016 20 30	M 20 x 30	25
1016 20 35	M 20 x 35	25
1016 20 40	M 20 x 40	25
1016 20 45	M 20 x 45	25
1016 20 50	M 20 x 50	25
1016 20 55	M 20 x 55	25
1016 20 60	M 20 x 60	25
1016 20 65	M 20 x 65	25
1016 20 70	M 20 x 70	25
1016 20 75	M 20 x 75	25
1016 20 80	M 20 x 80	25
1016 20 90	M 20 x 90	25

Article No.	Dimension	QTY
1016 20 100	M 20 x 100	25
1016 20 110	M 20 x 110	25
1016 20 120	M 20 x 120	25
1016 20 130	M 20 x 130	25
1016 20 140	M 20 x 140	25
1016 20 150	M 20 x 150	25
1016 20 160	M 20 x 160	25
1016 20 170	M 20 x 170	25
1016 20 180	M 20 x 180	20
1016 20 190	M 20 x 190	20
1016 20 200	M 20 x 200	20
1016 22 30	M 22 x 30	25
1016 22 35	M 22 x 35	25
1016 22 40	M 22 x 40	25
1016 22 45	M 22 x 45	25
1016 22 50	M 22 x 50	25
1016 22 55	M 22 x 55	25
1016 22 60	M 22 x 60	25
1016 22 65	M 22 x 65	25
1016 22 70	M 22 x 70	25
1016 22 75	M 22 x 75	25
1016 22 80	M 22 x 80	25
1016 22 90	M 22 x 90	25
1016 22 100	M 22 x 100	25
1016 22 110	M 22 x 110	20
1016 22 120	M 22 x 120	20
1016 22 130	M 22 x 130	20
1016 22 140	M 22 x 140	20
1016 22 150	M 22 x 150	10
1016 24 40	M 24 x 40	10
1016 24 45	M 24 x 45	10
1016 24 50	M 24 x 50	10
1016 24 55	M 24 x 55	10
1016 24 60	M 24 x 60	10
1016 24 65	M 24 x 65	10
1016 24 70	M 24 x 70	10
1016 24 75	M 24 x 75	10
1016 24 80	M 24 x 80	10
1016 24 90	M 24 x 90	10
1016 24 100	M 24 x 100	10
1016 24 110	M 24 x 110	10
1016 24 120	M 24 x 120	10
1016 24 130	M 24 x 130	10
1016 24 140	M 24 x 140	10
1016 24 150	M 24 x 150	10
1016 24 160	M 24 x 160	10
1016 24 170	M 24 x 170	10
1016 24 180	M 24 x 180	5
1016 24 190	M 24 x 190	5
1016 24 200	M 24 x 200	5
1016 27 50	M 27 x 50	10
1016 27 55	M 27 x 55	10
1016 27 60	M 27 x 60	10
1016 27 65	M 27 x 65	10
1016 27 70	M 27 x 70	10
1016 27 80	M 27 x 80	10
1016 27 90	M 27 x 90	10
1016 27 100	M 27 x 100	10
1016 27 110	M 27 x 110	10
1016 27 120	M 27 x 120	10
1016 30 60	M 30 x 60	10
1016 30 65	M 30 x 65	10
1016 30 70	M 30 x 70	10
1016 30 80	M 30 x 80	10
1016 30 90	M 30 x 90	10
1016 30 100	M 30 x 100	10
1016 30 110	M 30 x 110	10
1016 30 120	M 30 x 120	10
1016 33 70	M 33 x 70	10

(d thread dia. x length)

Hex Socket Cap Screws DIN 912, Stainless Steel A2

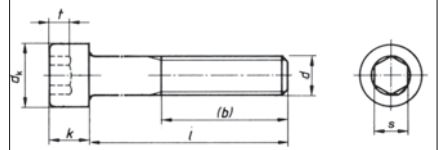
• In compliance with ISO 4762



Article No.	Dimension	QTY
1155 2 4	M 2 x 4	500
1155 2 5	M 2 x 5	500
1155 2 6	M 2 x 6	500
1155 2 8	M 2 x 8	500
1155 2 10	M 2 x 10	500
1155 2 12	M 2 x 12	500
1155 2 14	M 2 x 14	500
1155 2 16	M 2 x 16	500
1155 2 18	M 2 x 18	500
1155 2 20	M 2 x 20	500
1155 25 4	M 2,5 x 4	500
1155 25 5	M 2,5 x 5	500
1155 25 6	M 2,5 x 6	500
1155 25 8	M 2,5 x 8	500
1155 25 10	M 2,5 x 10	500
1155 25 12	M 2,5 x 12	500
1155 25 14	M 2,5 x 14	500
1155 25 16	M 2,5 x 16	500
1155 25 18	M 2,5 x 18	500
1155 25 20	M 2,5 x 20	500
1155 3 4	M 3 x 4	H 500
1155 3 5	M 3 x 5	H 500
1155 3 6	M 3 x 6	H 500
1155 3 8	M 3 x 8	H 500
1155 3 10	M 3 x 10	H 500
1155 3 12	M 3 x 12	H 500
1155 3 14	M 3 x 14	H 500
1155 3 16	M 3 x 16	H 500
1155 3 18	M 3 x 18	H 200
1155 3 20	M 3 x 20	H 200
1155 3 22	M 3 x 22	H 200
1155 3 25	M 3 x 25	H 200
1155 3 30	M 3 x 30	H 200
1155 3 35	M 3 x 35	H 200
1155 3 40	M 3 x 40	H 200
1155 3 45	M 3 x 45	H 200
1155 3 50	M 3 x 50	H 200
1155 3 60	M 3 x 60	200
1155 3 70	M 3 x 70	200
1155 4 5	M 4 x 5	H 500
1155 4 6	M 4 x 6	H 500
1155 4 8	M 4 x 8	H 500
1155 4 10	M 4 x 10	H 500
1155 4 12	M 4 x 12	H 500
1155 4 14	M 4 x 14	H 500
1155 4 16	M 4 x 16	H 500
1155 4 18	M 4 x 18	H 500
1155 4 20	M 4 x 20	H 500
1155 4 22	M 4 x 22	H 500
1155 4 25	M 4 x 25	H 500
1155 4 30	M 4 x 30	H 500
1155 4 35	M 4 x 35	H 200
1155 4 40	M 4 x 40	H 200
1155 4 45	M 4 x 45	H 200
1155 4 50	M 4 x 50	H 200
1155 4 60	M 4 x 60	H 200
1155 4 70	M 4 x 70	H 200
1155 5 6	M 5 x 6	H 500
1155 5 8	M 5 x 8	H 500
1155 5 10	M 5 x 10	H 500
1155 5 12	M 5 x 12	H 500
1155 5 14	M 5 x 14	H 500
1155 5 16	M 5 x 16	H 500
1155 5 18	M 5 x 18	H 500
1155 5 20	M 5 x 20	H 500
1155 5 22	M 5 x 22	H 500
1155 5 25	M 5 x 25	H 500
1155 5 30	M 5 x 30	H 500
1155 5 35	M 5 x 35	H 200

Article No.	Dimension	QTY
1155 5 40	M 5 x 40	H 200
1155 5 45	M 5 x 45	H 200
1155 5 50	M 5 x 50	H 200
1155 5 55	M 5 x 55	H 200
1155 5 60	M 5 x 60	H 200
1155 5 65	M 5 x 65	H 200
1155 5 70	M 5 x 70	H 200
1155 5 80	M 5 x 80	100
1155 5 90	M 5 x 90	100
1155 5 100	M 5 x 100	100
1155 6 8	M 6 x 8	H 500
1155 6 10	M 6 x 10	H 500
1155 6 12	M 6 x 12	H 500
1155 6 14	M 6 x 14	H 500
1155 6 16	M 6 x 16	H 500
1155 6 18	M 6 x 18	H 500
1155 6 20	M 6 x 20	H 500
1155 6 22	M 6 x 22	H 500
1155 6 25	M 6 x 25	H 500
1155 6 30	M 6 x 30	H 500
1155 6 35	M 6 x 35	H 200
1155 6 40	M 6 x 40	H 200
1155 6 45	M 6 x 45	H 200
1155 6 50	M 6 x 50	H 200
1155 6 55	M 6 x 55	H 200
1155 6 60	M 6 x 60	H 200
1155 6 65	M 6 x 65	H 200
1155 6 70	M 6 x 70	H 200
1155 6 75	M 6 x 75	H 200
1155 6 80	M 6 x 80	H 200
1155 6 90	M 6 x 90	H 200
1155 6 100	M 6 x 100	H 200
1155 6 110	M 6 x 110	100
1155 6 120	M 6 x 120	100
1155 6 130	M 6 x 130	100
1155 6 140	M 6 x 140	100
1155 6 150	M 6 x 150	100
1155 8 10	M 8 x 10	H 200
1155 8 12	M 8 x 12	H 200
1155 8 14	M 8 x 14	200
1155 8 16	M 8 x 16	H 200
1155 8 18	M 8 x 18	H 200
1155 8 20	M 8 x 20	H 200
1155 8 22	M 8 x 22	H 200
1155 8 25	M 8 x 25	H 200
1155 8 30	M 8 x 30	H 200
1155 8 35	M 8 x 35	H 200
1155 8 40	M 8 x 40	H 200
1155 8 45	M 8 x 45	100
1155 8 50	M 8 x 50	100
1155 8 55	M 8 x 55	100
1155 8 60	M 8 x 60	100
1155 8 65	M 8 x 65	100
1155 8 70	M 8 x 70	100
1155 8 75	M 8 x 75	100
1155 8 80	M 8 x 80	100
1155 8 90	M 8 x 90	100
1155 8 100	M 8 x 100	100
1155 8 110	M 8 x 110	100
1155 8 120	M 8 x 120	100
1155 8 130	M 8 x 130	100
1155 8 140	M 8 x 140	100
1155 8 150	M 8 x 150	100
1155 10 16	M 10 x 16	100
1155 10 18	M 10 x 18	100
1155 10 20	M 10 x 20	100
1155 10 25	M 10 x 25	100
1155 10 30	M 10 x 30	100
1155 10 35	M 10 x 35	100

Specifications



Thread	b	dk	k	s	t
Dia.	mm	max	max	mm	min
M 2	16	3.8	2	1.5	1.0
M 2.5	17	4.5	2.5	2	1.1
M 3	18	5.5	3	2.5	1.3
M 4	20	7.0	4	3	2.0
M 5	22	8.5	5	4	2.5
M 6	24	10.0	6	5	3.0
M 8	28	13.0	8	6	4.0
M 10	32	16.0	10	8	5.0
M 12	36	18.0	12	10	6.7
M 14	40	21.0	14	12	7.0
M 16	44	24.0	16	14	8.0
M 18	48	27.0	18	14	9.0
M 20	52	30.0	20	17	10.0
M 24	60	36.0	24	19	12.0
M 27	66	40.0	27	19	13.5
M 30	72	45.0	30	22	15.5

Article No.	Dimension	QTY
1155 10 40	M 10 x 40	100
1155 10 45	M 10 x 45	100
1155 10 50	M 10 x 50	100
1155 10 55	M 10 x 55	100
1155 10 60	M 10 x 60	100
1155 10 65	M 10 x 65	100
1155 10 70	M 10 x 70	g 100
1155 10 75	M 10 x 75	100
1155 10 80	M 10 x 80	100
1155 10 90	M 10 x 90	50
1155 10 100	M 10 x 100	50
1155 10 110	M 10 x 110	50
1155 10 120	M 10 x 120	50
1155 10 130	M 10 x 130	50
1155 10 140	M 10 x 140	50
1155 10 150	M 10 x 150	50
1155 12 16	M 12 x 16	100
1155 12 20	M 12 x 20	100
1155 12 25	M 12 x 25	100
1155 12 30	M 12 x 30	100
1155 12 35	M 12 x 35	100
1155 12 40	M 12 x 40	100
1155 12 45	M 12 x 45	100
1155 12 50	M 12 x 50	100
1155 12 55	M 12 x 55	100
1155 12 60	M 12 x 60	100
1155 12 65	M 12 x 65	50
1155 12 70	M 12 x 70	50
1155 12 75	M 12 x 75	50
1155 12 80	M 12 x 80	50
1155 12 90	M 12 x 90	50
1155 12 100	M 12 x 100	50
1155 12 110	M 12 x 110	50
1155 12 120	M 12 x 120	50
1155 12 130	M 12 x 130	50
1155 12 140	M 12 x 140	50
1155 12 150	M 12 x 150	50
1155 14 20	M 14 x 20	100
1155 14 25	M 14 x 25	100
1155 14 30	M 14 x 30	100
1155 14 35	M 14 x 35	100

(Continued on next page)

Hex Socket Cap Screws DIN 912, Stainless Steel A2

• In compliance with ISO 4762

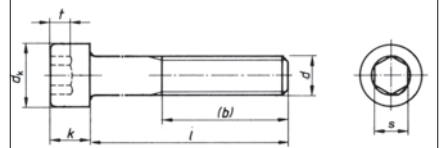


Article No.	Dimension	QTY
1155 14 40	M 14 x 40	100
1155 14 45	M 14 x 45	100
1155 14 50	M 14 x 50	100
1155 14 55	M 14 x 55	25
1155 14 60	M 14 x 60	50
1155 14 65	M 14 x 65	50
1155 14 70	M 14 x 70	50
1155 14 75	M 14 x 75	25
1155 14 80	M 14 x 80	50
1155 14 90	M 14 x 90	50
1155 14 100	M 14 x 100	50
1155 14 110	M 14 x 110	50
1155 14 120	M 14 x 120	10
1155 14 130	M 14 x 130	50
1155 14 140	M 14 x 140	50
1155 14 150	M 14 x 150	10
1155 16 20	M 16 x 20	50
1155 16 25	M 16 x 25	50
1155 16 30	M 16 x 30	50
1155 16 35	M 16 x 35	50
1155 16 40	M 16 x 40	50
1155 16 45	M 16 x 45	50
1155 16 50	M 16 x 50	50
1155 16 55	M 16 x 55	50
1155 16 60	M 16 x 60	50
1155 16 65	M 16 x 65	25
1155 16 70	M 16 x 70	25
1155 16 75	M 16 x 75	25
1155 16 80	M 16 x 80	25
1155 16 90	M 16 x 90	25
1155 16 100	M 16 x 100	25
1155 16 110	M 16 x 110	25
1155 16 120	M 16 x 120	25
1155 16 130	M 16 x 130	25
1155 16 140	M 16 x 140	25
1155 16 150	M 16 x 150	10
1155 18 40	M 18 x 40	25
1155 18 45	M 18 x 45	25
1155 18 50	M 18 x 50	25
1155 18 55	M 18 x 55	25
1155 18 60	M 18 x 60	25
1155 18 65	M 18 x 65	25
1155 18 70	M 18 x 70	25
1155 18 75	M 18 x 75	25
1155 18 80	M 18 x 80	25
1155 18 90	M 18 x 90	25
1155 18 100	M 18 x 100	25
1155 18 110	M 18 x 110	10
1155 18 120	M 18 x 120	10
1155 18 130	M 18 x 130	10
1155 18 140	M 18 x 140	10
1155 18 150	M 18 x 150	10
1155 20 30	M 20 x 30	25
1155 20 35	M 20 x 35	25

(d thread dia. x length mm)

Article No.	Dimension	QTY
1155 20 40	M 20 x 40	25
1155 20 45	M 20 x 45	25
1155 20 50	M 20 x 50	25
1155 20 55	M 20 x 55	25
1155 20 60	M 20 x 60	25
1155 20 65	M 20 x 65	25
1155 20 70	M 20 x 70	25
1155 20 75	M 20 x 75	25
1155 20 80	M 20 x 80	25
1155 20 90	M 20 x 90	25
1155 20 100	M 20 x 100	25
1155 20 110	M 20 x 110	25
1155 20 120	M 20 x 120	25
1155 20 130	M 20 x 130	10
1155 20 140	M 20 x 140	25
1155 20 150	M 20 x 150	10
1155 24 40	M 24 x 40	10
1155 24 45	M 24 x 45	10
1155 24 50	M 24 x 50	10
1155 24 55	M 24 x 55	10
1155 24 60	M 24 x 60	10
1155 24 65	M 24 x 65	10
1155 24 70	M 24 x 70	10
1155 24 75	M 24 x 75	10
1155 24 80	M 24 x 80	10
1155 24 90	M 24 x 90	10
1155 24 100	M 24 x 100	10
1155 24 110	M 24 x 110	5
1155 24 120	M 24 x 120	5
1155 24 130	M 24 x 130	5
1155 24 140	M 24 x 140	5
1155 24 150	M 24 x 150	5
1155 27 50	M 27 x 50	5
1155 27 60	M 27 x 60	5
1155 27 70	M 27 x 70	5
1155 27 80	M 27 x 80	5
1155 27 90	M 27 x 90	5
1155 27 100	M 27 x 100	5
1155 27 110	M 27 x 110	5
1155 27 120	M 27 x 120	5
1155 27 130	M 27 x 130	5
1155 27 140	M 27 x 140	5
1155 27 150	M 27 x 150	5
1155 30 50	M 30 x 50	5
1155 30 60	M 30 x 60	5
1155 30 70	M 30 x 70	5
1155 30 80	M 30 x 80	5
1155 30 90	M 30 x 90	5
1155 30 100	M 30 x 100	5
1155 30 110	M 30 x 110	5
1155 30 120	M 30 x 120	5
1155 30 130	M 30 x 130	5
1155 30 140	M 30 x 140	5
1155 30 150	M 30 x 150	5

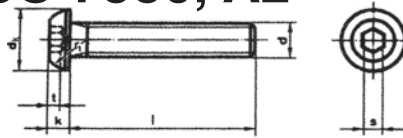
Specifications



Thread	b	dk	k	s	t
Dia.	mm	max	max	mm	min
M 2	16	3.8	2	1.5	1.0
M 2.5	17	4.5	2.5	2	1.1
M 3	18	5.5	3	2.5	1.3
M 4	20	7.0	4	3	2.0
M 5	22	8.5	5	4	2.5
M 6	24	10.0	6	5	3.0
M 8	28	13.0	8	6	4.0
M 10	32	16.0	10	8	5.0
M 12	36	18.0	12	10	6.7
M 14	40	21.0	14	12	7.0
M 16	44	24.0	16	14	8.0
M 18	48	27.0	18	14	9.0
M 20	52	30.0	20	17	10.0
M 24	60	36.0	24	19	12.0
M 27	66	40.0	27	19	13.5
M 30	72	45.0	30	22	15.5

Oval Head Bolts, ISO 7380, A2

- With hex socket
- **Stainless steel A2**



Article No.	Dimension	QTY
1175 4 6	4 x 6	500
1175 4 8	4 x 8	500
1175 5 6	5 x 6	500
1175 5 10	5 x 10	500
1175 5 12	5 x 12	500
1175 5 14	5 x 14	500
1175 5 16	5 x 16	500
1175 5 20	5 x 20	500
1175 5 25	5 x 25	500
1175 5 30	5 x 30	500
1175 5 35	5 x 35	500
1175 5 40	5 x 40	500
1175 6 8	6 x 8	500
1175 6 10	6 x 10	500
1175 6 12	6 x 12	500

(d thread dia. x length mm)

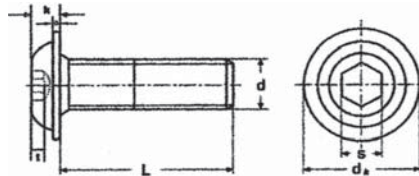
Article No.	Dimension	QTY
1175 6 14	6 x 14	500
1175 6 16	6 x 16	500
1175 6 20	6 x 20	500
1175 6 25	6 x 25	200
1175 6 30	6 x 30	200
1175 6 35	6 x 35	200
1175 6 40	6 x 40	200
1175 6 60	6 x 60	200
1175 8 10	8 x 10	200
1175 8 12	8 x 12	200
1175 8 16	8 x 16	200
1175 8 20	8 x 20	200
1175 8 25	8 x 25	200
1175 8 30	8 x 30	200

Specifications

Thread Dia.	rl	t	s	k	dk
mm	mm	mm	mm	mm	mm
M 4	4.1	1.7	2.5	2.20	7.6
M 5	5.2	2.2	3.0	2.75	9.5
M 6	5.6	2.4	4.4	3.30	10.5
M 8	7.5	3.2	5.0	4.40	14.0

Oval Head with Flange ISO 7380, A2

- With hex socket
- **Stainless steel A2**



Article No.	Dimension	QTY
1177 6 12	6 x 12	500
1177 6 16	6 x 16	200
1177 6 20	6 x 20	200
1177 6 25	6 x 25	200
1177 6 30	6 x 30	200
1177 8 10	8 x 10	200
1177 8 12	8 x 12	200
1177 8 16	8 x 16	200
1177 8 20	8 x 20	200
1177 8 25	8 x 25	100
1177 8 30	8 x 30	100

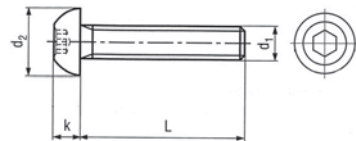
(d thread dia. x length mm)

Specifications

Thread Dia.	k	t	Q	s	dk
mm	mm	mm	mm	mm	mm
M 4	2.20	1.7	1.80	3.5	9.4
M 5	2.75	2.2	2.20	3.0	11.8
M 6	3.30	2.4	2.40	4.0	13.6
M 8	4.40	3.2	3.23	4.4	17.8

Safety Bolts ISO 7380, Hex Socket w. Pin, A2

- Hex socket with safety pin
- **Stainless steel A2**
- Metric thread, pan head
- Part No. Bit 4304 25, 4304 40, 4304 50, 4304 50



Article No.	Dimension	QTY
1178 1 4 10	M 4 x 10	100
1178 1 4 16	M 4 x 16	100
1178 1 4 25	M 4 x 25	100
1178 1 6 12	M 6 x 12	100
1178 1 6 16	M 6 x 16	100
1178 1 6 20	M 6 x 20	100
1178 1 6 25	M 6 x 25	100
1178 1 8 16	M 8 x 16	100

(d thread dia. x length mm)

Article No.	Dimension	QTY
1178 1 8 20	M 8 x 20	100
1178 1 8 25	M 8 x 25	100
1178 1 8 30	M 8 x 30	100
1178 1 8 40	M 8 x 40	100
1178 1 8 60	M 8 x 60	100
1178 1 10 16	M 10 x 16	100
1178 1 10 30	M 10 x 30	100

Specifications

Thread Dia.	Head Dia.	Head height	Drive
mm	mm	mm	
M 4	7.6	2.2	2.5
M 6	10.5	3.3	4.0
M 8	14.0	4.4	5.0
M 10	17.5	5.5	6.0

Bit 1/4" Hexagon Socket with Pin

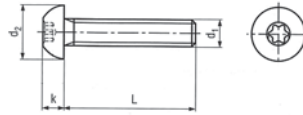
- For safety screws with hex socket und safety pin

Article No.	Article Description	QTY
4304 25	1/4"HEX.SOCK.WITH PIN 2,5MM	1
4304 40	1/4"HEX.SOCK.WITH PIN 4MM	1
4304 50	1/4"HEX.SOCK.WITH PIN 5MM	1
4304 60	1/4"HEX.SOCK.WITH PIN 6MM	1



Safety Screws ISO 7380 Torx Pin, A2

- Torx safety pin
- **Stainless steel A2**
- Metric thread, pan head
- Part No. Bit 4308 10, 4308 20, 4308 30, 4308 40, 4308 45



Article No.	Dimension	QTY
1178 3 6	M 3 x 6	100
1178 4 8	M 4 x 8	100
1178 4 10	M 4 x 10	100
1178 4 12	M 4 x 12	100
1178 4 16	M 4 x 16	100
1178 5 10	M 5 x 10	100
1178 5 16	M 5 x 16	100
1178 5 20	M 5 x 20	100
1178 6 12	M 6 x 12	100

(d thread dia. x length mm)

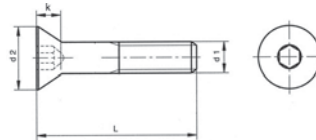
Article No.	Dimension	QTY
1178 6 16	M 6 x 16	100
1178 6 40	M 6 x 40	100
1178 6 50	M 6 x 50	100
1178 8 16	M 8 x 16	100
1178 8 20	M 8 x 20	100
1178 8 25	M 8 x 25	100
1178 8 30	M 8 x 30	100
1178 10 20	M 10 x 20	100
1178 10 25	M 10 x 25	100
1178 10 30	M 10 x 30	100

Specifications

Thread Dia. mm	Head Dia. mm	Head height mm	Drive
M 3	5.7	1.7	TX10
M 4	7.6	2.2	TX20
M 6	10.5	3.3	TX30
M 8	14.0	4.4	TX40
M 10	17.5	5.5	TX45

Safety Screws DIN 7991 Torx Pin, A2

- Torx safety pin
- **Stainless steel A2**
- Metric thread, countersunk head
- Part No. 4308 20, 4308 25



Article No.	Dimension	QTY
1179 2 4 10	M 4 x 10	100
1179 2 4 20	M 4 x 20	100
1179 2 4 25	M 4 x 25	100
1179 2 5 16	M 5 x 16	100
1179 2 6 16	M 6 x 16	100

(d thread dia. x length mm)

Specifications

Thread Dia. mm	Head Dia. mm	Head height mm	Drive
M 4	8	2.3	TX20
M 5	10	2.8	TX25

Standard 1/4" Bit for Torx with Head Drill Hole

- For safety screws with Torx safety pin

Article No.	Article Description	QTY
4308 10	1/4"TX HOLE BITS 25MM TX10	1 z
4308 15	1/4"TX HOLE BITS 25MM TX15	1 z
4308 20	1/4"TX HOLE BITS 25MM TX20	1 z
4308 25	1/4"TX HOLE BITS 25MM TX25	1 z
4308 27	1/4"TX HOLE BITS 25MM TX27	1 z
4308 30	1/4"TX HOLE BITS 25MM TX30	1 z
4308 40	1/4"TX HOLE BITS 25MM TX40	1 z
4308 45	1/4"TX HOLE BITS 25MM TX45	1



Safety Screws with Two Hole Drive, A2

- Two hole drive
- **Stainless steel A2**
- Metric thread, pan head
- Part No. Bit 4304 4 10, 4304 4 14



Article No.	Dimension	QTY
1179 5 20	M 5 x 20	100
1179 6 12	M 6 x 12	100
1179 6 20	M 6 x 20	100

(d thread dia. x length mm)

Specifications			
Thread Dia.	Head Dia.	Head height	Drive
mm	mm	mm	
M 5	9.5	3.0	SP-10
M 6	12.0	3.6	SP-1/4

Bit for Two Hole Head 1/4" , Hex Drive

- For safety screws with two-hole drive

Article No.	Article Description	QTY
4304 4 10	1/4"HEX.TWO-HOLE SP-10 1	
4304 4 14	1/4"HEX.TWO-HOLE SP-14 1	



Safety Screws One-way Drive, A2

- One-way drive
- **Stainless steel A2**
- Metric thread, round-head



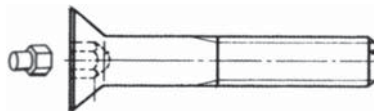
Article No.	Dimension	QTY
1179 1 6 12	M 6 x 12	100
1179 1 8 45	M 8 x 45	100

(d thread dia. x length mm)

Specifications		
Thread Dia.	Head Dia.	Head height
mm	mm	mm
M 6	12	4.4
M 8	13	4.8

Safety Screws ISO 7380 with Plugged Head, A2

- Plugged head
- **Stainless steel A2**
- Metric thread, countersunk



Article No.	Dimension	QTY
1178 2 6 16	M 6 x 16	100
1178 2 8 40	M 8 x 40	100
1178 2 8 60	M 8 x 60	100

(d thread dia. x length mm)

Specifications		
Thread Dia.	Head Dia.	Head height
mm	mm	mm
M 6	10.5	3.2
M 8	14	4.4

Hex Socket Countersunk Screws DIN 7991, A2



- Corresponds to ISO 10462
- Stainless steel A2

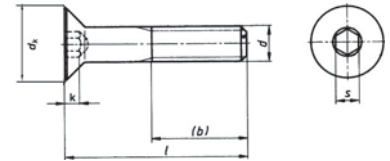


Article No.	Dimension	QTY
1165 3 6	M 3 x 6	1000
1165 3 8	M 3 x 8	100
1165 3 10	M 3 x 10	100
1165 3 12	M 3 x 12	100
1165 3 14	M 3 x 14	100
1165 3 16	M 3 x 16	100
1165 3 18	M 3 x 18	100
1165 3 20	M 3 x 20	500
1165 3 25	M 3 x 25	100
1165 3 30	M 3 x 30	100
1165 3 40	M 3 x 40	100
1165 4 6	M 4 x 6	100
1165 4 8	M 4 x 8	100
1165 4 10	M 4 x 10	100
1165 4 12	M 4 x 12	100
1165 4 14	M 4 x 14	100
1165 4 16	M 4 x 16	100
1165 4 18	M 4 x 18	100
1165 4 20	M 4 x 20	100
1165 4 25	M 4 x 25	100
1165 4 30	M 4 x 30	100
1165 4 35	M 4 x 35	100
1165 4 40	M 4 x 40	100
1165 4 50	M 4 x 50	100
1165 5 8	M 5 x 8	100
1165 5 10	M 5 x 10	100
1165 5 12	M 5 x 12	100
1165 5 14	M 5 x 14	H 200
1165 5 16	M 5 x 16	100
1165 5 18	M 5 x 18	100
1165 5 20	M 5 x 20	100
1165 5 25	M 5 x 25	100
1165 5 30	M 5 x 30	100
1165 5 35	M 5 x 35	100
1165 5 40	M 5 x 40	100
1165 5 45	M 5 x 45	100
1165 5 50	M 5 x 50	100
1165 5 60	M 5 x 60	100
1165 6 8	M 6 x 8	100
1165 6 10	M 6 x 10	100
1165 6 12	M 6 x 12	100
1165 6 14	M 6 x 14	100
1165 6 16	M 6 x 16	100
1165 6 18	M 6 x 18	100
1165 6 20	M 6 x 20	100
1165 6 25	M 6 x 25	100
1165 6 30	M 6 x 30	100
1165 6 35	M 6 x 35	100
1165 6 40	M 6 x 40	100
1165 6 45	M 6 x 45	100
1165 6 50	M 6 x 50	100
1165 6 55	M 6 x 55	100
1165 6 60	M 6 x 60	100
1165 6 70	M 6 x 70	100
1165 6 80	M 6 x 80	100
1165 8 12	M 8 x 12	100
1165 8 14	M 8 x 14	100
1165 8 16	M 8 x 16	100
1165 8 18	M 8 x 18	100
1165 8 20	M 8 x 20	100
1165 8 25	M 8 x 25	100
1165 8 30	M 8 x 30	100
1165 8 35	M 8 x 35	100
1165 8 40	M 8 x 40	100
1165 8 45	M 8 x 45	100
1165 8 50	M 8 x 50	100
1165 8 55	M 8 x 55	100
1165 8 60	M 8 x 60	100
1165 8 70	M 8 x 70	100

(d thread dia. x length)

Article No.	Dimension	QTY
1165 8 80	M 8 x 80	100
1165 8 90	M 8 x 90	100
1165 8 100	M 8 x 100	100
1165 10 16	M 10 x 16	100
1165 10 18	M 10 x 18	100
1165 10 20	M 10 x 20	100
1165 10 25	M 10 x 25	100
1165 10 30	M 10 x 30	100
1165 10 35	M 10 x 35	100
1165 10 40	M 10 x 40	100
1165 10 45	M 10 x 45	100
1165 10 50	M 10 x 50	100
1165 10 55	M 10 x 55	50
1165 10 60	M 10 x 60	50
1165 10 70	M 10 x 70	50
1165 10 80	M 10 x 80	50
1165 10 90	M 10 x 90	50
1165 10 100	M 10 x 100	50
1165 12 20	M 12 x 20	100
1165 12 25	M 12 x 25	100
1165 12 30	M 12 x 30	100
1165 12 35	M 12 x 35	100
1165 12 40	M 12 x 40	100
1165 12 45	M 12 x 45	100
1165 12 50	M 12 x 50	50
1165 12 55	M 12 x 55	50
1165 12 60	M 12 x 60	50
1165 12 70	M 12 x 70	50
1165 12 80	M 12 x 80	50
1165 12 90	M 12 x 90	50
1165 12 100	M 12 x 100	50
1165 16 25	M 16 x 25	50
1165 16 30	M 16 x 30	50
1165 16 35	M 16 x 35	50
1165 16 40	M 16 x 40	50
1165 16 45	M 16 x 45	50
1165 16 50	M 16 x 50	50
1165 16 55	M 16 x 55	50
1165 16 60	M 16 x 60	50
1165 16 70	M 16 x 70	25
1165 16 80	M 16 x 80	25
1165 16 90	M 16 x 90	25
1165 16 100	M 16 x 100	25
1165 16 110	M 16 x 110	10
1165 16 120	M 16 x 120	25
1165 16 130	M 16 x 130	10
1165 16 140	M 16 x 140	10
1165 16 150	M 16 x 150	10
1165 20 40	M 20 x 40	10
1165 20 45	M 20 x 45	10
1165 20 50	M 20 x 50	10
1165 20 55	M 20 x 55	10
1165 20 60	M 20 x 60	10
1165 20 70	M 20 x 70	10
1165 20 80	M 20 x 80	10
1165 20 90	M 20 x 90	10
1165 20 100	M 20 x 100	10
1165 20 110	M 20 x 110	10
1165 20 120	M 20 x 120	10
1165 20 130	M 20 x 130	10
1165 20 140	M 20 x 140	10
1165 20 150	M 20 x 150	10
1165 24 50	M 24 x 50	10
1165 24 55	M 24 x 55	10
1165 24 60	M 24 x 60	10
1165 24 70	M 24 x 70	10
1165 24 80	M 24 x 80	10
1165 24 90	M 24 x 90	10
1165 24 100	M 24 x 100	10

Specifications



Thread	b	dk	k	s
Dia.		max	max	
mm	mm	mm	mm	mm
M 3	12	6	1.7	2
M 4	14	8	2.3	2,5
M 5	16	10.0	2.8	3
M 6	18	12.0	3.3	4
M 8	22	16.0	4.4	5
M 10	26	20.0	5.5	6
M 12	30	24.0	6.5	8
M 16	38	30.0	7.5	10
M 20	46	36.0	8.5	12
M 24	54	39.0	14	14

Article No.	Dimension	QTY
1165 24 110	M 24 x 110	10
1165 24 120	M 24 x 120	10
1165 24 130	M 24 x 130	10
1165 24 140	M 24 x 140	10
1165 24 150	M 24 x 150	10

Carriage Bolts DIN 603, Stainless Steel A2

- In compliance with ISO 8677
- With square shoulder (carriage bolt)
- Without nuts

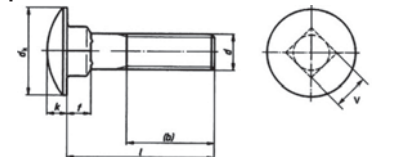


Article No.	Dimension	QTY
1105 5 16	M 5 x 16	200
1105 5 20	M 5 x 20	200
1105 5 25	M 5 x 25	200
1105 5 30	M 5 x 30	200
1105 5 35	M 5 x 35	200
1105 5 40	M 5 x 40	200
1105 5 45	M 5 x 45	200
1105 5 50	M 5 x 50	200
1105 5 55	M 5 x 55	200
1105 5 60	M 5 x 60	200
1105 5 65	M 5 x 65	200
1105 5 70	M 5 x 70	200
1105 5 75	M 5 x 75	200
1105 5 80	M 5 x 80	200
1105 6 16	M 6 x 16	200
1105 6 20	M 6 x 20	200
1105 6 25	M 6 x 25	200
1105 6 30	M 6 x 30	200
1105 6 35	M 6 x 35	200
1105 6 40	M 6 x 40	200
1105 6 45	M 6 x 45	200
1105 6 50	M 6 x 50	200
1105 6 55	M 6 x 55	200
1105 6 60	M 6 x 60	200
1105 6 65	M 6 x 65	200
1105 6 70	M 6 x 70	200
1105 6 75	M 6 x 75	100
1105 6 80	M 6 x 80	100
1105 6 90	M 6 x 90	100
1105 6 100	M 6 x 100	100
1105 6 110	M 6 x 110	100
1105 6 120	M 6 x 120	100
1105 6 140	M 6 x 140	100
1105 8 16	M 8 x 16	200
1105 8 20	M 8 x 20	200
1105 8 25	M 8 x 25	200
1105 8 30	M 8 x 30	200
1105 8 35	M 8 x 35	200
1105 8 40	M 8 x 40	200
1105 8 45	M 8 x 45	200
1105 8 50	M 8 x 50	200
1105 8 55	M 8 x 55	100
1105 8 60	M 8 x 60	100
1105 8 65	M 8 x 65	100

(d thread dia. x length)

Article No.	Dimension	QTY
1105 8 70	M 8 x 70	100
1105 8 75	M 8 x 75	100
1105 8 80	M 8 x 80	100
1105 8 90	M 8 x 90	100
1105 8 100	M 8 x 100	100
1105 8 110	M 8 x 110	100
1105 8 120	M 8 x 120	50
1105 8 130	M 8 x 130	50
1105 8 140	M 8 x 140	50
1105 8 150	M 8 x 150	50
1105 8 160	M 8 x 160	50
1105 10 20	M 10 x 20	200
1105 10 25	M 10 x 25	200
1105 10 30	M 10 x 30	100
1105 10 35	M 10 x 35	100
1105 10 40	M 10 x 40	100
1105 10 45	M 10 x 45	100
1105 10 50	M 10 x 50	100
1105 10 55	M 10 x 55	100
1105 10 60	M 10 x 60	100
1105 10 65	M 10 x 65	100
1105 10 70	M 10 x 70	50
1105 10 75	M 10 x 75	50
1105 10 80	M 10 x 80	50
1105 10 90	M 10 x 90	50
1105 10 100	M 10 x 100	50
1105 10 110	M 10 x 110	50
1105 10 120	M 10 x 120	50
1105 10 130	M 10 x 130	50
1105 10 140	M 10 x 140	50
1105 10 150	M 10 x 150	50
1105 10 160	M 10 x 160	50
1105 10 180	M 10 x 180	50
1105 10 200	M 10 x 200	25
1105 12 25	M 12 x 25	100
1105 12 30	M 12 x 30	100
1105 12 35	M 12 x 35	100
1105 12 40	M 12 x 40	100
1105 12 45	M 12 x 45	50
1105 12 50	M 12 x 50	50
1105 12 55	M 12 x 55	50
1105 12 60	M 12 x 60	50
1105 12 65	M 12 x 65	50
1105 12 70	M 12 x 70	50

Specifications



Thread	dk	k	b	b
Dia.			L < 125	L 125 - 200
mm	mm	mm	mm	mm
M 5	13.55	3.30	16	22
M 6	16.55	3.88	18	24
M 8	20.65	4.88	22	28
M 10	24.65	5.38	26	32
M 12	30.65	6.95	30	36
M 16	38.80	8.95	38	44

Article No.	Dimension	QTY
1105 12 75	M 12 x 75	50
1105 12 80	M 12 x 80	50
1105 12 90	M 12 x 90	50
1105 12 100	M 12 x 100	50
1105 12 110	M 12 x 110	25
1105 12 120	M 12 x 120	25
1105 12 130	M 12 x 130	25
1105 12 140	M 12 x 140	25
1105 12 150	M 12 x 150	25
1105 16 40	M 16 x 40	25
1105 16 45	M 16 x 45	25
1105 16 50	M 16 x 50	25
1105 16 55	M 16 x 55	25
1105 16 60	M 16 x 60	25
1105 16 65	M 16 x 65	25
1105 16 70	M 16 x 70	25
1105 16 75	M 16 x 75	25
1105 16 80	M 16 x 80	25
1105 16 90	M 16 x 90	25
1105 16 100	M 16 x 100	25
1105 16 110	M 16 x 110	25
1105 16 120	M 16 x 120	25
1105 16 130	M 16 x 130	25
1105 16 140	M 16 x 140	25
1105 16 150	M 16 x 150	25

Threaded Rods DIN 976, Stainless Steel A2

- Length: 100 mm

Article No.	Dimension	QTY
1825 2	M 2	1
1825 25	M 2,5	1
1825 3	M 3	1
1825 4	M 4	1
1825 5	M 5	1
1825 6	M 6	1
1825 8	M 8	1
1825 10	M 10	1
1825 12	M 12	1
1825 14	M 14	1

Article No.	Dimension	QTY
1825 16	M 16	1
1825 18	M 18	1
1825 20	M 20	1
1825 22	M 22	1
1825 24	M 24	1
1825 27	M 27	1
1825 30	M 30	1
1825 33	M 33	1
1825 36	M 36	1



Threaded Rods DIN 976, Stainless Steel A4

- Length: 1000 mm

Article No.	Dimension	QTY
1826 2	M 2	1
1826 25	M 2,5	1
1826 3	M 3	1
1826 4	M 4	1
1826 5	M 5	1
1826 6	M 6	1
1826 8	M 8	1
1826 10	M 10	1
1826 12	M 12	1
1826 14	M 14	1

Article No.	Dimension	QTY
1826 16	M 16	1
1826 18	M 18	1
1826 20	M 20	1
1826 22	M 22	1
1826 24	M 24	1
1826 27	M 27	1
1826 30	M 30	1
1826 33	M 33	1
1826 36	M 36	1



Flat Head Bolts DIN 7985, Stainless Steel A2

- In compliance with ISO 7045
- Phillips drive

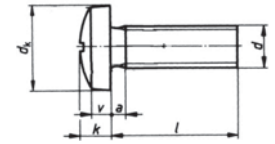


Article No.	Dimension	QTY
1235 2 4	M 2 x 4	1000
1235 2 5	M 2 x 5	1000
1235 2 6	M 2 x 6	1000
1235 2 8	M 2 x 8	1000
1235 2 10	M 2 x 10	1000
1235 2 12	M 2 x 12	1000
1235 2 16	M 2 x 16	1000
1235 2 20	M 2 x 20	1000
1235 25 4	M 2,5 x 4	1000
1235 25 5	M 2,5 x 5	1000
1235 25 6	M 2,5 x 6	100
1235 25 8	M 2,5 x 8	1000
1235 25 10	M 2,5 x 10	1000
1235 25 12	M 2,5 x 12	1000
1235 25 16	M 2,5 x 16	1000
1235 25 20	M 2,5 x 20	1000
1235 25 25	M 2,5 x 25	1000
1235 3 4	M 3 x 4	HR 500
1235 3 5	M 3 x 5	500
1235 3 6	M 3 x 6	HR 500
1235 3 8	M 3 x 8	500
1235 3 10	M 3 x 10	HR 500
1235 3 12	M 3 x 12	500
1235 3 14	M 3 x 14	500
1235 3 16	M 3 x 16	500
1235 3 18	M 3 x 18	500
1235 3 20	M 3 x 20	500
1235 3 22	M 3 x 22	500
1235 3 25	M 3 x 25	500
1235 3 30	M 3 x 30	500
1235 3 35	M 3 x 35	500
1235 3 40	M 3 x 40	500
1235 3 45	M 3 x 45	500
1235 3 50	M 3 x 50	500
1235 4 5	M 4 x 5	500
1235 4 6	M 4 x 6	500
1235 4 8	M 4 x 8	HR 500
1235 4 10	M 4 x 10	HR 500

(d thread dia. x length)

Article No.	Dimension	QTY
1235 4 12	M 4 x 12	500
1235 4 14	M 4 x 14	500
1235 4 16	M 4 x 16	HR 500
1235 4 18	M 4 x 18	500
1235 4 20	M 4 x 20	HR 500
1235 4 22	M 4 x 22	500
1235 4 25	M 4 x 25	HR 500
1235 4 30	M 4 x 30	HR 500
1235 4 35	M 4 x 35	500
1235 4 40	M 4 x 40	500
1235 4 45	M 4 x 45	500
1235 4 50	M 4 x 50	500
1235 4 60	M 4 x 60	500
1235 5 6	M 5 x 6	500
1235 5 8	M 5 x 8	500
1235 5 10	M 5 x 10	HR 500
1235 5 12	M 5 x 12	HR 500
1235 5 14	M 5 x 14	500
1235 5 16	M 5 x 16	HR 500
1235 5 18	M 5 x 18	500
1235 5 20	M 5 x 20	HR 500
1235 5 22	M 5 x 22	500
1235 5 25	M 5 x 25	HR 500
1235 5 30	M 5 x 30	HR 500
1235 5 35	M 5 x 35	HR 500
1235 5 40	M 5 x 40	HR 500
1235 5 45	M 5 x 45	100
1235 5 50	M 5 x 50	500
1235 5 60	M 5 x 60	500
1235 5 70	M 5 x 70	500
1235 5 80	M 5 x 80	500
1235 5 90	M 5 x 90	500
1235 6 8	M 6 x 8	500
1235 6 10	M 6 x 10	H 500
1235 6 12	M 6 x 12	HR 500
1235 6 16	M 6 x 16	HR 500
1235 6 20	M 6 x 20	HR 500
1235 6 25	M 6 x 25	HR 500

Specifications



Thread	a	dk	k	v	Drive
Dia.	max.	max.			PH
mm	mm	mm	mm	mm	
M 2	0.8	4	1.6	1.1	1
M 2.5	0.9	5	2.0	1.3	1
M 3	1.0	6	2.4	1.6	1
M 4	1.4	8	3.1	2.0	2
M 5	1.6	10	3.8	2.5	2
M 6	2.0	12	4.6	3.0	3
M 8	2.5	16	6.0	3.7	4

Article No.	Dimension	QTY
1235 6 30	M 6 x 30	HR 500
1235 6 35	M 6 x 35	100
1235 6 40	M 6 x 40	100
1235 6 45	M 6 x 45	100
1235 6 50	M 6 x 50	100
1235 6 60	M 6 x 60	100
1235 6 70	M 6 x 70	100
1235 6 80	M 6 x 80	100
1235 6 90	M 6 x 90	100
1235 8 12	M 8 x 12	100
1235 8 16	M 8 x 16	100
1235 8 20	M 8 x 20	100
1235 8 25	M 8 x 25	100
1235 8 30	M 8 x 30	100
1235 8 35	M 8 x 35	100
1235 8 40	M 8 x 40	100
1235 8 45	M 8 x 45	100
1235 8 50	M 8 x 50	100
1235 8 60	M 8 x 60	100

Countersunk Head Screws DIN965, Stainless Steel A2

- Corresponds to ISO 7046
- Phillips drive



Article No.	Dimension	QTY
1245 2 4	M 2 x 4	1000
1245 2 5	M 2 x 5	1000
1245 2 6	M 2 x 6	1000
1245 2 8	M 2 x 8	1000
1245 2 10	M 2 x 10	1000
1245 2 12	M 2 x 12	1000
1245 2 16	M 2 x 16	1000
1245 2 20	M 2 x 20	1000
1245 25 4	M 2,5 x 4	1000
1245 25 5	M 2,5 x 5	1000
1245 25 6	M 2,5 x 6	1000
1245 25 8	M 2,5 x 8	1000
1245 25 10	M 2,5 x 10	1000
1245 25 12	M 2,5 x 12	1000
1245 25 16	M 2,5 x 16	1000
1245 25 20	M 2,5 x 20	1000
1245 3 4	M 3 x 4	500
1245 3 5	M 3 x 5	500
1245 3 6	M 3 x 6	500
1245 3 8	M 3 x 8	500
1245 3 10	M 3 x 10	HR 500
1245 3 12	M 3 x 12	500
1245 3 14	M 3 x 14	500
1245 3 16	M 3 x 16	HR 500
1245 3 18	M 3 x 18	500
1245 3 20	M 3 x 20	500
1245 3 22	M 3 x 22	500
1245 3 25	M 3 x 25	H 500
1245 3 30	M 3 x 30	500
1245 3 35	M 3 x 35	500
1245 3 40	M 3 x 40	500
1245 4 5	M 4 x 5	500
1245 4 6	M 4 x 6	500
1245 4 8	M 4 x 8	HR 500
1245 4 10	M 4 x 10	HR 500
1245 4 12	M 4 x 12	500
1245 4 14	M 4 x 14	H 500
1245 4 16	M 4 x 16	HR 500
1245 4 18	M 4 x 18	500
1245 4 20	M 4 x 20	HR 500
1245 4 22	M 4 x 22	500

(d thread dia. x length)

Article No.	Dimension	QTY
1245 4 25	M 4 x 25	HR 500
1245 4 30	M 4 x 30	fHR 500
1245 4 35	M 4 x 35	500
1245 4 40	M 4 x 40	500
1245 4 45	M 4 x 45	500
1245 4 50	M 4 x 50	HR 500
1245 5 6	M 5 x 6	500
1245 5 8	M 5 x 8	500
1245 5 10	M 5 x 10	HR 500
1245 5 12	M 5 x 12	HR 500
1245 5 14	M 5 x 14	500
1245 5 16	M 5 x 16	HR 500
1245 5 18	M 5 x 18	500
1245 5 20	M 5 x 20	HR 500
1245 5 22	M 5 x 22	500
1245 5 25	M 5 x 25	HR 500
1245 5 30	M 5 x 30	HR 500
1245 5 35	M 5 x 35	500
1245 5 40	M 5 x 40	HR 500
1245 5 45	M 5 x 45	500
1245 5 50	M 5 x 50	HR 500
1245 5 60	M 5 x 60	500
1245 5 70	M 5 x 70	500
1245 5 80	M 5 x 80	500
1245 6 8	M 6 x 8	500
1245 6 10	M 6 x 10	HR 500
1245 6 12	M 6 x 12	500
1245 6 16	M 6 x 16	HR 500
1245 6 20	M 6 x 20	HR 500
1245 6 25	M 6 x 25	HR 500
1245 6 30	M 6 x 30	HR 500
1245 6 35	M 6 x 35	HR 500
1245 6 40	M 6 x 40	HR 500
1245 6 45	M 6 x 45	200
1245 6 50	M 6 x 50	200
1245 6 60	M 6 x 60	200
1245 6 70	M 6 x 70	200
1245 6 80	M 6 x 80	200
1245 6 90	M 6 x 90	200
1245 8 12	M 8 x 12	100
1245 8 16	M 8 x 16	100

Specifications

Thread	dk	k	Drive
Dia.	max.	max.	PZ
mm	mm	mm	
M 2	3.8	1.20	1
M 2.5	4.7	1.50	1
M 3	5.6	1.65	1
M 4	7.5	2.20	2
M 5	9.2	2.50	2
M 6	11.0	3.00	3
M 8	14.5	4.00	4
M 10	18.0	5.00	4

Article No.	Dimension	QTY
1245 8 20	M 8 x 20	100
1245 8 25	M 8 x 25	100
1245 8 30	M 8 x 30	100
1245 8 35	M 8 x 35	100
1245 8 40	M 8 x 40	100
1245 8 45	M 8 x 45	100
1245 8 50	M 8 x 50	100
1245 8 60	M 8 x 60	100
1245 8 70	M 8 x 70	100
1245 8 80	M 8 x 80	100
1245 10 16	M 10 x 16	100
1245 10 20	M 10 x 20	100
1245 10 25	M 10 x 25	100
1245 10 30	M 10 x 30	100
1245 10 35	M 10 x 35	100
1245 10 40	M 10 x 40	100
1245 10 45	M 10 x 45	100
1245 10 50	M 10 x 50	100
1245 10 60	M 10 x 60	100

Raised Countersunk Head Screws DIN 966, A2



- In compliance with ISO 7047
- Phillips drive



Article No.	Dimension	QTY
1255 25 6	M 2,5 x 6	500
1255 25 8	M 2,5 x 8	500
1255 25 10	M 2,5 x 10	500
1255 25 12	M 2,5 x 12	500
1255 25 16	M 2,5 x 16	500
1255 3 5	M 3 x 5	500
1255 3 6	M 3 x 6	500
1255 3 8	M 3 x 8	500
1255 3 10	M 3 x 10	500
1255 3 12	M 3 x 12	500
1255 3 14	M 3 x 14	500
1255 3 16	M 3 x 16	500
1255 3 18	M 3 x 18	500
1255 3 20	M 3 x 20	500
1255 3 22	M 3 x 22	500
1255 3 25	M 3 x 25	500
1255 3 30	M 3 x 30	500
1255 4 6	M 4 x 6	HR 500
1255 4 8	M 4 x 8	HR 500
1255 4 10	M 4 x 10	HR 500
1255 4 12	M 4 x 12	HR 500
1255 4 14	M 4 x 14	500
1255 4 16	M 4 x 16	HR 500
1255 4 18	M 4 x 18	500
1255 4 20	M 4 x 20	HR 500
1255 4 22	M 4 x 22	500
1255 4 25	M 4 x 25	HR 500
1255 4 30	M 4 x 30	HR 500
1255 4 35	M 4 x 35	HR 500

(d thread dia. x length)

Article No.	Dimension	QTY
1255 4 40	M 4 x 40	HR 500
1255 5 6	M 5 x 6	500
1255 5 8	M 5 x 8	500
1255 5 10	M 5 x 10	HR 500
1255 5 12	M 5 x 12	HR 500
1255 5 14	M 5 x 14	500
1255 5 16	M 5 x 16	HR 500
1255 5 18	M 5 x 18	H 500
1255 5 20	M 5 x 20	HR 500
1255 5 22	M 5 x 22	500
1255 5 25	M 5 x 25	HR 500
1255 5 30	M 5 x 30	HR 500
1255 5 35	M 5 x 35	HR 500
1255 5 40	M 5 x 40	HR 500
1255 5 45	M 5 x 45	HR 500
1255 5 50	M 5 x 50	HR 500
1255 5 60	M 5 x 60	HR 500
1255 5 70	M 5 x 70	500
1255 6 10	M 6 x 10	HR 500
1255 6 12	M 6 x 12	HR 500
1255 6 16	M 6 x 16	HR 500
1255 6 20	M 6 x 20	HR 500
1255 6 25	M 6 x 25	HR 500
1255 6 30	M 6 x 30	HR 500
1255 6 35	M 6 x 35	HR 500
1255 6 40	M 6 x 40	HR 500
1255 6 45	M 6 x 45	HR 500
1255 6 50	M 6 x 50	HR 500
1255 6 60	M 6 x 60	100

Specifications

Thread	dk max. mm	f mm	k max. mm	Drive PH
M 2.5	4.7	0.60	1.50	1
M 3	5.6	0.75	1.65	1
M 4	7.5	1.00	2.20	2
M 5	9.2	1.25	2.50	2
M 6	11.0	1.50	3.00	3
M 8	14.5	2.00	4.00	4

Article No.	Dimension	QTY
1255 6 70	M 6 x 70	100
1255 6 80	M 6 x 80	100
1255 8 16	M 8 x 16	HR 500
1255 8 20	M 8 x 20	HR 500
1255 8 25	M 8 x 25	HR 500
1255 8 30	M 8 x 30	HR 500
1255 8 35	M 8 x 35	HR 500
1255 8 40	M 8 x 40	HR 500
1255 8 45	M 8 x 45	100
1255 8 50	M 8 x 50	100
1255 8 60	M 8 x 60	100

Slotted Cheese Head Machine Screws DIN 84, A2



- In compliance with ISO 1207
- Slotted

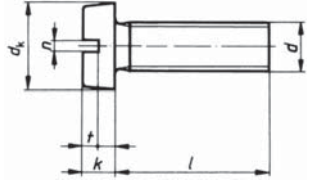


Article No.	Dimension	QTY
1205 2 3	M 2 x 3	1000
1205 2 4	M 2 x 4	1000
1205 2 5	M 2 x 5	1000
1205 2 6	M 2 x 6	1000
1205 2 8	M 2 x 8	1000
1205 2 10	M 2 x 10	1000
1205 2 12	M 2 x 12	1000
1205 2 14	M 2 x 14	1000
1205 2 16	M 2 x 16	1000
1205 2 18	M 2 x 18	1000
1205 2 20	M 2 x 20	1000
1205 2 25	M 2 x 25	500
1205 2 30	M 2 x 30	500
1205 25 3	M 2,5 x 3	1000
1205 25 4	M 2,5 x 4	1000
1205 25 5	M 2,5 x 5	1000
1205 25 6	M 2,5 x 6	1000
1205 25 8	M 2,5 x 8	1000
1205 25 10	M 2,5 x 10	1000
1205 25 12	M 2,5 x 12	1000
1205 25 14	M 2,5 x 14	1000
1205 25 16	M 2,5 x 16	1000
1205 25 18	M 2,5 x 18	1000
1205 25 20	M 2,5 x 20	1000
1205 25 22	M 2,5 x 22	500
1205 25 25	M 2,5 x 25	500
1205 25 30	M 2,5 x 30	500
1205 3 3	M 3 x 3	500
1205 3 4	M 3 x 4	500
1205 3 5	M 3 x 5	500
1205 3 6	M 3 x 6	500
1205 3 8	M 3 x 8	500
1205 3 10	M 3 x 10	HR 500
1205 3 12	M 3 x 12	HR 500
1205 3 14	M 3 x 14	500
1205 3 16	M 3 x 16	HR 500
1205 3 18	M 3 x 18	HR 500
1205 3 20	M 3 x 20	HR 500
1205 3 22	M 3 x 22	500
1205 3 25	M 3 x 25	HR 500
1205 3 28	M 3 x 28	500
1205 3 30	M 3 x 30	HR 500
1205 3 35	M 3 x 35	HR 500
1205 3 40	M 3 x 40	HR 500
1205 3 45	M 3 x 45	HR 500
1205 3 50	M 3 x 50	HR 500
1205 3 60	M 3 x 60	HR 500
1205 35 5	M 3,5 x 5	500
1205 35 6	M 3,5 x 6	500
1205 35 8	M 3,5 x 8	500
1205 35 10	M 3,5 x 10	500
1205 35 12	M 3,5 x 12	500
1205 35 16	M 3,5 x 16	500
1205 35 20	M 3,5 x 20	500
1205 35 25	M 3,5 x 25	500
1205 35 30	M 3,5 x 30	500
1205 35 35	M 3,5 x 35	500
1205 35 40	M 3,5 x 40	500

(d thread dia. x length)

Article No.	Dimension	QTY
1205 4 4	M 4 x 4	HR 500
1205 4 5	M 4 x 5	HR 500
1205 4 6	M 4 x 6	HR 500
1205 4 8	M 4 x 8	HR 500
1205 4 10	M 4 x 10	HR 500
1205 4 12	M 4 x 12	HR 500
1205 4 14	M 4 x 14	500
1205 4 16	M 4 x 16	HR 500
1205 4 18	M 4 x 18	500
1205 4 20	M 4 x 20	HR 500
1205 4 22	M 4 x 22	500
1205 4 25	M 4 x 25	HR 500
1205 4 28	M 4 x 28	500
1205 4 30	M 4 x 30	HR 500
1205 4 35	M 4 x 35	HR 500
1205 4 40	M 4 x 40	HR 500
1205 4 45	M 4 x 45	HR 500
1205 4 50	M 4 x 50	HR 500
1205 4 55	M 4 x 55	HR 500
1205 4 60	M 4 x 60	HR 500
1205 4 70	M 4 x 70	100
1205 4 80	M 4 x 80	100
1205 4 90	M 4 x 90	100
1205 4 100	M 4 x 100	100
1205 5 6	M 5 x 6	HR 500
1205 5 8	M 5 x 8	HR 500
1205 5 10	M 5 x 10	HR 500
1205 5 12	M 5 x 12	HR 500
1205 5 14	M 5 x 14	500
1205 5 16	M 5 x 16	HR 500
1205 5 18	M 5 x 18	HR 500
1205 5 20	M 5 x 20	HR 500
1205 5 22	M 5 x 22	500
1205 5 25	M 5 x 25	HR 500
1205 5 28	M 5 x 28	500
1205 5 30	M 5 x 30	HR 500
1205 5 35	M 5 x 35	HR 500
1205 5 40	M 5 x 40	HR 500
1205 5 45	M 5 x 45	HR 500
1205 5 50	M 5 x 50	HR 500
1205 5 55	M 5 x 55	H 300
1205 5 60	M 5 x 60	H 300
1205 5 70	M 5 x 70	H 300
1205 5 80	M 5 x 80	H 300
1205 5 90	M 5 x 90	100
1205 5 100	M 5 x 100	100
1205 6 8	M 6 x 8	HR 500
1205 6 10	M 6 x 10	HR 500
1205 6 12	M 6 x 12	HR 500
1205 6 14	M 6 x 14	500
1205 6 16	M 6 x 16	HR 500
1205 6 18	M 6 x 18	HR 500
1205 6 20	M 6 x 20	HR 500
1205 6 22	M 6 x 22	500
1205 6 25	M 6 x 25	HR 500
1205 6 30	M 6 x 30	HR 500
1205 6 35	M 6 x 35	HR 500

Specifications

				
Thread Dia.	dk	k	n max.	t min.
mm	mm	mm	mm	mm
M 2	3.8	1.3	0.70	0.60
M 2.5	4.5	1.6	0.80	0.70
M 3	5.5	2.0	1.00	0.85
M 3.5	6.0	2.4	1.00	1.00
M 4	7.0	2.6	1.51	1.10
M 5	8.5	3.3	1.51	1.30
M 6	10.0	3.9	1.91	1.60
M 8	13.0	5.0	2.31	2.00
M 10	16.0	6.0	2.81	2.40

Article No.	Dimension	QTY
1205 6 40	M 6 x 40	HR 500
1205 6 45	M 6 x 45	HR 500
1205 6 50	M 6 x 50	HR 500
1205 6 55	M 6 x 55	H 300
1205 6 60	M 6 x 60	H 300
1205 6 70	M 6 x 70	H 300
1205 6 80	M 6 x 80	H 300
1205 6 90	M 6 x 90	100
1205 6 100	M 6 x 100	100
1205 8 10	M 8 x 10	100
1205 8 12	M 8 x 12	100
1205 8 16	M 8 x 16	100
1205 8 20	M 8 x 20	HR 500
1205 8 25	M 8 x 25	HR 500
1205 8 30	M 8 x 30	HR 500
1205 8 35	M 8 x 35	HR 500
1205 8 40	M 8 x 40	HR 500
1205 8 45	M 8 x 45	HR 500
1205 8 50	M 8 x 50	HR 500
1205 8 60	M 8 x 60	H 300
1205 8 70	M 8 x 70	100
1205 8 80	M 8 x 80	100
1205 8 90	M 8 x 90	100
1205 8 100	M 8 x 100	100
1205 10 16	M 10 x 16	100
1205 10 20	M 10 x 20	100
1205 10 25	M 10 x 25	100
1205 10 30	M 10 x 30	100
1205 10 35	M 10 x 35	100
1205 10 40	M 10 x 40	100
1205 10 45	M 10 x 45	100
1205 10 50	M 10 x 50	100
1205 10 60	M 10 x 60	100
1205 10 70	M 10 x 70	50
1205 10 80	M 10 x 80	50
1205 10 90	M 10 x 90	50
1205 10 100	M 10 x 100	50

Slotted Countersunk Head Machine Screws DIN963, A2

- Corresponds to ISO 2009
- Slotted

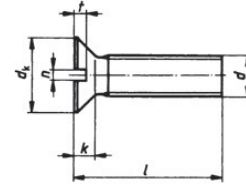


Article No.	Dimension	QTY
1215 2 4	M 2 x 4	1000
1215 2 5	M 2 x 5	1000
1215 2 6	M 2 x 6	1000
1215 2 8	M 2 x 8	1000
1215 2 10	M 2 x 10	1000
1215 2 12	M 2 x 12	1000
1215 2 16	M 2 x 16	1000
1215 2 20	M 2 x 20	1000
1215 2 25	M 2 x 25	1000
1215 25 4	M 2,5 x 4	1000
1215 25 5	M 2,5 x 5	1000
1215 25 6	M 2,5 x 6	1000
1215 25 8	M 2,5 x 8	1000
1215 25 10	M 2,5 x 10	1000
1215 25 12	M 2,5 x 12	1000
1215 25 14	M 2,5 x 14	1000
1215 25 16	M 2,5 x 16	1000
1215 25 20	M 2,5 x 20	1000
1215 25 25	M 2,5 x 25	500
1215 3 4	M 3 x 4	500
1215 3 5	M 3 x 5	500
1215 3 6	M 3 x 6	HR 500
1215 3 8	M 3 x 8	HR 500
1215 3 10	M 3 x 10	HR 500
1215 3 12	M 3 x 12	HR 500
1215 3 14	M 3 x 14	500
1215 3 16	M 3 x 16	HR 500
1215 3 18	M 3 x 18	500
1215 3 20	M 3 x 20	HR 500
1215 3 22	M 3 x 22	500
1215 3 25	M 3 x 25	HR 500
1215 3 30	M 3 x 30	HR 500
1215 3 35	M 3 x 35	HR 500
1215 3 40	M 3 x 40	HR 500
1215 3 45	M 3 x 45	500
1215 3 50	M 3 x 50	500
1215 3 60	M 3 x 60	500
1215 35 6	M 3,5 x 6	500
1215 35 8	M 3,5 x 8	500
1215 35 10	M 3,5 x 10	500
1215 35 12	M 3,5 x 12	500
1215 35 16	M 3,5 x 16	500
1215 35 20	M 3,5 x 20	500
1215 4 5	M 4 x 5	500
1215 4 6	M 4 x 6	HR 500
1215 4 8	M 4 x 8	HR 500
1215 4 10	M 4 x 10	HR 500
1215 4 12	M 4 x 12	HR 500
1215 4 14	M 4 x 14	500
1215 4 16	M 4 x 16	HR 500
1215 4 18	M 4 x 18	500
1215 4 20	M 4 x 20	HR 500
1215 4 22	M 4 x 22	500
1215 4 25	M 4 x 25	HR 500
1215 4 30	M 4 x 30	HR 500
1215 4 35	M 4 x 35	HR 500
1215 4 40	M 4 x 40	HR 500
1215 4 45	M 4 x 45	HR 500
1215 4 50	M 4 x 50	HR 500
1215 4 60	M 4 x 60	500
1215 4 70	M 4 x 70	500
1215 5 6	M 5 x 6	HR 500
1215 5 8	M 5 x 8	HR 500
1215 5 10	M 5 x 10	HR 500
1215 5 12	M 5 x 12	HR 500
1215 5 14	M 5 x 14	HR 500
1215 5 16	M 5 x 16	HR 500
1215 5 18	M 5 x 18	HR 500
1215 5 20	M 5 x 20	HR 500

(d thread dia. x length)

Article No.	Dimension	QTY
1215 5 22	M 5 x 22	200
1215 5 25	M 5 x 25	HR 500
1215 5 30	M 5 x 30	HR 500
1215 5 35	M 5 x 35	HR 500
1215 5 40	M 5 x 40	HR 500
1215 5 45	M 5 x 45	H 300
1215 5 50	M 5 x 50	H 300
1215 5 55	M 5 x 55	H 300
1215 5 60	M 5 x 60	H 300
1215 5 70	M 5 x 70	H 300
1215 5 80	M 5 x 80	H 300
1215 5 90	M 5 x 90	H 300
1215 5 100	M 5 x 100	H 300
1215 6 8	M 6 x 8	HR 500
1215 6 10	M 6 x 10	HR 500
1215 6 12	M 6 x 12	HR 500
1215 6 14	M 6 x 14	500
1215 6 16	M 6 x 16	HR 500
1215 6 18	M 6 x 18	500
1215 6 20	M 6 x 20	HR 500
1215 6 22	M 6 x 22	H 300
1215 6 25	M 6 x 25	H 300
1215 6 30	M 6 x 30	H 300
1215 6 35	M 6 x 35	H 300
1215 6 40	M 6 x 40	H 300
1215 6 45	M 6 x 45	H 300
1215 6 50	M 6 x 50	H 300
1215 6 55	M 6 x 55	H 300
1215 6 60	M 6 x 60	H 300
1215 6 70	M 6 x 70	H 300
1215 6 80	M 6 x 80	H 300
1215 6 90	M 6 x 90	H 300
1215 6 100	M 6 x 100	H 300
1215 6 110	M 6 x 110	H 300
1215 6 120	M 6 x 120	H 300
1215 8 10	M 8 x 10	H 300
1215 8 12	M 8 x 12	H 300
1215 8 14	M 8 x 14	H 300
1215 8 16	M 8 x 16	H 300
1215 8 18	M 8 x 18	H 300
1215 8 20	M 8 x 20	H 300
1215 8 22	M 8 x 22	H 300
1215 8 25	M 8 x 25	H 300
1215 8 30	M 8 x 30	H 300
1215 8 35	M 8 x 35	H 300
1215 8 40	M 8 x 40	H 300
1215 8 45	M 8 x 45	H 300
1215 8 50	M 8 x 50	H 300
1215 8 55	M 8 x 55	H 300
1215 8 60	M 8 x 60	100
1215 8 70	M 8 x 70	100
1215 8 80	M 8 x 80	100
1215 8 90	M 8 x 90	100
1215 8 100	M 8 x 100	100
1215 8 110	M 8 x 110	100
1215 8 120	M 8 x 120	100
1215 10 16	M 10 x 16	fH 300
1215 10 20	M 10 x 20	fH 300
1215 10 25	M 10 x 25	fH 300
1215 10 30	M 10 x 30	fH 300
1215 10 35	M 10 x 35	fH 300
1215 10 40	M 10 x 40	fH 300
1215 10 45	M 10 x 45	fH 300
1215 10 50	M 10 x 50	fH 300
1215 10 55	M 10 x 55	fH 300
1215 10 60	M 10 x 60	fH 300
1215 10 70	M 10 x 70	50
1215 10 80	M 10 x 80	50
1215 10 90	M 10 x 90	50

Specifications



Thread	dk	k	n	t
Dia.	max.	max.		max.
mm	mm	mm	mm	mm
M 2	3.8	1.20	0.5	0.60
M 2.5	4.7	1.50	0.6	0.70
M 3	5.6	1.65	0.8	0.85
M 3.5	6.5	1.93	0.8	1.00
M 4	7.5	2.20	1.0	1.10
M 5	9.2	2.50	1.2	1.30
M 6	11.0	3.00	1.6	1.60
M 8	14.5	4.00	2.0	2.10
M 10	18.0	5.00	2.5	2.60
M 12	22.0	6.00	3.0	3.00
M 14	25.0	7.00	3.0	2.80
M 16	29.0	8.00	4.0	3.20
M 18	33.0	9.00	4.0	3.60
M 20	36.0	10.00	5.0	4.00

Article No.	Dimension	QTY
1215 10 100	M 10 x 100	50
1215 10 110	M 10 x 110	50
1215 10 120	M 10 x 120	50
1215 12 20	M 12 x 20	f 100
1215 12 25	M 12 x 25	f 100
1215 12 30	M 12 x 30	f 100
1215 12 35	M 12 x 35	f 100
1215 12 40	M 12 x 40	f 100
1215 12 45	M 12 x 45	50
1215 12 50	M 12 x 50	50
1215 12 55	M 12 x 55	50
1215 12 60	M 12 x 60	50
1215 12 70	M 12 x 70	50
1215 12 80	M 12 x 80	50
1215 12 90	M 12 x 90	50
1215 12 100	M 12 x 100	50
1215 14 20	M 14 x 20	50
1215 14 25	M 14 x 25	50
1215 14 30	M 14 x 30	50
1215 14 35	M 14 x 35	50
1215 14 40	M 14 x 40	50
1215 14 45	M 14 x 45	50
1215 14 50	M 14 x 50	50
1215 14 55	M 14 x 55	50
1215 14 60	M 14 x 60	50
1215 14 70	M 14 x 70	50
1215 14 80	M 14 x 80	50
1215 14 90	M 14 x 90	50
1215 14 100	M 14 x 100	25
1215 14 110	M 14 x 110	25
1215 14 120	M 14 x 120	25
1215 14 130	M 14 x 130	25
1215 14 140	M 14 x 140	25
1215 14 150	M 14 x 150	25
1215 16 20	M 16 x 20	50
1215 16 25	M 16 x 25	50
1215 16 30	M 16 x 30	50
1215 16 35	M 16 x 35	50
1215 16 40	M 16 x 40	50
1215 16 45	M 16 x 45	50
1215 16 50	M 16 x 50	50
1215 16 55	M 16 x 55	50
1215 16 60	M 16 x 60	50

(Continued on next page)

Slotted Countersunk Head Machine Screws DIN963, A2

- In compliance with ISO 2009
- Slotted

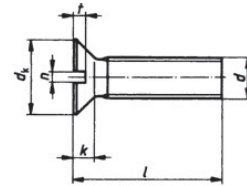


Article No.	Dimension	QTY
1215 16 70	M 16 x 70	50
1215 16 80	M 16 x 80	50
1215 16 90	M 16 x 90	50
1215 16 100	M 16 x 100	25
1215 16 110	M 16 x 110	25
1215 16 120	M 16 x 120	25
1215 16 130	M 16 x 130	25
1215 16 140	M 16 x 140	25
1215 16 150	M 16 x 150	25
1215 18 50	M 18 x 50	25
1215 18 55	M 18 x 55	25
1215 18 60	M 18 x 60	25
1215 18 70	M 18 x 70	25
1215 18 80	M 18 x 80	25
1215 18 90	M 18 x 90	25
1215 18 100	M 18 x 100	10
1215 18 110	M 18 x 110	10

(d thread dia. x length)

Article No.	Dimension	QTY
1215 18 120	M 18 x 120	10
1215 18 130	M 18 x 130	10
1215 18 140	M 18 x 140	10
1215 18 150	M 18 x 150	10
1215 20 50	M 20 x 50	25
1215 20 55	M 20 x 55	25
1215 20 60	M 20 x 60	25
1215 20 70	M 20 x 70	25
1215 20 80	M 20 x 80	25
1215 20 90	M 20 x 90	25
1215 20 100	M 20 x 100	10
1215 20 110	M 20 x 110	10
1215 20 120	M 20 x 120	10
1215 20 130	M 20 x 130	10
1215 20 140	M 20 x 140	10
1215 20 150	M 20 x 150	10

Specifications



Thread	dk	k	n	t
Dia.	max.	max.		max.
mm	mm	mm	mm	mm
M 2	3.8	1.20	0.5	0.60
M 2.5	4.7	1.50	0.6	0.70
M 3	5.6	1.65	0.8	0.85
M 3.5	6.5	1.93	0.8	1.00
M 4	7.5	2.20	1.0	1.10
M 5	9.2	2.50	1.2	1.30
M 6	11.0	3.00	1.6	1.60
M 8	14.5	4.00	2.0	2.10
M 10	18.0	5.00	2.5	2.60
M 12	22.0	6.00	3.0	3.00
M 14	25.0	7.00	3.0	2.80
M 16	29.0	8.00	4.0	3.20
M 18	33.0	9.00	4.0	3.60
M 20	36.0	10.00	5.0	4.00

Sheet Metal Screws DIN 7981 B, A2

- In compliance with ISO 7049
- Phillips drive

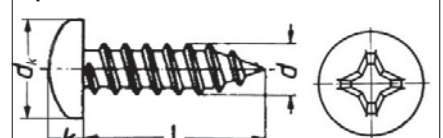


Article No.	Dimension	QTY
1315 22 65	2,2 x 6,5	HR 1000
1315 22 95	2,2 x 9,5	HR 1000
1315 22 13	2,2 x 13	HR 1000
1315 22 16	2,2 x 16	1000
1315 22 19	2,2 x 19	1000
1315 22 22	2,2 x 22	1000
1315 22 25	2,2 x 25	1000
1315 29 65	2,9 x 6,5	HR 1000
1315 29 95	2,9 x 9,5	HR 1000
1315 29 13	2,9 x 13	HR 1000
1315 29 16	2,9 x 16	HR 1000
1315 29 19	2,9 x 19	HR 1000
1315 29 22	2,9 x 22	HR 1000
1315 29 25	2,9 x 25	HR 1000
1315 35 65	3,5 x 6,5	HR 1000
1315 35 95	3,5 x 9,5	HR 1000
1315 35 13	3,5 x 13	HR 1000
1315 35 16	3,5 x 16	HR 1000
1315 35 19	3,5 x 19	HR 1000
1315 35 22	3,5 x 22	HR 1000
1315 35 25	3,5 x 25	HR 1000
1315 35 32	3,5 x 32	HR 1000
1315 35 38	3,5 x 38	HR 1000
1315 39 65	3,9 x 6,5	HR 1000
1315 39 95	3,9 x 9,5	HR 1000
1315 39 13	3,9 x 13	HR 1000
1315 39 16	3,9 x 16	HR 1000
1315 39 19	3,9 x 19	HR 1000
1315 39 22	3,9 x 22	HR 1000
1315 39 25	3,9 x 25	HR 1000
1315 39 32	3,9 x 32	HR 1000
1315 39 38	3,9 x 38	HR 1000
1315 39 45	3,9 x 45	HR 1000
1315 39 50	3,9 x 50	HR 1000
1315 42 95	4,2 x 9,5	HR 1000
1315 42 13	4,2 x 13	HR 1000
1315 42 16	4,2 x 16	HR 1000

(d thread dia. x length mm)

Article No.	Dimension	QTY
1315 42 19	4,2 x 19	HR 1000
1315 42 22	4,2 x 22	HR 1000
1315 42 25	4,2 x 25	HR 1000
1315 42 32	4,2 x 32	HR 1000
1315 42 38	4,2 x 38	HR 1000
1315 42 45	4,2 x 45	HR 1000
1315 42 50	4,2 x 50	HR 1000
1315 42 60	4,2 x 60	H 300
1315 42 70	4,2 x 70	H 300
1315 48 95	4,8 x 9,5	HR 1000
1315 48 13	4,8 x 13	HR 1000
1315 48 16	4,8 x 16	HR 1000
1315 48 19	4,8 x 19	HR 1000
1315 48 22	4,8 x 22	HR 1000
1315 48 25	4,8 x 25	HR 1000
1315 48 32	4,8 x 32	HR 1000
1315 48 38	4,8 x 38	HR 500
1315 48 45	4,8 x 45	HR 500
1315 48 50	4,8 x 50	HR 500
1315 48 60	4,8 x 60	100
1315 48 70	4,8 x 70	100
1315 48 80	4,8 x 80	100
1315 48 90	4,8 x 90	100
1315 48 100	4,8 x 100	100
1315 55 13	5,5 x 13	HR 500
1315 55 16	5,5 x 16	HR 500
1315 55 19	5,5 x 19	HR 500
1315 55 22	5,5 x 22	HR 500
1315 55 25	5,5 x 25	HR 500
1315 55 32	5,5 x 32	HR 500
1315 55 38	5,5 x 38	HR 500
1315 55 45	5,5 x 45	HR 500
1315 55 50	5,5 x 50	HR 500
1315 55 55	5,5 x 55	100
1315 55 60	5,5 x 60	100
1315 55 70	5,5 x 70	100
1315 55 80	5,5 x 80	100

Specifications



Thread	dk	k	Drive
Dia.	max.	max.	PH
mm	mm	mm	
2.2	4.2	1.80	1
2.9	5.6	2.20	1
3.5	6.9	2.60	2
3.9	7.5	2.80	2
4.2	8.2	3.05	2
4.8	9.5	3.55	2
5.5	10.8	3.95	3
6.3	12.5	4.55	3

Article No.	Dimension	QTY
1315 55 90	5,5 x 90	200
1315 55 100	5,5 x 100	200
1315 63 13	6,3 x 13	HR 500
1315 63 16	6,3 x 16	HR 500
1315 63 19	6,3 x 19	HR 500
1315 63 22	6,3 x 22	HR 500
1315 63 25	6,3 x 25	HR 500
1315 63 32	6,3 x 32	HR 500
1315 63 38	6,3 x 38	HR 500
1315 63 45	6,3 x 45	HR 500
1315 63 50	6,3 x 50	HR 500
1315 63 60	6,3 x 60	100
1315 63 70	6,3 x 70	50
1315 63 80	6,3 x 80	100
1315 63 90	6,3 x 90	100
1315 63 100	6,3 x 100	100

Sheet Metal Screws w. Countersunk HD DIN7982, A2

- In compliance with ISO 7050
- Phillips drive



Article No.	Dimension	QTY
1325 22 65	2,2 x 6,5	1000
1325 22 95	2,2 x 9,5	1000
1325 22 13	2,2 x 13	100
1325 22 16	2,2 x 16	100
1325 22 19	2,2 x 19	1000
1325 22 22	2,2 x 22	1000
1325 22 25	2,2 x 25	1000
1325 29 65	2,9 x 6,5	HR 1000
1325 29 95	2,9 x 9,5	HR 1000
1325 29 13	2,9 x 13	HR 1000
1325 29 16	2,9 x 16	HR 1000
1325 29 19	2,9 x 19	HR 1000
1325 29 22	2,9 x 22	HR 1000
1325 29 25	2,9 x 25	HR 1000
1325 35 65	3,5 x 6,5	HR 1000
1325 35 95	3,5 x 9,5	HR 1000
1325 35 13	3,5 x 13	HR 1000
1325 35 16	3,5 x 16	HR 1000
1325 35 19	3,5 x 19	HR 1000
1325 35 22	3,5 x 22	HR 1000
1325 35 25	3,5 x 25	HR 1000
1325 35 32	3,5 x 32	HR 1000
1325 35 38	3,5 x 38	HR 1000
1325 39 65	3,9 x 6,5	HR 1000
1325 39 95	3,9 x 9,5	HR 1000
1325 39 13	3,9 x 13	HR 1000
1325 39 16	3,9 x 16	HR 1000
1325 39 19	3,9 x 19	HR 1000
1325 39 22	3,9 x 22	HR 1000
1325 39 25	3,9 x 25	HR 1000
1325 39 32	3,9 x 32	HR 1000
1325 39 38	3,9 x 38	HR 1000
1325 39 45	3,9 x 45	HR 1000
1325 39 50	3,9 x 50	HR 1000
1325 42 95	4,2 x 9,5	HR 1000
1325 42 13	4,2 x 13	HR 1000
1325 42 16	4,2 x 16	HR 1000

(d thread dia. x length)

Article No.	Dimension	QTY
1325 42 19	4,2 x 19	HR 1000
1325 42 22	4,2 x 22	HR 1000
1325 42 25	4,2 x 25	HR 1000
1325 42 32	4,2 x 32	HR 1000
1325 42 38	4,2 x 38	HR 1000
1325 42 45	4,2 x 45	HR 1000
1325 42 50	4,2 x 50	HR 1000
1325 42 60	4,2 x 60	HRF 1000
1325 42 70	4,2 x 70	HR 1000
1325 48 95	4,8 x 9,5	HR 1000
1325 48 13	4,8 x 13	HR 1000
1325 48 16	4,8 x 16	HR 1000
1325 48 19	4,8 x 19	HR 1000
1325 48 22	4,8 x 22	HR 1000
1325 48 25	4,8 x 25	HR 1000
1325 48 32	4,8 x 32	HR 1000
1325 48 38	4,8 x 38	HR 500
1325 48 45	4,8 x 45	HR 500
1325 48 50	4,8 x 50	100
1325 48 60	4,8 x 60	100
1325 48 70	4,8 x 70	100
1325 48 80	4,8 x 80	100
1325 48 90	4,8 x 90	100
1325 48 100	4,8 x 100	100
1325 55 13	5,5 x 13	HR 500
1325 55 16	5,5 x 16	HR 500
1325 55 19	5,5 x 19	HR 500
1325 55 22	5,5 x 22	HR 500
1325 55 25	5,5 x 25	HR 500
1325 55 32	5,5 x 32	HR 500
1325 55 38	5,5 x 38	HR 500
1325 55 45	5,5 x 45	HR 500
1325 55 50	5,5 x 50	HR 500
1325 55 55	5,5 x 55	100
1325 55 60	5,5 x 60	100
1325 55 70	5,5 x 70	100
1325 55 80	5,5 x 80	100

Specifications

Thread	dk	k	Drive
Dia.	max.		PH
mm	mm	mm	
2.2	4.3	1.3	1
2.9	5.5	1.7	1
3.5	6.8	2.1	2
3.9	7.5	2.3	2
4.2	8.1	2.5	2
4.8	9.5	3.0	2
5.5	10.8	3.4	3
6.3	12.4	3.8	3

Article No.	Dimension	QTY
1325 55 90	5,5 x 90	100
1325 55 100	5,5 x 100	100
1325 63 13	6,3 x 13	HR 500
1325 63 16	6,3 x 16	HR 500
1325 63 19	6,3 x 19	HR 500
1325 63 22	6,3 x 22	HR 500
1325 63 25	6,3 x 25	HR 500
1325 63 32	6,3 x 32	HR 500
1325 63 38	6,3 x 38	100
1325 63 45	6,3 x 45	100
1325 63 50	6,3 x 50	100
1325 63 60	6,3 x 60	100
1325 63 70	6,3 x 70	100
1325 63 80	6,3 x 80	100
1325 63 90	6,3 x 90	100
1325 63 100	6,3 x 100	100

Sheet Metal Screws DIN 7983 B, Stainless Steel A2

- In compliance with ISO 7051
- Phillips drive

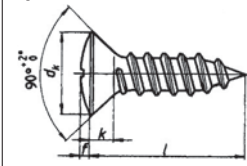


Article No.	Dimension	QTY
1335 22 65	2,2 x 6,5	1000
1335 22 95	2,2 x 9,5	1000
1335 22 13	2,2 x 13	1000
1335 22 16	2,2 x 16	1000
1335 22 19	2,2 x 19	1000
1335 22 22	2,2 x 22	1000
1335 22 25	2,2 x 25	1000
1335 29 65	2,9 x 6,5	HR 1000
1335 29 95	2,9 x 9,5	HR 1000
1335 29 13	2,9 x 13	HR 1000
1335 29 16	2,9 x 16	HR 1000
1335 29 19	2,9 x 19	HR 1000
1335 29 22	2,9 x 22	HR 1000
1335 29 25	2,9 x 25	HR 1000
1335 35 65	3,5 x 6,5	HR 1000
1335 35 95	3,5 x 9,5	HR 1000
1335 35 13	3,5 x 13	HR 1000
1335 35 16	3,5 x 16	HR 1000
1335 35 19	3,5 x 19	HR 1000
1335 35 22	3,5 x 22	HR 1000
1335 35 25	3,5 x 25	HR 1000
1335 35 32	3,5 x 32	HR 1000
1335 35 38	3,5 x 38	HR 1000
1335 39 65	3,9 x 6,5	HR 1000
1335 39 95	3,9 x 9,5	HR 1000
1335 39 13	3,9 x 13	HR 1000
1335 39 16	3,9 x 16	HR 1000
1335 39 19	3,9 x 19	HR 1000
1335 39 22	3,9 x 22	HR 1000
1335 39 25	3,9 x 25	HR 1000
1335 39 32	3,9 x 32	HZ 1000
1335 39 38	3,9 x 38	HR 1000
1335 39 45	3,9 x 45	HR 1000
1335 39 50	3,9 x 50	HR 1000
1335 42 95	4,2 x 9,5	HR 1000
1335 42 13	4,2 x 13	HR 1000
1335 42 16	4,2 x 16	HR 1000

(d thread dia. x length)

Article No.	Dimension	QTY
1335 42 19	4,2 x 19	HR 1000
1335 42 22	4,2 x 22	HR 1000
1335 42 25	4,2 x 25	HR 1000
1335 42 32	4,2 x 32	HR 1000
1335 42 38	4,2 x 38	HR 1000
1335 42 45	4,2 x 45	HR 1000
1335 42 50	4,2 x 50	HR 1000
1335 42 60	4,2 x 60	100
1335 42 70	4,2 x 70	100
1335 48 95	4,8 x 9,5	HR 1000
1335 48 13	4,8 x 13	HR 1000
1335 48 16	4,8 x 16	HR 1000
1335 48 19	4,8 x 19	HR 1000
1335 48 22	4,8 x 22	HR 1000
1335 48 25	4,8 x 25	HR 1000
1335 48 32	4,8 x 32	HR 1000
1335 48 38	4,8 x 38	HR 500
1335 48 45	4,8 x 45	HR 500
1335 48 50	4,8 x 50	HR 500
1335 48 60	4,8 x 60	100
1335 48 70	4,8 x 70	100
1335 48 80	4,8 x 80	100
1335 48 90	4,8 x 90	100
1335 48 100	4,8 x 100	100
1335 55 13	5,5 x 13	HR 500
1335 55 16	5,5 x 16	HR 500
1335 55 19	5,5 x 19	HR 500
1335 55 22	5,5 x 22	HR 500
1335 55 25	5,5 x 25	HR 500
1335 55 32	5,5 x 32	HR 500
1335 55 38	5,5 x 38	HR 500
1335 55 45	5,5 x 45	HR 500
1335 55 50	5,5 x 50	HR 500
1335 55 60	5,5 x 60	100
1335 55 70	5,5 x 70	100
1335 55 80	5,5 x 80	100
1335 55 90	5,5 x 90	100

Specifications




Thread Dia.	dk max.	f	k	Drive PH
mm	mm	mm	mm	
2.2	4.3	0.7	1.3	1
2.9	5.5	0.9	1.7	1
3.5	6.8	1.2	2.1	2
3.9	7.5	1.3	2.3	2
4.2	8.1	1.4	2.5	2
4.8	9.5	1.5	3.0	2
5.5	10.8	1.7	3.4	3
6.3	12.4	2.0	3.8	3

Article No.	Dimension	QTY
1335 55 100	5,5 x 100	100
1335 63 13	6,3 x 13	HR 500
1335 63 16	6,3 x 16	HR 500
1335 63 19	6,3 x 19	HR 500
1335 63 22	6,3 x 22	HR 500
1335 63 25	6,3 x 25	HR 500
1335 63 32	6,3 x 32	HR 500
1335 63 38	6,3 x 38	HR 500
1335 63 45	6,3 x 45	HR 500
1335 63 50	6,3 x 50	HR 500
1335 63 60	6,3 x 60	100
1335 63 70	6,3 x 70	100
1335 63 80	6,3 x 80	100
1335 63 90	6,3 x 90	100
1335 63 100	6,3 x 100	100

Hex HD Sheet Met. Screws DIN7976, Stainless St.A2

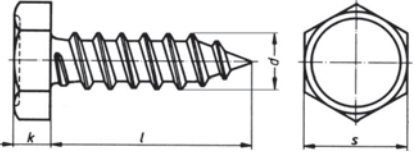
- In compliance with ISO 1479



Article No.	Dimension	QTY
1305 22 95	2,2 x 9,5	1000
1305 22 13	2,2 x 13	1000
1305 22 16	2,2 x 16	1000
1305 22 19	2,2 x 19	1000
1305 22 22	2,2 x 22	1000
1305 22 25	2,2 x 25	1000
1305 29 95	2,9 x 9,5	1000
1305 29 13	2,9 x 13	1000
1305 29 16	2,9 x 16	1000
1305 29 19	2,9 x 19	1000
1305 29 22	2,9 x 22	1000
1305 29 25	2,9 x 25	1000
1305 29 32	2,9 x 32	1000
1305 29 45	2,9 x 45	1000
1305 35 95	3,5 x 9,5	1000
1305 35 13	3,5 x 13	1000
1305 35 16	3,5 x 16	1000
1305 35 19	3,5 x 19	1000
1305 35 22	3,5 x 22	1000
1305 35 25	3,5 x 25	1000
1305 35 32	3,5 x 32	1000
1305 35 38	3,5 x 38	1000
1305 35 45	3,5 x 45	1000
1305 35 50	3,5 x 50	1000
1305 39 95	3,9 x 9,5	1000
1305 39 13	3,9 x 13	1000
1305 39 16	3,9 x 16	1000
1305 39 19	3,9 x 19	1000
1305 39 22	3,9 x 22	1000
1305 39 25	3,9 x 25	1000
1305 39 32	3,9 x 32	1000
1305 39 38	3,9 x 38	1000
1305 39 45	3,9 x 45	500
1305 39 50	3,9 x 50	500
1305 39 60	3,9 x 60	500
1305 42 95	4,2 x 9,5	HR 1000
1305 42 13	4,2 x 13	HR 1000
1305 42 16	4,2 x 16	HR 1000
1305 42 19	4,2 x 19	HR 1000
1305 42 22	4,2 x 22	HR 1000
1305 42 25	4,2 x 25	HR 1000
1305 42 32	4,2 x 32	F 1000
1305 42 38	4,2 x 38	F 1000

(d thread dia. x length)

Article No.	Dimension	QTY
1305 42 45	4,2 x 45	500
1305 42 50	4,2 x 50	100
1305 42 60	4,2 x 60	100
1305 42 70	4,2 x 70	100
1305 48 95	4,8 x 9,5	HR 1000
1305 48 13	4,8 x 13	HR 500
1305 48 16	4,8 x 16	HR 500
1305 48 19	4,8 x 19	HR 500
1305 48 22	4,8 x 22	HR 500
1305 48 25	4,8 x 25	HR 500
1305 48 32	4,8 x 32	HR 500
1305 48 38	4,8 x 38	HR 500
1305 48 45	4,8 x 45	HR 500
1305 48 50	4,8 x 50	HR 500
1305 48 60	4,8 x 60	100
1305 48 70	4,8 x 70	100
1305 48 80	4,8 x 80	100
1305 48 90	4,8 x 90	100
1305 48 100	4,8 x 100	100
1305 48 110	4,8 x 110	100
1305 48 120	4,8 x 120	100
1305 55 13	5,5 x 13	HR 500
1305 55 16	5,5 x 16	WR 500
1305 55 19	5,5 x 19	HR 500
1305 55 22	5,5 x 22	HR 500
1305 55 25	5,5 x 25	HR 500
1305 55 32	5,5 x 32	HR 500
1305 55 38	5,5 x 38	HR 500
1305 55 45	5,5 x 45	HR 500
1305 55 50	5,5 x 50	HR 500
1305 55 60	5,5 x 60	100
1305 55 70	5,5 x 70	100
1305 55 80	5,5 x 80	100
1305 55 90	5,5 x 90	100
1305 55 100	5,5 x 100	100
1305 55 110	5,5 x 110	100
1305 55 120	5,5 x 120	100
1305 63 13	6,3 x 13	HR 500
1305 63 16	6,3 x 16	HR 500
1305 63 19	6,3 x 19	HR 500
1305 63 22	6,3 x 22	HR 500
1305 63 25	6,3 x 25	HR 500
1305 63 32	6,3 x 32	HR 500

Specifications			
			
Thread Dia.	k	s	(WS)
mm	mm	mm	
2	1.3	3	
2.9	1.5	5	
3.5	2.3	5.5	
3.9	2.3	7	
4.2	2.8	7	
4.8	3.0	8	
5.5	4.0	8	
6.3	4.8	10	
8.0	5.8	13	

Article No.	Dimension	QTY
1305 63 38	6,3 x 38	HR 500
1305 63 45	6,3 x 45	HR 500
1305 63 50	6,3 x 50	100
1305 63 60	6,3 x 60	100
1305 63 70	6,3 x 70	100
1305 63 80	6,3 x 80	100
1305 63 90	6,3 x 90	100
1305 63 100	6,3 x 100	100
1305 63 110	6,3 x 110	100
1305 63 120	6,3 x 120	100
1305 8 16	8 x 16	H 300
1305 8 19	8 x 19	H 300
1305 8 22	8 x 22	H 300
1305 8 25	8 x 25	H 300
1305 8 32	8 x 32	H 300
1305 8 38	8 x 38	H 300
1305 8 45	8 x 45	100
1305 8 50	8 x 50	100
1305 8 60	8 x 60	200
1305 8 70	8 x 70	100

Dome Head Self-Tapping Screws DIN 7504 M, A2



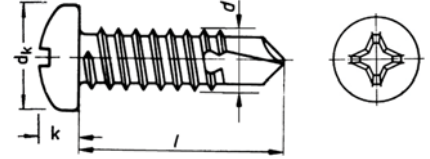
- Stainless Steel A2
- Phillips drive



Article No.	Dimension	QTY
1355 35 13	3,5 x 13	HR 1000
1355 35 16	3,5 x 16	HR 1000
1355 35 19	3,5 x 19	HR 1000
1355 35 22	3,5 x 22	HR 1000
1355 35 25	3,5 x 25	HR 1000
1355 39 13	3,9 x 13	HR 1000
1355 39 16	3,9 x 16	HR 1000
1355 39 19	3,9 x 19	HR 1000
1355 39 22	3,9 x 22	HR 1000
1355 39 25	3,9 x 25	HR 1000
1355 42 13	4,2 x 13	HR 1000
1355 42 16	4,2 x 16	HR 1000

(d thread dia. x length)

Article No.	Dimension	QTY
1355 42 19	4,2 x 19	HR 1000
1355 42 22	4,2 x 22	HR 1000
1355 42 25	4,2 x 25	HR 1000
1355 48 13	4,8 x 13	HR 1000
1355 48 16	4,8 x 16	HR 1000
1355 48 19	4,8 x 19	HR 1000
1355 48 22	4,8 x 22	HR 1000
1355 48 25	4,8 x 25	HR 1000
1355 48 32	4,8 x 32	HR 1000
1355 48 38	4,8 x 38	HR 1000
1355 48 45	4,8 x 45	HR 1000

Specifications				
				
Thread Dia.	dk max.	k max.	Drive (PH)	Sheet-thickness
mm	mm	mm	mm	mm
3.5	6.9	2.6	2	0.70 - 2.25
3.9	7.5	2.8	2	0.70 - 2.40
4.2	8.2	3.05	2	1.75 - 3.00
4.8	9.5	3.55	2	1.75 - 4.40

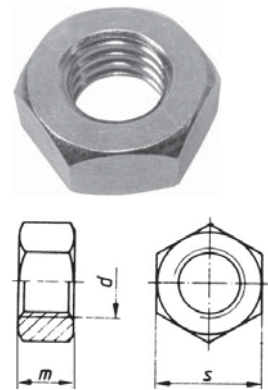
Hex Nuts DIN 934, Stainless Steel A2

- In compliance with ISO 4032

Article No.	Dimension	QTY
2005 2	M 2	RF 1000
2005 25	M 2,5	RF 1000
2005 3	M 3	HRF 1000
2005 35	M 3,5	RF 1000
2005 4	M 4	HRF 1000
2005 5	M 5	HRF 1000
2005 6	M 6	HRF 1000
2005 7	M 7	HR 500
2005 8	M 8	HRF 1000
2005 10	M 10	HR 500
2005 12	M 12	fH 300
2005 14	M 14	f 100
2005 16	M 16	f 100
2005 18	M 18	f 100
2005 20	M 20	50
2005 22	M 22	25
2005 24	M 24	25
2005 27	M 27	25
2005 30	M 30	z 25
2005 33	M 33	10
2005 36	M 36	10
2005 39	M 39	10
2005 42	M 42	10
2005 45	M 45	10
2005 48	M 48	10

Specifications

Thread	Pitch	Head size	m
Dia.			
mm	mm	mm	mm
M 2	0.40	4.0	1.6
M 2.5	0.45	5.0	2.0
M 3	0.50	5.5	2.4
M 3.5	0.60	6.0	2.8
M 4	0.70	7.0	3.2
M 5	0.80	8.0	4.0
M 6	1.00	10.0	5.0
M 7	1.00	11.0	5.5
M 8	1.5	13.0	6.5
M 10	1.50	17.0	8.0
M 12	1.75	19.0	10.0
M 14	2.00	22.0	11.0
M 16	2.00	24.0	13.0
M 18	2.50	27.0	15.0
M 20	2.50	30.0	16.0
M 22	2.50	32.0	18.0
M 24	3.00	36.0	19.0
M 27	3.00	41.0	22.0
M 30	3.50	46.0	24.0
M 33	3.50	50.0	26.0
M 36	4.00	55.0	29.0
M 39	4.00	60.0	31.0
M 42	4.50	65.0	34.0
M 45	4.50	70.0	36.0
M 48	5.00	75.0	38.0



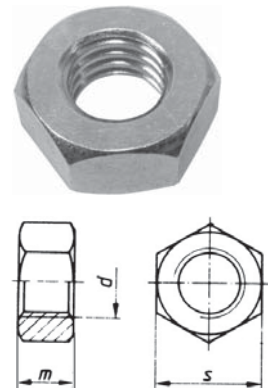
Hex Nuts DIN 934, Stainless Steel A4

- In compliance with ISO 4032

Article No.	Dimension	QTY
2006 2	M 2	RF 1000
2006 25	M 2,5	RF 1000
2006 3	M 3	HRF 1000
2006 35	M 3,5	RF 1000
2006 4	M 4	HRF 1000
2006 5	M 5	HRF 1000
2006 6	M 6	HRF 1000
2006 7	M 7	HR 500
2006 8	M 8	HRF 1000
2006 10	M 10	HR 500
2006 12	M 12	fH 300
2006 14	M 14	f 100
2006 16	M 16	f 100
2006 18	M 18	f 100
2006 20	M 20	50
2006 22	M 22	25
2006 24	M 24	25
2006 27	M 27	25
2006 30	M 30	25
2006 33	M 33	10
2006 36	M 36	10
2006 39	M 39	10
2006 42	M 42	10
2006 45	M 45	10
2006 48	M 48	10

Specifications

Thread	Pitch	Head size	m
Dia.			
mm	mm	mm	mm
M 2	0.40	4.0	1.6
M 2.5	0.45	5.0	2.0
M 3	0.50	5.5	2.4
M 3.5	0.60	6.0	2.8
M 4	0.70	7.0	3.2
M 5	0.80	8.0	4.0
M 6	1.00	10.0	5.0
M 7	1.00	11.0	5.5
M 8	1.25	13.0	6.5
M 10	1.50	17.0	8.0
M 12	1.75	19.0	10.0
M 14	2.00	22.0	11.0
M 16	2.00	24.0	13.0
M 18	2.50	27.0	15.0
M 20	2.50	30.0	16.0
M 22	2.50	32.0	18.0
M 24	3.00	36.0	19.0
M 27	3.00	41.0	22.0
M 30	3.50	46.0	24.0
M 33	3.50	50.0	26.0
M 36	4.00	55.0	29.0
M 39	4.00	60.0	31.0
M 42	4.50	65.0	34.0
M 45	4.50	70.0	36.0
M 48	5.00	75.0	38.0



Hex Nuts Similar to DIN 6923 with Flange, A2

- In compliance with ISO 4161

Article No.	Dimension	QTY
2045 8	M 8	H 1000
2045 10	M 10	500
2045 12	M 12	300

Specifications				
Thread	s	m	dc	da
Dia.		max.	max.	max.
mm	mm	mm	mm	mm
M 8	13	8	17.9	8.78
M 10	15	10	21.8	10.8
M 12	18	12	26.0	13.0



Hex Nuts similar to DIN 6923 with Flange, A4

- In compliance with ISO 4161

Article No.	Dimension	QTY
2046 8	M 8	1000
2046 10	M 10	500
2046 12	M 12	300

Specifications				
Thread	s	m	dc	da
Dia.		max.	max.	max.
mm	mm	mm	mm	mm
M 8	13	8	17.9	8.78
M 10	15	10	21.8	10.8
M 12	18	12	26.0	13.0



Hex Nylock Nuts, DIN 985, Stainless Steel A2

- In compliance with ISO 10511
- Low type
- With polyamide lock

Article No.	Dimension	QTY
2105 25	M 2,5	H 500
2105 3	M 3	H 500
2105 4	M 4	HRF 1000
2105 5	M 5	HRF 1000
2105 6	M 6	HRF 1000
2105 8	M 8	HRF 1000
2105 10	M 10	HR 500
2105 12	M 12	fH 300
2105 14	M 14	f 100
2105 16	M 16	f 100
2105 18	M 18	f 100
2105 20	M 20	g 50
2105 22	M 22	g 50
2105 24	M 24	g 50
2105 27	M 27	25
2105 30	M 30	w 25

Specifications				
Thread	Pitch	Head size	h	m
Dia.			max	
mm	mm	mm	mm	mm
M 2.5	0.45	5	3.5	2.3
M 3	0.50	5.5	4.0	2.4
M 4	0.70	7	5.0	2.9
M 5	0.80	8	5.0	3.2
M 6	1.00	10	6.0	4.0
M 8	1.25	13	8.0	5.5
M 10	1.50	17	10.0	6.5
M 12	1.75	19	12.0	8.0
M 14	2.00	22	14.0	9.5
M 16	2.00	24	16.0	10.5
M 18	2.50	27	18.5	13.0
M 20	2.50	30	20.0	14.0
M 22	2.50	32	22.0	15.0
M 24	3.00	36	24.0	15.0
M 27	3.00	41	27.0	17.0
M 30	3.50	46	30.0	19.0



Hex Nylock Nuts DIN 985, Stainless Steel A4

- In compliance with ISO 10511
- Low type
- With polyamide lock

Article No.	Dimension	QTY
2106 25	M 2,5	500
2106 3	M 3	HR 500
2106 4	M 4	HRF 1000
2106 5	M 5	HRF 1000
2106 6	M 6	HRF 1000
2106 8	M 8	HRF 1000
2106 10	M 10	HR 500
2106 12	M 12	fH 300
2106 14	M 14	f 100
2106 16	M 16	f 100
2106 18	M 18	f 100
2106 20	M 20	g 50
2106 22	M 22	g 50
2106 24	M 24	g 50
2106 27	M 27	25
2106 30	M 30	w 25

Specifications				
Thread	Pitch	Head size	h	m
Dia.			max	
mm	mm	mm	mm	mm
M 2.5	0.45	5	3.5	2.3
M 3	0.50	5.5	4.0	2.4
M 4	0.70	7	5.0	2.9
M 5	0.80	8	5.0	3.2
M 6	1.00	10	6.0	4.0
M 8	1.25	13	8.0	5.5
M 10	1.50	17	10.0	6.5
M 12	1.75	19	12.0	8.0
M 14	2.00	22	14.0	9.5
M 16	2.00	24	16.0	10.5
M 18	2.50	27	18.5	13.0
M 20	2.50	30	20.0	14.0
M 22	2.50	32	22.0	15.0
M 24	3.00	36	24.0	15.0
M 27	3.00	41	27.0	17.0
M 30	3.50	46	30.0	19.0



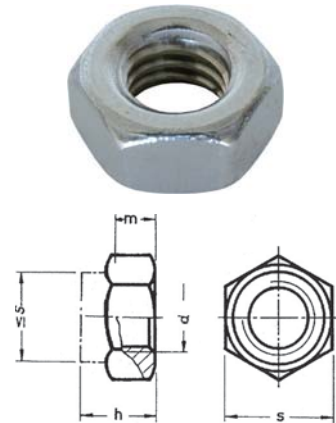
Hex Lock Nuts DIN 980, Stainless Steel A2

- In compliance with ISO 7042
- All-metal type

Article No.	Dimension	QTY
2115 3	M 3	200
2115 4	M 4	100
2115 5	M 5	HR 500
2115 6	M 6	HR 500
2115 8	M 8	HR 500
2115 10	M 10	HR 500
2115 12	M 12	fH 300
2115 14	M 14	f 100
2115 16	M 16	f 100
2115 20	M 20	g 50
2115 24	M 24	25

Specifications

Thread	Pitch	Head size	h	m
Dia. mm	mm	mm	mm	min. mm
M 3	0.50	5.5	3.6	2.40
M 4	0.70	7	4.2	2.20
M 5	0.80	8	5.1	2.75
M 6	1.00	10	6.0	3.30
M 8	1.25	13	8.0	4.40
M 10	1.50	17	10.0	5.50
M 12	1.75	19	12.0	6.60
M 14	2.00	22	14.0	7.70
M 16	2.00	24	16.0	8.80
M 20	2.50	30	20.0	11.00
M 24	1.50	36	24.0	13.20



Hex Lock Nuts DIN 980, Stainless Steel A4

- In compliance with ISO 7042
- All-metal type

Article No.	Dimension	QTY
2116 3	M 3	200
2116 4	M 4	200
2116 5	M 5	100
2116 6	M 6	100
2116 8	M 8	100
2116 10	M 10	50
2116 12	M 12	50
2116 14	M 14	25
2116 16	M 16	25
2116 20	M 20	25
2116 24	M 24	10

Specifications

Thread	Pitch	Head size	h	m
Dia. mm	mm	mm	mm	min. mm
M 3	0.50	5.5	3.6	2.40
M 4	0.70	7	4.2	2.20
M 5	0.80	8	5.1	2.75
M 6	1.00	10	6.0	3.30
M 8	1.25	13	8.0	4.40
M 10	1.50	17	10.0	5.50
M 12	1.75	19	12.0	6.60
M 14	2.00	22	14.0	7.0
M 16	2.00	24	16.0	8.80
M 20	2.50	30	20.0	11.00
M 24	1.50	36	24.0	13.20



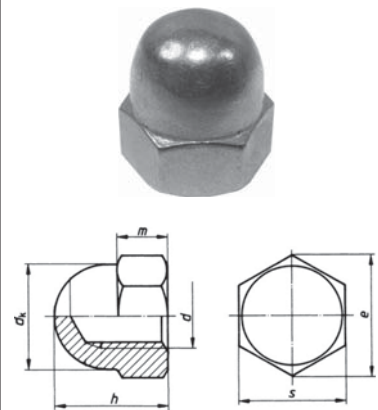
Hex Cap Nuts, DIN 1587, Stainless Steel A2

- High shape

Article No.	Dimension	QTY
2065 3	M 3	RF 1000
2065 4	M 4	HR 500
2065 5	M 5	HR 500
2065 6	M 6	HR 500
2065 8	M 8	HR 500
2065 10	M 10	f 100
2065 12	M 12	f 100
2065 14	M 14	f 100
2065 16	M 16	f 100
2065 18	M 18	25
2065 20	M 20	25
2065 22	M 22	25
2065 24	M 24	10
2065 27	M 27	10
2065 30	M 30	10

Specifications

Thread	Pitch	Head size	dk max.	h	m max.
Dia. mm	mm	mm	mm	mm	mm
M 3	0.50	5.5	5.3	6	2.4
M 4	0.70	7	6.5	8	3.2
M 5	0.80	8	7.5	10	4.0
M 6	1.00	10	9.5	12	5.0
M 8	1.25	13	12.5	15	6.5
M 10	1.50	17	16.0	18	8.0
M 12	1.75	19	18.0	22	10.0
M 14	2.00	22	21.0	25	11.0
M 16	2.00	24	23.0	28	13.0
M 18	2.50	27	26.0	32	15.0
M 20	2.50	30	28.0	34	16.0
M 22	2.50	34	33.0	39	18.0
M 24	3.00	46	34.0	42	19.0
M 27	3.00	41	40.0	47	20.0
M 30	3.50	46	42.0	52	24.0



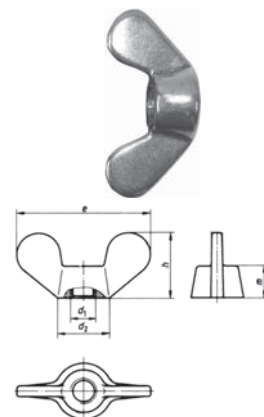
Wing Nuts DIN 315, Stainless Steel A2

- American type

Article No.	Dimension	QTY
2225 3	M 3	100
2225 4	M 4	100
2225 5	M 5	100
2225 6	M 6	100
2225 8	M 8	100
2225 10	M 10	100
2225 12	M 12	50
2225 16	M 16	50

Specifications

Thread	Pitch	d2 max.	e max.	h max.	m max.
Dia. mm	mm	mm	mm	mm	mm
M 3	0.50	8	20	10.5	4.6
M 4	0.70	8	20	10.5	4.6
M 5	0.80	11	26	13	6.5
M 6	1.00	13	33	17	8
M 8	1.25	16	39	20	10
M 10	1.50	20	51	25	12
M 12	1.75	23	65	33.5	14
M 16	2.00	29	73	37.5	17



Breakaway Nuts, Stainless Steel A2

Article No.	Dimension	QTY
2175 6	M 6	100
2175 8	M 8	H 500
2175 10	M 10	100
2175 12	M 12	100

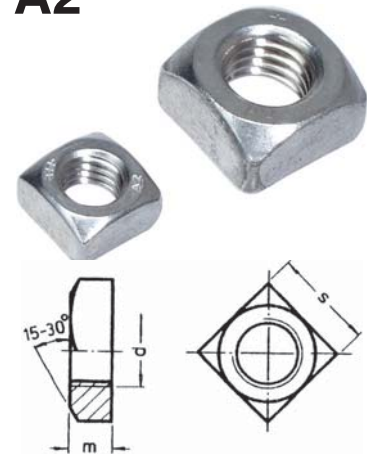
Specifications				
Thread	S	C	B	Breakaway torque Nm
Dia. mm	mm	mm	mm	
M 6	10	10	5	10-15
M 8	13	13	6	13-25
M 10	17	17	8	30-38
M 12	19	19	10	37-45



Square Nuts, DIN 557, Stainless Steel A2

Article No.	Dimension	QTY
2145 8	M 8	1000
2145 10	M 10	500
2145 12	M 12	300

Specifications		
Thread	m	Head size
Dia. mm	max. mm	mm
M 8	6,5	13
M 10	8,0	17
M 12	10,0	19



Spacer Sleeves, Round, Stainless Steel A2

Article No.	Dimension	QTY
2205 6 30	M 6 x 30	100
2205 8 20	M 8 x 20	100
2205 8 25	M 8 x 25	100
2205 8 30	M 8 x 30	100
2205 8 40	M 8 x 40	100
2205 10 25	M 10 x 25	100
2205 10 30	M 10 x 30	100
2205 10 40	M 10 x 40	100
2205 12 30	M 12 x 30	100
2205 12 40	M 12 x 40	50

Specifications	
Dia. mm	OD mm
6	10
8	11
10	13
12	15



Spacer Sleeves Hex, Stainless Steel A2

Article No.	Dimension	QTY
2207 8 25	M 8 x 25	100
2207 8 30	M 8 x 30	100
2207 10 30	M 10 x 30	100
2207 10 40	M 10 x 40	100
2207 12 30	M 12 x 30	50
2207 12 40	M 12 x 40	50

Specifications	
Dia. mm	Head size
8	11
10	13
12	17



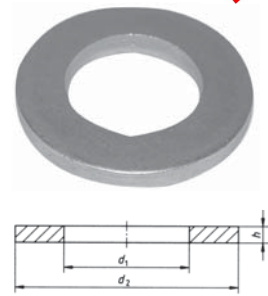
Washers DIN 125, Stainless Steel A2

- In compliance with ISO 7089/7090
- Shape A (without chamfer)

Article No.	Dimension	QTY
2305 2	2	F 1000
2305 25	2,5	F 1000
2305 3	3	HRF 1000
2305 35	3,5	RF 1000
2305 4	4	HRF 1000
2305 5	5	HRF 1000
2305 6	6	HRF 1000
2305 7	7	H 300
2305 8	8	HRF 1000
2305 10	10	HRF 1000
2305 12	12	HRF 1000
2305 14	14	HR 500
2305 16	16	HR 500
2305 18	18	f 100
2305 20	20	f 100
2305 22	22	f 100
2305 24	24	50
2305 27	27	50
2305 30	30	50
2305 33	33	50
2305 36	36	25
2305 39	39	25
2305 42	42	25
2305 45	45	10
2305 48	48	10

Specifications

For thread	d1	d2	h
mm	mm	mm	mm
M 2	2.2	5	0.3
M 2.5	2.7	6	0.5
M 3	3.2	7	0.5
M 3.5	3.7	8	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 7	7.4	14	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 18	19.0	34	3.0
M 20	21.0	37	3.0
M 22	23.0	39	3.0
M 24	25.0	44	4.0
M 27	28.0	50	4.0
M 30	31.0	56	4.0
M 32	33.0	60	5.0
M 36	37.0	66	5.0
M 39	40.0	72	6.0
M 42	43.0	78	7.0
M 45	46.0	85	7.0
M 48	50.0	92	8.0



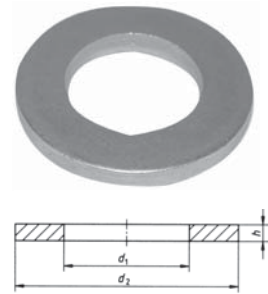
Washers DIN 125, Stainless Steel A4

- In compliance with ISO 7089/7090
- Shape A (without chamfer)

Article No.	Dimension	QTY
2306 2	2	F 1000
2306 25	2,5	F 1000
2306 3	3	HRF 1000
2306 35	3,5	RF 1000
2306 4	4	HRF 1000
2306 5	5	HRF 1000
2306 6	6	HRF 1000
2306 7	7	H 300
2306 8	8	HRF 1000
2306 10	10	HRF 1000
2306 12	12	HRF 1000
2306 14	14	HR 500
2306 16	16	HR 500
2306 18	18	f 100
2306 20	20	gf 100
2306 22	22	f 100
2306 24	24	50
2306 27	27	50
2306 30	30	50
2306 33	33	50
2306 36	36	25
2306 39	39	25
2306 42	42	25
2306 45	45	10
2306 48	48	10

Specifications

For thread	d1	d2	h
mm	mm	mm	mm
M 2	2.2	5	0.3
M 2.5	2.7	6	0.5
M 3	3.2	7	0.5
M 3.5	3.7	8	0.5
M 4	4.3	9	0.8
M 5	5.3	10	1.0
M 6	6.4	12	1.6
M 7	7.4	14	1.6
M 8	8.4	16	1.6
M 10	10.5	20	2.0
M 12	13.0	24	2.5
M 14	15.0	28	2.5
M 16	17.0	30	3.0
M 18	19.0	34	3.0
M 20	21.0	37	3.0
M 22	23.0	39	3.0
M 24	25.0	44	4.0
M 27	28.0	50	4.0
M 30	31.0	56	4.0
M 32	33.0	60	5.0
M 36	37.0	66	5.0
M 39	40.0	72	6.0
M 42	43.0	78	7.0
M 45	46.0	85	7.0
M 48	50.0	92	8.0



Lock Washers DIN 127, Stainless Steel A2

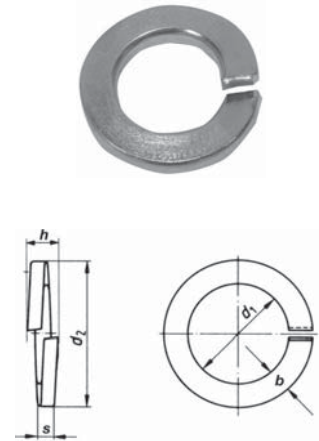
• Shape B

Article No.	Dimension	QTY
2505 2	2	RF 1000
2505 25	2,5	RF 1000
2505 3	3	HRF 1000
2505 35	3,5	RF 1000
2505 4	4	HRF 1000
2505 5	5	HRF 1000
2505 6	6	HRF 1000
2505 8	8	HRF 1000
2505 10	10	HRF 1000
2505 12	12	HRF 1000
2505 14	14	HRF 1000
2505 16	16	HR 500
2505 18	18	f 100
2505 20	20	f 100
2505 22	22	f 100
2505 24	24	50
2505 27	27	50
2505 30	30	50
2505 33	33	50
2505 36	36	50

(for M-type screws)

Specifications

For thread	d1 min.	d2 max.	b	s	h max.
mm	mm	mm	mm	mm	mm
M 2	2.10	4.4	0.9	0.5	1.2
M 2.5	2.60	5.1	1.0	0.6	1.4
M 3	3.10	6.2	1.3	0.8	1.9
M 3.5	3.60	6.7	1.3	0.8	1.9
M 4	4.10	7.6	1.5	0.9	2.1
M 5	5.10	9.2	1.8	1.2	2.8
M 6	6.10	11.8	2.5	1.6	3.8
M 8	8.10	14.8	3.0	2.0	4.7
M 10	10.20	18.1	3.5	2.2	5.2
M 12	12.20	21.1	4.0	2.5	5.9
M 14	14.20	24.1	4.5	3.0	7.1
M 16	16.20	27.4	5.0	3.5	8.3
M 18	18.20	29.4	5.0	3.5	8.3
M 20	20.20	33.6	6.0	4.0	9.4
M 22	22.50	35.9	6.0	4.0	9.4
M 24	24.50	40.0	7.0	5.0	11.8
M 27	27.50	43.0	7.0	5.0	11.8
M 30	30.50	48.2	8.0	6.0	14.2
M 33	33.50	55.2	10.0	6.0	14.2
M 36	36.50	58.2	10.0	6.0	14.2



Lock Washers DIN 127, Stainless Steel A4

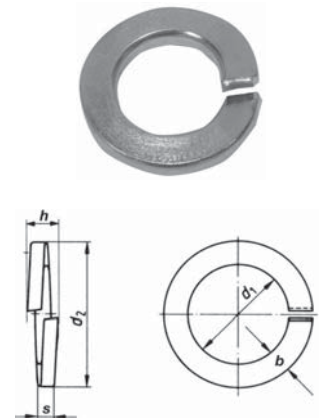
• Shape B

Article No.	Dimension	QTY
2506 3	3	HRF 1000
2506 35	3,5	RF 1000
2506 4	4	HRF 1000
2506 5	5	HRF 1000
2506 6	6	HRF 1000
2506 8	8	HRF 1000
2506 10	10	HRF 1000
2506 12	12	HRF 1000
2506 14	14	HRF 1000
2506 16	16	HR 500
2506 18	18	f 100
2506 20	20	f 100
2506 22	22	f 100
2506 24	24	50
2506 27	27	50
2506 30	30	50
2506 33	33	50
2506 36	36	50

(for M-type screws)

Specifications

For thread	d1 min.	d2 max.	b	s	h max.
mm	mm	mm	mm	mm	mm
M 3	3.10	6.2	1.3	0.8	1.9
M 3.5	3.60	6.7	1.3	0.8	1.9
M 4	4.10	7.6	1.5	0.9	2.1
M 5	5.10	9.2	1.8	1.2	2.8
M 6	6.10	11.8	2.5	1.6	3.8
M 8	8.10	14.8	3.0	2.0	4.7
M 10	10.20	18.1	3.5	2.2	5.2
M 12	12.20	21.1	4.0	2.5	5.9
M 14	14.20	24.1	4.5	3.0	7.1
M 16	16.20	27.4	5.0	3.5	8.3
M 18	18.20	29.4	5.0	3.5	8.3
M 20	20.20	33.6	6.0	4.0	9.4
M 22	22.50	35.9	6.0	4.0	9.4
M 24	24.50	40.0	7.0	5.0	11.8
M 27	27.50	43.0	7.0	5.0	11.8
M 30	30.50	48.2	8.0	6.0	14.2
M 33	33.50	55.2	10.0	6.0	14.2
M 36	36.50	58.2	10.0	6.0	14.2



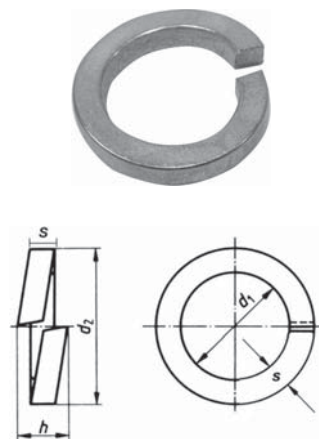
Lock Washers DIN 7980, Stainless Steel A2

Article No.	Dimension	QTY
2525 3	3	HR 500
2525 4	4	HR 500
2525 5	5	HR 500
2525 6	6	HR 500
2525 8	8	HR 500
2525 10	10	HR 500
2525 12	12	fH 300
2525 14	14	f 100
2525 16	16	f 100
2525 18	18	f 100
2525 20	20	f 100
2525 24	24	f 100
2525 27	27	50
2525 30	30	50

(for M-type screws)

Specifications

For thread	d1 min.	d2 max.	s	h min.
mm	mm	mm	mm	mm
M 3	3.1	5.6	1.0	2.0
M 4	4.1	7.0	1.2	2.4
M 5	5.1	8.8	1.6	3.2
M 6	6.1	9.9	1.6	3.2
M 8	8.1	12.7	2.0	4.0
M 10	10.2	16.0	2.5	5.0
M 12	12.2	18.0	2.5	5.0
M 14	14.2	21.1	3.0	6.0
M 16	16.2	24.4	3.5	7.0
M 18	18.2	26.4	3.5	7.0
M 20	20.2	30.6	4.5	9.0
M 24	24.5	35.9	5.0	10.0
M 27	27.5	38.9	5.0	10.0
M 30	30.5	44.1	6.0	12.0



Washers DIN 9021, Stainless Steel A2

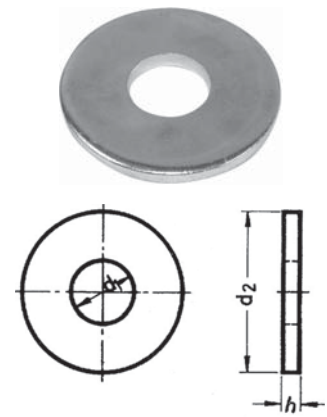
- In compliance with ISO 7093

Article No.	Dimension	QTY
2315 25	2,5	1000
2315 3	3	RF 1000
2315 35	3,5	1000
2315 4	4	HRF 1000
2315 5	5	HRF 1000
2315 6	6	HRF 1000
2315 7	7	500
2315 8	8	HRF 1000
2315 10	10	HR 500
2315 12	12	H 300
2315 14	14	100
2315 16	16	100
2315 18	18	100
2315 20	20	100

(for M-type screws)

Specifications

For thread	d1	d2	h
mm	mm	mm	mm
M 2.5	2.7	8.0	0.8
M 3	9.0	3.2	0.8
M 3.5	3.7	11.0	0.8
M 4	12.0	4.3	1.0
M 5	15.0	5.3	1.6
M 6	18.0	6.4	1.6
M 7	22.0	7.4	2.0
M 8	25.0	8.4	2.0
M 10	30.0	10.5	2.5
M 12	40.0	13.0	3.0
M 14	45.0	15.0	3.0
M 16	50.0	17.0	3.0
M 18	55.0	20.0	4.0
M 20	60.0	22.0	4.0



Washers DIN 9021, Stainless Steel A4

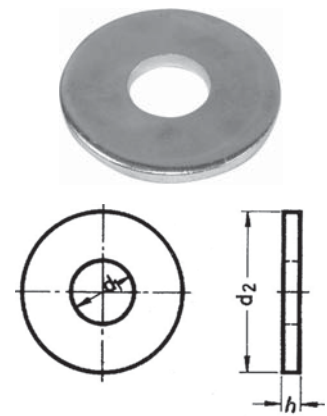
- In compliance with ISO 7093

Article No.	Dimension	QTY
2316 25	2,5	1000
2316 3	3	RF 1000
2316 35	3,5	1000
2316 4	4	RF 1000
2316 5	5	RF 1000
2316 6	6	HRF 1000
2316 7	7	500
2316 8	8	HRF 1000
2316 10	10	HR 500
2316 12	12	H 300
2316 14	14	100
2316 16	16	100
2316 18	18	100
2316 20	20	100

(for M-type screws)

Specifications

For thread	d1	d2	h
mm	mm	mm	mm
M 2.5	2.7	8.0	0.8
M 3	9.0	3.2	0.8
M 3.5	3.7	11.0	0.8
M 4	12.0	4.3	1.0
M 5	15.0	5.3	1.6
M 6	18.0	6.4	1.6
M 7	22.0	7.4	2.0
M 8	25.0	8.4	2.0
M 10	30.0	10.5	2.5
M 12	40.0	13.0	3.0
M 14	45.0	15.0	3.0
M 16	50.0	17.0	3.0
M 18	55.0	20.0	4.0
M 20	60.0	22.0	4.0



Washers DIN 440, Stainless Steel A2

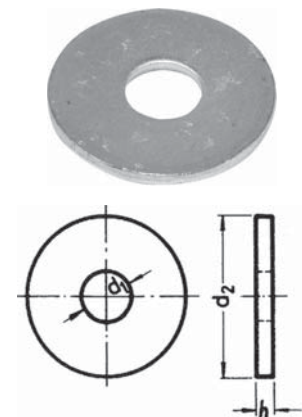
- Shape R

Article No.	Dimension	QTY
2375 5	5	100
2375 6	6	100
2375 8	8	100
2375 10	10	100
2375 12	12	100
2375 16	16	100
2375 20	20	25
2375 24	24	25

(for M-type screws)

Specifications

For thread	d1	d2	s
mm	mm	mm	mm
M 5	5.5	18.0	2
M 6	6.6	22.0	2
M 8	9.0	28.0	3
M 10	11.0	34.0	3
M 12	14.0	45.0	4
M 16	18.0	58.0	5
M 20	22.0	68.0	5
M 24	26.0	92.0	6



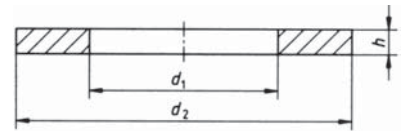
Large Diameter Washers, Stainless Steel A2

Article No.	Dimension	QTY
2335 4 12	4 x 12	HRF 1000
2335 4 15	4 x 15	HRF 1000
2335 4 20	4 x 20	HRF 1000
2335 4 25	4 x 25	HRF 1000
2335 5 15	5 x 15	HRF 1000
2335 5 20	5 x 20	HRF 1000
2335 5 25	5 x 25	HR 500
2335 5 30	5 x 30	HR 500
2335 6 20	6 x 20	HRF 1000
2335 6 25	6 x 25	HRF 1000
2335 6 30	6 x 30	HR 500
2335 6 35	6 x 35	1000
2335 6 40	6 x 40	100
2335 8 20	8 x 20	HRF 1000
2335 8 25	8 x 25	HRF 1000
2335 8 30	8 x 30	HR 500
2335 8 35	8 x 35	HR 500
2335 8 40	8 x 40	H 300
2335 10 25	10 x 25	HR 500
2335 10 30	10 x 30	HR 500
2335 10 35	10 x 35	H 300
2335 10 40	10 x 40	H 300
2335 12 30	12 x 30	H 300
2335 12 35	12 x 35	H 300
2335 12 40	12 x 40	H 300

(for M-type screws)

Specifications

For thread	d1	s
mm	mm	mm
M 4	4.3	1.0
M 5	5.3	1.5
M 6	6.4	1.5
M 8	8.4	1.5
M 10	10.5	1.5
M 12	12.5	1.5



Fixing Technology



Application of Fixings

Page 2



Metal Dowels



Universal Plugs



Heavy-duty Fixings



Impact Anchors



Composite Anchor, Injection Mortar FIT



Frame Anchors



Lightweight Building Fixings



Insulation and Scaffolding Fixings



Frame Anchors Meta



Cavity Fixings

Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
		Concrete	Natural stone	Lightweight concrete PB2 - PB4	Solid brick	Solid sand-lime beick	Perforated sand-lime	Hollow blocks	Vertically perforated	Rigid foam	Polystyrene	Gypsum plasterboard	Cement fiber board	Wooden fiber board		
Multipurpose plug																
	8108	●	●	●	●	●	●	●	●			●	●	●	●	7/112
All-pur																
	8100/8101	●		●	●	●	●								●	7/113
Multipurpose 4MZ																
	8105/8106	●	●	●	●	●	●	●	●			●	●	●	●	7/113
TRIKA All-purpose anchors																
	8112/8113	●		●	●	●	●	●	●			●	●	●	●	7/114
Expansion anchor Nylon																
	8000	●			●	●									●	7/118
Hollow brick plug																
	8010						●	●	●						●	7/119
Nail plug																
	8020 - 8022	●														7/130
Nail plug with mushroom head																
	8025	●														7/130
Threaded nail plug																
	8022	●														7/131
Express nail																
	8023	●			●	●										7/131
Sealing nail																
	8024	●			●	●										7/132
Hammer rivets																
	8028	●			●											7/132
Frame anchor, short																
	8011	●			●	●										7/133
Frame anchor, long																
	8012						●		●						●	7/134
Universal frame anchors																
	8109	●		●	●	●	●	●	●							7/135

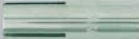
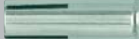
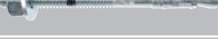
Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
		Concrete	Natural stone	Lightweight concrete PB2 - PB4	Solid brick	Solid sand-lime beick	Perforated sand-lime	Hollow blocks	Vertically perforated	Rigid foam	Polystyrene	Gypsum plasterboard	Cement fiber board	Wooden fiber board	Lightweight concrete PB1 - PB2	
Multi-functional frame anchor MFR																
	8107	●			●	●	●		●						●	7/136
Lightweight concrete anchor																
	8130			●											●	7/142
Lightweight concrete dowel pin																
	8130 1			●												7/142
ISO Spiral plug																
	8137									●	●					7/143
Insulation plug, plastic																
	8084/8085/8086	●			●			●								7/144
Insulation plug, metal																
	8082	●					●	●								7/148
Distance mounting sleeve																
	8154								●	●	●	●	●			7/149
Scaffolding plug																
	8090/8091	●	●		●			●							●	7/154
Frame anchor, metal																
	8040/8042	●			●		●	●							●	7/157
Plasterboard plug																
	8055										●				●	7/158
Board anchor																
	8104	●			●		●	●			●	●	●			7/158
Injection Fixing 2K																
	8040	●	●	●	●	●	●	●			●	●	●		●	7/159
Hollow plug																
	8145										●	●	●			7/160
Spring toggle bolt																
	8060/8061/8062										●	●	●			7/161
Toggle bolt																
	8065/8066/8067										●	●	●			7/166

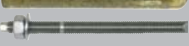
Application table for lightweight fixing

Designation	AGR	Solid building material					Perforated bricks			Foam		Fiberboards			Lightweight build. material	Page
		Concrete	Natural stone	Lightweight concrete PB2 - PB4	Solid brick	olid sand-lime beick	Perforated sand-lime	Hollow blocks	Vertically perforated	Rigid foam	Polystyrene	Gypsum plasterboard	Cement fiber board	Wooden fiber board	Lightweight concrete PB1 - PB2	
Spike grid metal																
	8155	●						●						●	7/167	
Expansion anchor brass																
	8050	●			●	●									7/167	
Drop-in anchor DM-PRO, galvanised steel																

Application table for heavy duty anchors

Designation	Material				Approvals								Page
	Cracked concrete	Non-cracked concrete	Hollow blocks	Solid bricks	ETA-Approval	DIBt-Approval	Fire-protection tested	VDS	FM	Shock tested	Seismic	Sprinkler system	
Drop-in anchor R-DCA, gv steel AGR 8209 2 	•	•			•		•						7/200
Drop-in anchor R-DCA, stainless steel A4 AGR 8209 3 	•	•			•		•						7/200
Drop-in anchor R-DCL-K, gv steel AGR 8209 1 	•	•			•		•						7/201
Hollow ceiling anchor Easy AGR 8258 	•	•				•	•	•					7/206
Drop-in anchor ED-DW 15 AGR 8250 		•											7/208
Nail anchor N-K AGR 8254 	•	•			•		•						7/209
Ceiling anch.R-GS, zinc-coated steel AGR 8241 	•	•			•		•						7/210
Nail anchor N-M 6-25 AGR 8254 	•	•			•		•					•	7/211
Bolt-anchor R-XPT, steel/stainless steel A4 AGR 8178/8178 1 / 		•			•								7/213 - 7/216
Bolt-anchor R-HPTII, Zinc-coated Steel AGR 8225 	•	•			•		•				•		7/218
Bolt-anchor R-HPTII, stainless steel A4 AGR 8226 	•	•			•		•				•		7/220
Wedge anchor B, Steel AGR 8165 		•			•		•		•				7/224
Wedge anchor B, Stainless Steel A4 AGR 8166 		•			•		•		•				7/226

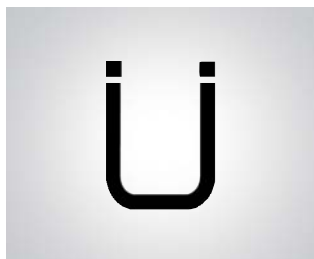
Application table for heavy duty anchors

Designation	Material				Perforated bricks								Page
	Cracked concrete	Non-cracked concrete	Hollow blocks	Solid bricks	ETA-Approval	DIBt-Approval	Fire-protection tested	VDS	FM	Shock tested	Seismic	Sprinkler system	
Bolt-anchor BZ, stainless steel A4 AGR 8169 	•	•			•		•		•	•	•	•	7/228
Bolt-anchor BZ, Stainless Steel A4 AGR 8169 1 	•	•			•	•	•		•	•	•	•	7/230
Bolt-anchor M2-U, steel AGR 8165 1 		•			•								7/214
Heavy-duty Anchor Type SZ-S AGR 8176 	•	•			•		•	•		•		•	7/236
Heavy-duty Anchor Type SZ-B AGR 8177 	•	•			•		•	•		•		•	7/237
Screw Anchor / Rail Anchor AGR 8171 	•	•			•		•				•	•	7/244
Shear connector AGR 8160 1 / 8167 / 8168 		•			•								7/252
Injection mortar FIT Express 345 AGR 8150 		•	•	•									7/258
Injection mortar FIT Z-MB7 AGR 8150 		•	•	•	•								7/302
Injection mortar FIT z-B 300 / 345 AGR 8150 	•	•	•	•	•		•						7/303
Injection mortar VMZ 345 AGR 8180 	•	•			•		•			•		•	7/313

Approvals and Certificates



European Technical Approval (ETA) with CE marking



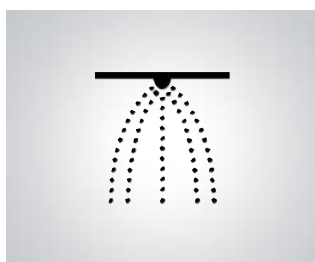
National approval from the Institut for Structural Engineering), Berlin



Shock approval from the Federal Office for Civil Protection, Bern, Switzerland



Factory Mutual (FM), U.S. approval for the installation of sprinkler systems



Suitability for the installation of sprinkler systems conforming to VdS (Schadensverhütung GmbH).



Endorsed by VdS Schadensverhütung GmbH for the installation of sprinkler systems.



Fire protection tested in accordance with DIN 4102-2, Fire Resistance Classes F30/R30, F60/R60, F90/R90, F120/R120



Identifies the anchors that are approved for absorbing fatigue-related (dynamic) effects



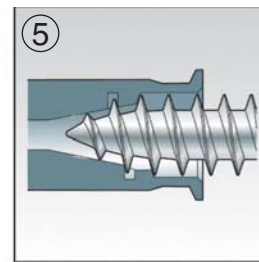
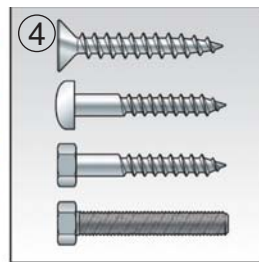
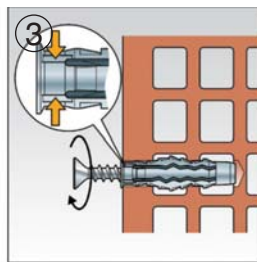
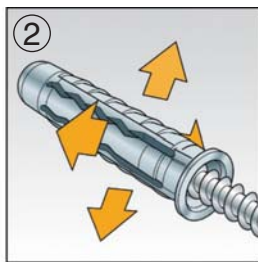
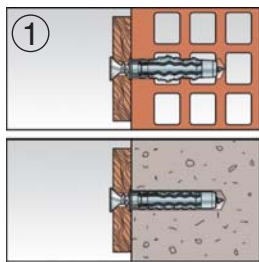
Material for stainless steel (A4)



Identifies the anchors that can be evaluated with the MKT design software.

Universal Plug GX Premium

- Innovative multipurpose/multi plug made of nylon of premium quality
- Quadruple expansion guarantees highest retaining values (pictures 1+2) in concrete and all brickwork materials
- A flexible plug flange avoids slipping in deep bore holes; however, if necessary it allows penetration (safety and push-through assembly, picture 3)
- Applicable for all existing types of screws such as wood screws, chipboard screws, tapping screws as well as screws with metric thread (picture 4)
- Screw-in centering ensures the expansion function (picture 5)



Article No.	Dimension		Article No.	Qty
8108 5	5x25mm	HF	8108P 5	1000
8108 6	6x30mm	HF	8108P 6	1000
8108 8	8x40mm	HW	8108P 8	500
8108 10	10x50mm	fH	8108P 10	250
8108 12	12x60mm	gf	8108P 12	200
8108 14	14x70mm	w	8108P 14	100

Technical Data		Recommended load in kN			
Designation	Screw Ø mm	Concrete	Solid bricks	Vertically perfor. bricks	Lightw. concrete
G x 5	3,0 - 4,0	1,20	1,00	0,80	0,30
G x 6	4,0 - 5,0	1,80	1,00	0,80	0,40
G x 8	4,5 - 6,0	2,50	2,00	1,50	0,90
G x 10	6,0 - 8,0	8,00	4,00	3,00	1,10
G x 12	8,0 - 10,0	12,00	4,60	3,30	1,30
G x 14	10,0 - 12,0	24,00	5,10	3,60	2,00

Universal Plug GX Premium Packed in System Box

- Several small packs per dimension, sorted in a high-quality system plastic case

Article No.	Article Description	QTY
8108S 5	SB<40.0>UNI.PLUG PREMIUM GX 5	1
8108S 6	SB<40.0>UNI.PLUG PREMIUM GX 6	1
8108S 8	SB<16.0>UNI.PLUG PREMIUM GX 8	1
8108S 10	SB<8.0>UNI.PLUG PREMIUM GX 10	1
8108S 12	SB<5.0>UNI.PLUG PREMIUM GX 12	1
8108S 14	SB<3.2>UNI.PLUG PREMIUM GX 14	1

Contents:

- Art.-No. 8108S 5: 40 packaging unit à 100 pieces
- Art.-No. 8108S 6: 40 packaging unit à 100 pieces
- Art.-No. 8108S 8: 16 packaging unit à 100 pieces
- Art.-No. 8108S 10: 16 packaging unit à 50 pieces
- Art.-No. 8108S 12: 20 packaging unit à 25 pieces
- Art.-No. 8108S 14: 16 packaging unit à 20 pieces



System Box Empty

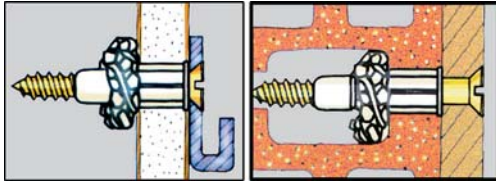
- Dimensions LxWxH: 40 x 30 x 22 mm

Article No.	Article Description	QTY
9027 403022	SYSTEM BOX - SMALL PARTS	1



All-Purpose Plug

- For through-bolt mountings
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Dimension		Article No.	Qty
8100 5	5 x 29	F	8100P 5	1000
8100 6	6 x 33	F	8100P 6	1000
8100 8	8 x 46	W	8100P 8	500
8100 10	10 x 56	H	8100P 10	250
8100 12	12 x 65	f	8100P 12	200
8100 14	14 x 70	g	8100P 14	120

Technical Data		*Recommended load in kN			
Screw Ø mm	Con- crete*	Lightw. concrete PB4*	Solid brick*	Perfor. sand- lime brick*	Solid sand- lime brick*
3,0 - 3,5	0,28	0,15	0,15	0,15	0,15
3,0 - 4,0	0,45	0,15	0,25	0,20	0,25
4,0 - 6,0	1,00	0,40	0,80	0,35	0,80
6,0 - 8,0	1,10	0,50	0,90	0,50	0,90
8,0 - 10,0	1,30	0,60	0,95	0,60	0,95
10,0 - 12,0	2,40	0,82	1,10	0,85	0,85

All-Purpose Plug with Flange

- The cap or flange prevents sliding of the plug into the hollow space
- For flush mounting
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Dimension		Article No.	Qty
8101 5	5 X 29	F	8101P 5	1000
8101 6	6 X 33	F	8101P 6	1000
8101 8	8 X 46	W	8101P 8	450
8101 10	10 X 56	H	8101P 10	250
8101 12	12 X 65	f	8101P 12	150
8101 14	14 X 70	g	8101P 14	120

Technical Data		*Recommended load in kN			
Screw Ø mm	Con- crete*	Lightw. concr. PB4*	Solid brick*	Perfor. sand- lime brick*	Solid sand-lime brick*
3,0 - 3,5	0,28	0,15	0,15	0,15	0,15
3,0 - 4,0	0,45	0,15	0,25	0,20	0,25
4,0 - 6,0	1,00	0,40	0,80	0,35	0,80
6,0 - 8,0	1,10	0,50	0,90	0,50	0,90
8,0 - 10,0	1,30	0,60	0,95	0,60	0,95
10,0 - 12,0	2,40	0,82	1,10	0,85	0,85

Multipurpose Plug 4 MZ

- For through-bolt mountings
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Article Description	QTY
8105 6	MULTIPURPOSE PLUG 4MZ 6	500
8105 6 40	MULTIPURPOSE PLUG 4MZ 6X40	400
8105 8	MULTIPURPOSE PLUG 4MZ 8	200
8105 10	MULTIPURPOSE PLUG 4MZ 10	100
8105 12	MULTIPURPOSE PLUG 4MZ 12	50
8105 14	MULTIPURPOSE PLUG 4MZ 14	50

Technical Data		*Recommended load in kN			
Scr. Ø mm	Concr.*	L. concr. PB4*	Solid brick*	Perf. sand- lime brick*	Solid sand-l. brick*
3,0 - 4,5	0,30	0,06	0,16	0,22	0,26
3,0 - 4,5	0,72	0,12	0,27	0,21	0,51
3,5 - 6,0	0,52	0,14	0,43	0,27	0,59
6,0 - 8,0	1,56	0,25	0,68	0,31	1,07
8,0 - 10,0	2,02	0,39	-	0,42	1,31
10,0 - 12,0	-	0,59	-	0,33	-

Multipurpose Plug 4 MZ-K with Flange

- The flange prevents sliding of the plug into the hollow space
- For flush mounting
- For secure attachment in concrete, solid and perforated bricks
- Knotting of the plug in hollow spaces



Article No.	Article Description	QTY
8106 6	MULTIPURPOSE PLUG 4MZ-K 6	500
8106 6 41	MULTIPURPOSE PLUG 4MZ-K 6X41	300
8106 8	MULTIPURPOSE PLUG 4MZ-K 8	150
8106 10	MULTIPURPOSE PLUG 4MZ-K 10	100
8106 12	MULTIPURPOSE PLUG 4MZ-K 12	50
8106 14	MULTIPURPOSE PLUG 4MZ-K 14	50

Technical Data		*Recommended load in kN			
Scr. Ø mm	Concr.*	L.concr. PB4*	Solid brick*	Vert. perf. brick*	Solid sand l. brick*
3,0 - 4,5	0,30	0,06	0,16	0,22	0,26
3,0 - 4,5	0,72	0,12	0,27	0,21	0,51
3,5 - 6,0	0,52	0,14	0,43	0,27	0,59
6,0 - 8,0	1,56	0,25	0,68	0,31	1,07
8,0 - 10,0	2,02	0,39	-	0,42	1,31
10,0 - 12,0	-	0,59	-	0,33	-

TRI All-Purpose Anchors

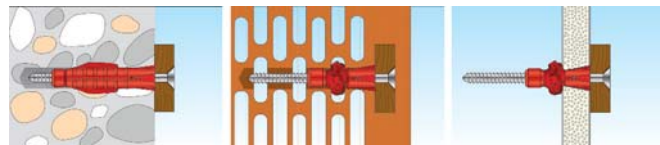
- All-purpose anchors for almost all building materials
- Secure knotting of the anchor into hollow frames
- Anti-rotation features on the anchor neck and rotary wings on the anchor body prevent it from turning in the construction material
- For push-through and pre-positioned installation

Application:

- Fastening into concrete, full brick, perforated brick, aerated concrete, plasterboard
- For the fastening of, e.g. hanging cupboards, shelves, TV equipment, pictures, lamps, handtowel holders, etc.



Article No.	Dimension		Article No.	Qty
8112 5	5x31	F	8112P 5	1000
8112 6	6x36	HF	8112P 6	1000
8112 6 51	6x51	HV	8112P 6 51	600
8112 8	8x51	W	8112P 8	500
8112 10	10x61	H	8112P 10	250
8112 12	12x71	f	8112P 12	200
8112 14	14x75	g	8112P 14	100



Technical Data		Min.drill hole depth mm	Concrete C20 / 25*	Full brick MZ12*	Very perfor. bricks ≥Hlz 12*	Hollow block stone ≥ Hbl 2*	Perfor. bricks Concrete PB2, PP2*	Gypsum bricks plate 12.5 mm*	Gypsum fibre bricks plate 2.5mm*
Art.-No.	Screw-Ø mm								
8112 5	3.0 - 4.0	40	0.25	0.15	0.15	0.10		0.10	0.15
8112 6	4.0 - 5.0	45	0.50	0.35	0.25	0.15		0.10	0.20
8112 6 51	4.0 - 5.0	60	0.60	0.40	0.25	0.20	0.10	0.10	0.25
8112 8	5.0 - 6.0	60	1.00	0.80	0.30	0.25	0.15	0.10	0.30
8112 10	6.0 - 8.0	70	1.50	1.00	0.35	0.28	0.20	0.10	0.30
8112 12	8.0 - 10.0	80	1.60	1.20	0.40	0.30	0.25	0.10	
8112 14	10.0 - 12.0	85	2.00	1.40	0.40	0.35	0.25	0.10	

TRIKA All-Purpose Anchors

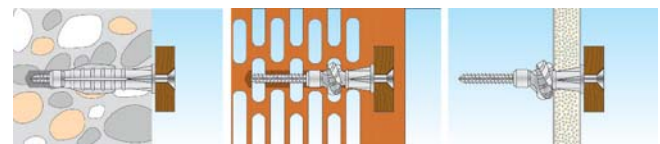
- All-purpose anchors for almost all building materials
- Anchor caps (collars) prevent the anchor from slipping deeper into the drill hole and protect the surface
- Secure knotting of the anchor into hollow frames
- Anti-rotation features on the anchor neck and rotary wings on the anchor body prevent it from turning in the construction material
- For pre-positioned installation

Application:

- Fastening into concrete, full brick, perforated brick, aerated concrete, plasterboard
- For the fastening of, e.g. hanging cupboards, shelves, TV equipment, pictures, lamps, handtowel holders, etc.



Article No.	Dimension		Article No.	Qty
8113 5	5x31	F	8113P 5	1000
8113 6	6x36	HF	8113P 6	1000
8113 6 51	6x51	HV	8113P 6 51	500
8113 8	8x51	W	8113P 8	450
8113 10	10x61	H	8113P 10	250
8113 12	12x71	f	8113P 12	150
8113 14	14x75	g	8113P 14	100



Technical Data		Min.drill hole depth mm	Concrete C20 / 25*	Full brick MZ12*	Very perfor. bricks ≥Hlz 12*	Hollow block bricks tone ≥ Hbl 2*	Perfor. bricks concrete PB2, PP2*	Gypsum bricks plate 12.5 mm*	Gypsum fibre bricks plate 2.5mm*
Art.-No.	Screw-Ø mm								
8113 5	3.0 - 4.0	40	0.25	0.15	0.15	0.10		0.10	0.15
8113 6	4.0 - 5.0	45	0.50	0.35	0.25	0.15		0.10	0.20
8113 6 51	4.0 - 5.0	60	0.60	0.40	0.25	0.20	0.10	0.10	0.25
8113 8	5.0 - 6.0	60	1.00	0.80	0.30	0.25	0.15	0.10	0.30
8113 10	6.0 - 8.0	70	1.50	1.00	0.35	0.28	0.20	0.10	0.30
8113 12	8.0 - 10.0	80	1.60	1.20	0.40	0.30	0.25	0.10	
8113 14	10.0 - 12.0	85	2.00	1.40	0.40	0.35	0.25	0.10	

Universal Anchors GX Premium **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 universal anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8108 6	UNIVERSAL PLUG GX PREMIUM 6MM	300
8108 8	UNIVERSAL PLUG GX PREMIUM 8MM	200
8108 10	UNIVERSAL PLUG GX PREMIUM 10MM	100
8108 12	UNIVERSAL PLUG GX PREMIUM 12MM	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8108	UNIVER.ACHN.GX PREM.VARIOBOXX	1



All-Purpose Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8100 6	ALL-PURPOSE PLUG 6	300
8100 8	ALL-PURPOSE PLUG 8	200
8100 10	ALL-PURPOSE PLUG 10	100
8100 12	ALL-PURPOSE PLUG 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8100	ALL-PURPOSE ANCHORS VARIOBOXX	1



All-Purpose Anchors with Collars **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 550 all-purpose anchors with collars in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8101 6	ALL-PURPOSE PLUG/FLANGE 6	300
8101 8	ALL-PURPOSE PLUG/FLANGE 8	100
8101 10	ALL-PURPOSE PLUG/FLANGE 10	100
8101 12	ALL-PURPOSE PLUG/FLANGE 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8101	ALL-PURP.ACHN.W.COLL.VARIOBOXX	1



TRI All-Purpose Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 TRI all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8112 6	TRI-ALLZWECKDÜBEL 6X36	300
8112 8	TRI-ALLZWECKDÜBEL 8X51	200
8112 10	TRI-ALLZWECKDÜBEL 10X61	100
8112 12	TRI-ALLZWECKDÜBEL 12X71	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8112	TRI ALL-PURP.ANCH.VARIOBOXX	1



TRIKA All-Purpose Anchors **VAROiBOXX**

- Assortment in VAROiBOXX
- Set contains 650x TRIKA all-purpose anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8113 6	TRIKA-ALLZWECKDÜBEL 6X36	300
8113 8	TRIKA-ALLZWECKDÜBEL 8X51	200
8113 10	TRIKA-ALLZWECKDÜBEL 10X61	100
8113 12	TRIKA-ALLZWECKDÜBEL 12X71	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3

Article No.	Article Description	QTY
9007 8113	VARIOBOXX TRIKA ALL-PURP.ANCH	1



Nylon Expansion Anchors **VAROiBOXX**

- Range in VAROiBOXX
- Set contains 650 nylon expansion anchors in 4 different sizes

Contents:

Art. No.	Art. Description	Quantity
8000 6	NYLON-EXPANSION ANCHOR F 6	200
8000 8	NYLON-EXPANSION ANCHOR F 8	250
8000 10	NYLON-EXPANSION ANCHOR F 10	150
8000 12	NYLON-EXPANSION ANCHOR F 12	50
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	1
9004 1 10 15	INSETB.L-GR.10X15CM VAROBOXX 1	1
9008 1	VAROIBOXX EMPTY	1
9008 75 260	VAROIBOXX INSET.B.GREY7.5X26MM	3
9008 75 260 1	PART.INSERT BOX GREY VARIOBOXX	1

Article No.	Article Description	QTY
9007 8000	NYLON EXPANSION ANCH.VARIOBOXX	1



Expansion Anchor F Nylon

- Appropriate for all solid materials
- To fix all objects which can be secured with wood or chipboard screws



Article No.	Dimension		Article No.	Qty
8000 4	4 X 20	F		
8000 5	5 X 25	V		
8000 6	6 X 30	HF	8000P 6	1500
8000 7	7 X 35	V		
8000 8	8 X 40	Z	8000P 8	700
8000 10	10 X 50	G	8000P 10	250
8000 12	12 X 60	f	8000P 12	200
8000 14	14 X 70	f	8000P 14	130
8000 16	16 X 80	g		

Technical Data		*Recommended load in kN			
Screw-Ø mm	Con- crete*	Lightweight* concrete	Solid brick*	Perf. sand lime brick.*	
2,0 – 3,0	0,25	0,02	0,20	0,10	
3,0 – 4,0	0,35	0,04	0,30	0,15	
4,0 – 5,0	0,60	0,06	0,50	0,51	
4,0 – 5,0	0,70	0,07	0,65	0,55	
4,5 – 6,0	0,85	0,09	0,80	0,64	
6,0 – 8,0	1,40	0,20	1,00	0,65	
8,0 – 10,0	1,80	0,40	1,50	-	
10,0 – 12,0	3,00	0,50	1,60	-	
12,0 – 14,0	3,50	0,60	1,60	-	

Expansion Anchor F Black

- Appropriate for all solid materials To fix all objects which can be secured with wood or chipboard screws



Article No.	Dimension		Article No.	Qty
8000 2 6	6 X 30	HF	8000P 2 6	1500
8000 2 8	8 X 40	Z	8000P 2 14	130
8000 2 10	10 X 50	G		
8000 2 12	12 X 60	f		
8000 2 14	14 X 70	f		

Technical Data		*Recommended load in kN				
Screw Ø mm	Concr. B25*	Lightw. concr.* P2	Lightw. concr.* P4	Solid brick*	Vert. perf. brick*	Perf. sand lime brick*
5.0	0.50	0.08	0.12	0.50	0.25	0.50
6.0	0.80	0.16	0.21	0.80	0.35	0.80
8.0	1.25	0.25	0.35	1.12	0.45	1.50
10.0	1.80	0.25	0.50	1.50	0.55	1.70
12.0	2.85	0.36	0.75	-	-	-

Sound Insulation Anchor

- For light and medium loads
- Solid-borne sound insulation integrated in the dowel, reduced sound level up to 15.5 dB
- Suitable for all types of screws with wood thread, e. g. hanger and shoulder screws
- Excellent screw guidance, no eruption at the side
- Pre or through hole installation (without collar) possible
- UV and weather resistant
- Silicone and halogen free
- Temperature resistant from -40°C to +100°C

Applications:

- For attachment in heating, ventilation and sanitation (e.g. substructures, sound-absorbing constructions, cable and pipe clamps, bathrooms, flushing tanks, garage doors etc.)
- Can be used in concrete, nature stone, solid brick, sand-lime brick, gypsum wall panels, hollow blocks, vertically perforated bricks and perforated sand-lime brick

Mounting hints:

- The screw should not penetrate the dowel in order to prevent sound bridges



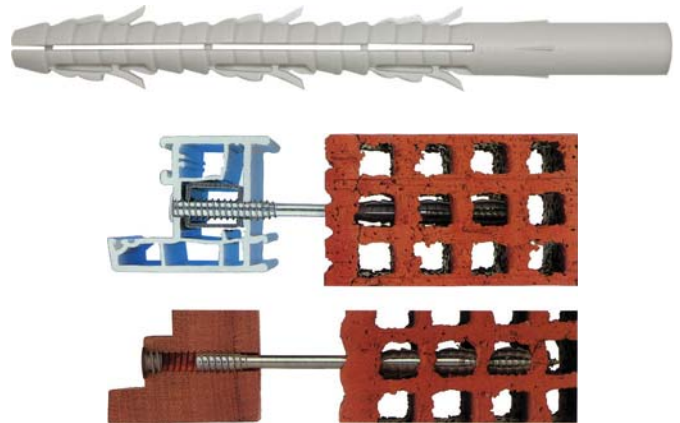
Article No.	Article Description	QTY
8031 10 30	SOU.INSU.ANCH.WITHO.COLL.10X30	25
8031 12 40	SOU.INSU.ANCH.WITHO.COLL.12X40	25
8031 14 50	SOU.INSU.ANCH.WITHO.COLL.14X50	25
8031 16 60	SOU.INSU.ANCH.WITHO.COLL.16X60	25
8031 18 70	SOU.INSU.ANCH.WITHO.COLL.18X70	25
8031 10 34	SOU.INSU.ANCH.WITH COLLAR10X34	25
8031 12 44	SOU.INSU.ANCH.WITH COLLAR12X44	25
8031 14 55	SOU.INSU.ANCH.WITH COLLAR14X55	25
8031 16 66	SOU.INSU.ANCH.WITH COLLAR16X66	25
8031 18 76	SOU.INSU.ANCH.WITH COLLAR18X76	25

Technical Data					*Recommended load in kN			
Wood screw	Hanger bolt	Collar strength and Ø	Sound insul. value dB		Con-crete ≥C20/25	Solid brick ≥MZ12, KS12	Vert. perf. brick ≥HLZ 12	Per. sand lime brick ≥KSL 12
Ø mm	Ø mm	Ø mm						
3.5- 5.0	-	-	12.5		0.15	0.15	0.10	0.15
4.5- 6.0	-	-	10.5		0.30	0.30	0.12	0.20
6.0- 8.0	8.0	-	13.5		0.50	0.50	0.20	0.30
8.0-10.0	10.0	-	15.0		0.80	0.80	0.25	0.60
10.0-12.0	12.0	-	15.5		1.20	1.20	0.35	0.80
3.5- 5.0	-	4 x 22	12.5		0.15	0.15	0.10	0.15
4.5- 6.0	-	4 x 30	10.5		0.30	0.30	0.12	0.20
6.0- 8.0	8.0	5 x 34	13.5		0.50	0.50	0.20	0.30
8.0-10.0	10.0	6 x 42	15.0		0.80	0.80	0.25	0.60
10.0-12.0	12.0	6 x 42	15.5		1.20	1.20	0.35	0.80

Hollow Brick Plug

- Extra-long plug for all hollow bricks such as vertically perforated bricks, perforated sand-lime bricks as well as lightweight concrete and other types of walls at best possible pull-out safety
- Triple plug locks positioned one after another - excellent overwind protection
- Long stable plug neck - For the types B 8 H 100 and B 8 H 120 the long plug neck serves as additional reinforcement and sound insulation when fixing window frames and door frames in particular in connection with spacer bolts

Article No.	Dimension		Article No.	Qty
8010 6 60	6X60	W	8010P 6 60	600
8010 8 80	8X80	H	8010P 8 80	350
8010 8 100	8X100	H	8010P 8 100	300
8010 10 90	10X90	H	8010P 10 90	250

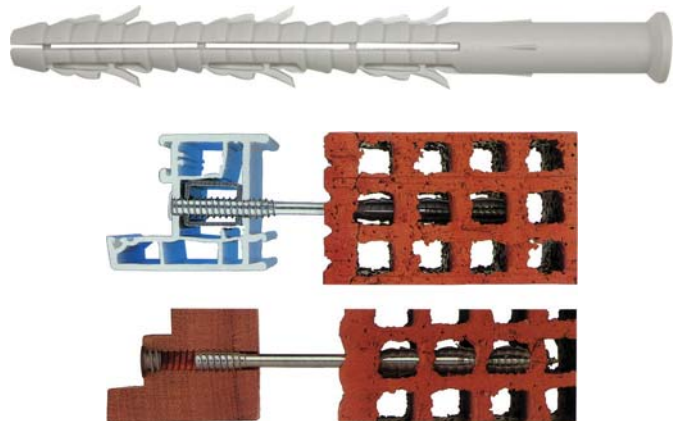


Technical Data				*Recommended load in kN			
Art.-No.	Screw-Ø mm	Min. drill.-depth mm	Min. drill hole mm	Hollow block*	Vert. perf. brick*	Lightw. concrete*	Perf. sand-lime brick*
8010 6 60	3.5 - 4.5	60	70	0.10	0.15	0.15	0.20
8010 8 80	4.5 - 6.0	80	90	0.15	0.25	0.20	0.30
8010 8 100	4.5 - 6.0	80	90	0.15	0.25	0.20	0.30
8010 10 90	6.0 - 8.0	90	100	0.20	0.35	0.35	0.50

Hollow Brick Plug with Collar

- Extra-long plugs for all hollow bricks such as vertically perforated bricks, as well as lightweight concrete and other types of walls at best possible pull-out safety
- Triple plug locks positioned one after another for excellent overwind protection
- Long stable plug neck, for the types B 8 H 100 and B 8 H 120 the long plug neck serves as additional reinforcement and sound insulation when fixing window frames and door frames in particular in connection with spacer bolts

Article No.	Dimension		Article No.	Qty
8010 8 100 1	8X100	H	8010P 8 100 1	250
8010 8 120	8X120	H	8010P 8 120	250
8010 10 120	10X120	f		
8010 10 135	10X135	f		
8010 10 160	10X160	f		
8010 10 185	10X185	f		
8010 10 230	10X230	f		
8010 14 135	14X135	g		
8010 14 160	14X160	g		
8010 14 185	14X185	g		
8010 14 230	14X230	g		



Technical Data				*Recommended load in kN			
Art.-No.	Screw Ø mm	Min. drilling depth mm	Minimum drilling hole depth mm	Hollow block*-	Vertically perforated brick*	Light-weight concrete*	Perforated sand-lime brick*
8010 8 100 1	4.5 - 6.0	80	90	0.15	0.20	0.30	0.25
8010 8 120	4.5 - 6.0	80	90	0.15	0.20	0.30	0.25
8010 10 120	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 135	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 160	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 185	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 10 230	6.0 - 8.0	90	100	0.20	0.35	0.50	0.35
8010 14 135	10.0 - 12.0	100	110	-	-	-	-
8010 14 160	10.0 - 12.0	100	110	-	-	-	-
8010 14 185	10.0 - 12.0	100	110	-	-	-	-
8010 14 230	10.0 - 12.0	100	110	-	-	-	-

ETA zinc-plated countersunk head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8018 5 30	SK-NAIL PLUG ETA PZ 5X 30	200
8018 5 35	SK-NAIL PLUG ETA PZ 5X 35	200
8018 5 50	SK-NAIL PLUG ETA PZ 5X 50	200
8018 6 35	SK-NAIL PLUG ETA PZ 6X 35	200
8018 6 40	SK-NAIL PLUG ETA PZ 6X 40	200
8018 6 60	SK-NAIL PLUG ETA PZ 6X 60	200
8018 6 80	SK-NAIL PLUG ETA PZ 6X 80	200
8018 8 60	SK-NAIL PLUG ETA PZ 8X 60	100
8018 8 80	SK-NAIL PLUG ETA PZ 8X 80	100
8018 8 100	SK-NAIL PLUG ETA PZ 8X100	100
8018 8 120	SK-NAIL PLUG ETA PZ 8X120	50
8018 8 140	SK-NAIL PLUG ETA PZ 8X140	50
8018 8 160	SK-NAIL PLUG ETA PZ 8X160	50

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
5	30	5	0.3
5	35	10	0.3
5	50	25	0.3
6	35	6	0.3
6	40	11	0.3
6	60	30	0.3
6	80	50	0.3
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5
8	120	80	0.5
8	140	100	0.5
8	160	120	0.5

ETA zinc-plated flat head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8019 5 30	FK-NAIL PLUG ETA PZ 5 X 30	200
8019 5 35	FK-NAIL PLUG ETA PZ 5 X 35	200
8019 5 50	FK-NAIL PLUG ETA PZ 5 X 50	200
8019 6 35	FK-NAIL PLUG ETA PZ 6 X 35	200
8019 6 40	FK-NAIL PLUG ETA PZ 6 X 40	200
8019 6 45	FK-NAIL PLUG ETA PZ 6 X 45	200
8019 6 60	FK-NAIL PLUG ETA PZ 6 X 60	200
8019 6 80	FK-NAIL PLUG ETA PZ 6 X 80	200
8019 8 45	FK-NAIL PLUG ETA PZ 8 X 45	100
8019 8 60	FK-NAIL PLUG ETA PZ 8 X 60	100
8019 8 80	FK-NAIL PLUG ETA PZ 8 X 80	100
8019 8 100	FK-NAIL PLUG ETA PZ 8 X 100	100
8019 8 120	FK-NAIL PLUG ETA PZ 8 X 120	50

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
5	30	5	0.3
5	35	10	0.3
5	50	25	0.3
6	35	6	0.3
6	40	11	0.3
6	45	16	0.3
6	60	30	0.3
6	80	50	0.3
8	45	5	0.5
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5
8	120	80	0.5

ETA zinc-plated mushroom head nail plug

- Plastic nail plug made of nylon with ETA approval
- Zinc-plated steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8025 6 40 1	NAIL PLUG MUSHR.HEAD ETA 6X40	200
8025 6 60 1	NAIL PLUG MUSHR.HEAD ETA 6X60	200

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
6	40	11	0.3
6	60	30	0.3

A2 countersunk head nail plug

- Plastic nail plug made of nylon
- A2 stainless steel nail
- Quick and inexpensive assembly
- Pre-assembled
- Resistant to UV rays and rot
- Can be loosened with a PZ screwdriver in the head of the screw
- Integrated hammer-in stop prevents premature spreading



Article No.	Article Description	QTY
8017 6 60	SK-NAGELDÜBEL A2 PZ 6X 60	100
8017 8 60	CS-NAIL PLUG A2 PZ 8X 60	100
8017 8 80	CS-NAIL PLUG A2 PZ 8X 80	100
8017 8 100	CS-NAIL PLUG A2 PZ 8X100	100

Technical Data			
Bore diameter mm	Dowel length mm	Clamping thickness mm max.	permissible loads In kN concrete C20/25 and C50/60
6	60	30	0.3
8	60	20	0.5
8	80	40	0.5
8	100	60	0.5

Nail Plug with Countersunk Head

- Drive PZ 2
- Pre-assembled
- 100% nylon/polyamide -Rot-proof, resistant against concrete silicid acid -Best possible pull-out values, resistant against chemical influences



Article No.	Dimension	Article No.	Qty
8020 5 30	5 × 30 W		
8020 5 35	5 × 35 W		
8020 5 50	5 × 50 W		
8020 6 35	6 × 35 W	8020P 6 35	1000
8020 6 40	6 × 40 W	8020P 6 40	1000
8020 6 60	6 × 60 W	8020P 6 60	1000
8020 6 80	6 × 80 W	8020P 6 80	1000
8020 8 60	8 × 60 H		
8020 8 80	8 × 80 H		
8020 8 100	8 × 100 H		
8020 8 120	8 × 120 f		
8020 8 140	8 × 140 f		
8020 8 160	8 × 160 f		

Technical Data		*Recommended load in kN Concrete*
Min. anch. depth mm	Max. useful length mm	
20	10	0,20
25	15	0,15
25	30	0,15
35	10	0,15
30	15	0,25
30	35	0,25
30	45	0,25
40	20	0,35
40	40	0,35
40	60	0,35
40	80	0,35
40	100	0,35
40	120	0,35

Nail Plug with Flat Head

- Drive PZ 2
- Pre-assembled
- 100% nylon/polyamide, rot-proof, resistant against concrete silicid acid - Best possible pull-out values, resistant against chemical influences
- Type with flat/cylinder head, plane abut for profile and channel fixture and this way highest fixing safety



Article No.	Article Description	QTY
8021 5 30	NAIL PLUG PZ FLAT HEAD 5X30	200
8021 5 50	NAIL PLUG PZ FLAT HEAD 5X50	200
8021 6 40	NAIL PLUG PZ FLAT HEAD 6X40	200
8021 6 60	NAIL PLUG PZ FLAT HEAD 6X60	200
8021 6 80	NAIL PLUG PZ FLAT HEAD 6X80	200
8021 8 60	NAIL PLUG PZ FLAT HEAD 8X60	100
8021 8 80	NAIL PLUG PZ FLAT HEAD 8X80	100
8021 8 100	NAIL PLUG PZ FLAT HEAD 8X100	100
8021 8 120	NAIL PLUG PZ FLAT HEAD 8X120	50

Technical Data		*Recommended load in kN Concrete*
Min. anch. depth mm	Max. useful length mm	
25	10	0,15
25	30	0,15
30	15	0,25
30	35	0,25
30	45	0,25
40	20	0,35
40	40	0,35
40	60	0,35
40	80	0,35

Nail Plug-Countersunk Threaded Head

- Metric thread
- Pre-assembled, screw blue galvanized
- 100% nylon/polyamide, rot-proof, resistant against concrete silicid acid
- Best possible pull-out values, resistant against chemical influences



Article No.	Article Description	QTY
8022 6 40 6	CSK NAIL PLUG M6 6X40	200
8022 8 60 8	CSK NAIL PLUG M8 8X60	100

Technical Data		*Recommended load in kN
Min. anch. depth mm	Thread	Concrete*
40	M6	0,25
60	M8	0,35

Nail Plug with Flat Head Multi

- Drive PZ2
- Pre-assembled, screw blue galvanized

Application:

- For all kinds of substructures
- To be driven into concrete and brick, to be firmly screwed in difficult substructures, such as gypsum plasterboards, hollow bricks and gas concrete
- Particularly appropriate for electrical installation and interior work



Article No.	Article Description	QTY
8022 5 30	NAIL PLUG MULTI FL.HEAD 5X30MM	200
8022 6 40	NAIL PLUG MULTI FL.HEAD 6X40MM	200

Technical Data		*Recommended load in kN			
Min. anch. depth mm	Useful assembly length max. mm	Con-crete*	Hol-low brick*	Gyp-sum plast.*	Gas con-crete*
25	5	0,15	0,07	0,07	0,13
30	10	0,25	0,10	0,10	0,14

Express Nails

- Hardened spring steel
 - High tensile and heavy-duty load
 - High safety
- Galvanized and yellow chromated
 - Double corrosion protection
- The rapid and safe fixture of steel sheet profiles, lath substructures, frames, window fixtures and other objects to be firmly mounted on any solid materials



Article No.	Article Description	QTY
8023 6 30	EXPR. NAILS YELLOW GAL. 6X 30	100
8023 6 60	EXPR. NAILS YELLOW GAL. 6X 60	100
8023 6 80	EXPR. NAILS YELLOW GAL. 6X 80	100
8023 8 70	EXPR. NAILS YELLOW GAL. 8X 70	100
8023 8 90	EXPR. NAILS YELLOW GAL. 8X 90	100
8023 8 110	EXPR. NAILS YELLOW GAL. 8X110	100
8023 8 130	EXPR. NAILS YELLOW GAL. 8X130	100
8023 8 150	EXPR. NAILS YELLOW GAL. 8X150	100
8023 8 180	EXPR. NAILS YELLOW GAL. 8X180	100

Technical Data		*Recommended load in kN		
Min. anch. depth mm	Max. usef. length	Concr.*	Solid brick*	Chalky sandstone*
28	2	0,70	0,50	0,60
30	30	0,70	0,50	0,60
30	50	0,70	0,50	0,60
40	30	1,00	0,80	0,90
40	50	1,00	0,80	0,90
40	70	1,00	0,80	0,90
40	90	1,00	0,80	0,90
40	110	1,00	0,80	0,90
40	140	1,00	0,80	0,90

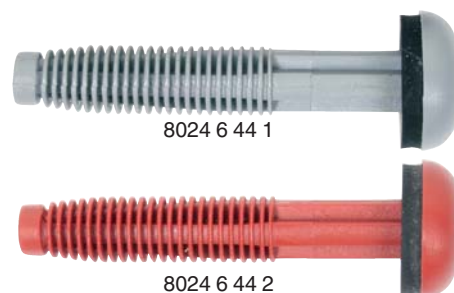
Sealing Nails

- Impact-resistant plastic made of polyamide
- Resistant to weather and ageing
- Sealing washer made of EPDM-rubber
- Conical centering point for easy processes
- Colour-coordinated to zinc and copper sheets
- Head-Ø 12 mm

Application:

- Attachment of sheets and connecting profiles
- Ideally suitable for all attachments in connection with full thermal insulation as no cold bridges arise
- Good pull-out values in concrete, sand-lime brick, brick and other solid building materials

Article No.	Dimension		Artikel-Nr.	Qty
8024 6 44 1	6 × 44mm	W	8024P 6 44 1	200
8024 6 44 2	6 × 44mm	W	8024P 6 44 2	200



Technical Data			*Recommended loads in kN	
*Concrete	*Solid brick	*Sand-lime brick	*Wood	
1.2	0.7	0.5	1.0	
1.2	0.7	0.5	1.0	

Hammer Rivets

- Safe and secure attachment of aluminum and steel sheet profiles, connecting walls and roof edge profiles, storm collars, copings, dome lights, roof sheetings, flange fixtures on solid materials
- Head-Ø 16 mm
- Rivet sleeve/head: special alloy (AL MG SI)
- Mandrel: stainless steel A2



Article No.	Article Description	QTY
8028 48 20	HAMMER RIVET K16MM 4.8X20	200
8028 48 26	HAMMER RIVET K16MM 4.8X26	200
8028 48 30	HAMMER RIVET K16MM 4.8X30	200
8028 48 35	HAMMER RIVET K16MM 4.8X35	200
8028 48 40	HAMMER RIVET K16MM 4.8X40	200
8028 48 50	HAMMER RIVET K16MM 4.8X50	200

Technical Data			*Recommended loads in kN	
Rivet mm	Drill Ø	Cl.-press. width mm	Concrete*	Solid brick*
48 x 20	5,0	5,0	0,35	0,35
48 x 26	5,0	10,0	0,35	0,35
48 x 30	5,0	15,0	0,35	0,35
48 x 35	5,0	20,0	0,35	0,35
48 x 40	5,0	35,0	0,35	0,35
48 x 50	5,0	45,0	0,35	0,35

Hammer Rivets Neoprene Sealing Rubber

- For water-proof attachment
- Ø 15 mm

Article No.	Article Description	QTY
8029 15	NEOPRENE SEALING RUBBER 15MM	100



Frame Anchor, Short Spreading, Countersunk Head

- Drive: Ø 8 Pozzi; Ø 10 TORX
- Short spreading area
- Anchor is delivered with screw
- For attaching: squared timber, wooden slats, mouldings, window and door frames, facade and roof construction made of wood, metal and plastic
- Anchor neck prevents premature moving
- Highly resistant against dynamic loads
- Temperature resistant from -40° C to +80° C
- High flexibility and mechanical properties such as impact-resistance and tensile strength



Article No.	Article Description	QTY
8011 8 60	CS-TX25 FRAME ANCH.SH.SPR.8X60	100
8011 8 80	CS-TX25 FRAME ANCH.SH.SPR.8X80	100
8011 8 100	CS-TX25 FRAME ANCH.SH.SP.8X100	50
8011 8 120	CS-TX25 FRAME ANCH.SH.SP.8X120	50
8011 8 140	CS-TX25 FRAME ANCH.SH.SP.8X140	50
8011 10 80	CS-TX40 FRAME ANC.SH.SP.10X 80	50

Article No.	Article Description	QTY
8011 10 100	CSK-TX40FRAME ANC.SH.SP.10X100	50
8011 10 120	CSK-TX40FRAME ANC.SH.SP.10X120	50
8011 10 140	CSK-TX40FRAME ANC.SH.SP.10X140	50
8011 10 160	CSK-TX40FRAME ANC.SH.SP.10X160	50
8011 10 180	CSK-TX40FRAME ANC.SH.SP.10X180	50

Technical Data				*empfohlene Lasten in kN		
Art.-No.	Minimum-Anchoring depth mm	Min. bore hole-depth mm	Max. working length mm	Concrete B25	Build.bricks MZ20	Sand-lime bricks KSV 20
8011 8 60	40	50	20	4,1	3,8	3,8
8011 8 80	40	50	40	4,1	3,8	3,8
8011 8 100	40	50	60	4,1	3,8	3,8
8011 8 120	40	50	80	4,1	3,8	3,8
8011 8 140	40	50	100	4,1	3,8	3,8
8011 10 80	50	60	30	4,4	3,9	3,9
8011 10 100	50	60	50	4,4	3,9	3,9
8011 10 120	50	60	70	4,4	3,9	3,9
8011 10 140	50	60	90	4,4	3,9	3,9
8011 10 160	50	60	110	4,4	3,9	3,9
8011 10 180	50	60	130	4,4	3,9	3,9

Frame Anchor, Long Spreading, Countersunk Head

- Drive: Ø 8 Pozzi; Ø 10 TORX
- Long spreading area
- Anchor is delivered with screw
- For attaching: squared timber, wooden slats, mouldings, window and door frames, facade and roof construction made of wood, metal and plastic
- Anchor neck prevents premature moving
- Highly resistant against dynamic loads
- Temperature resistant from -40° C to +80° C
- High flexibility and mechanical properties such as impact-resistance and tensile strength



Article No.	Article Description	QTY
8012 8 100	CS-TX25FRAME ANC.L.SPREA.8X100	50
8012 8 120	CS-TX25FRAME ANC.L.SPREA.8X120	50
8012 8 140	CS-TX25FRAME ANC.L.SPREA.8X140	50
8012 10 100	CSK-TX40FRAME ANC.L.SPR.10X100	50

Article No.	Article Description	QTY
8012 10 120	CSK-TX40FRAME ANC.L.SPR.10X120	50
8012 10 140	CSK-TX40FRAME ANC.L.SPR.10X140	50
8012 10 160	CSK-TX40FRAME ANC.L.SPR.10X160	50
8012 10 180	CSK-TX40FRAME ANC.L.SPR.10X180	50

Technical Data				*Recommended loads in kN		
Art.-No.	Min. anchoring- depth mm	Min. drill- hole depth mm	Max. working length mm	Hollow brick HLZ 20	Sand-lime brick KSL 12	Aerat.concrete G 4
8012 8 100	80	90	20	2,1	1,6	1,9
8012 8 120	80	90	40	2,1	1,6	1,9
8012 8 140	80	90	60	2,1	1,6	1,9
8012 10 100	80	100	20	3,4	2,2	3,5
8012 10 120	80	100	40	3,4	2,2	3,5
8012 10 140	80	100	60	3,4	2,2	3,5
8012 10 160	80	100	80	3,4	2,2	3,5
8012 10 180	80	100	100	3,4	2,2	3,5

VLF universal frame anchors, countersunk head

- Universal frame anchors for almost all construction materials
- 3-way expanding body with metal points for increased hold
- Pre-fitted galvanised countersunk head screw with TX drive
- Shaft with anti-rotation feature



Application:

- Fastening in concrete, solid brick, perforated brick, cellular concrete, Plasterboard
- For fastening, e.g., substructures, brackets, Metal rails, etc.

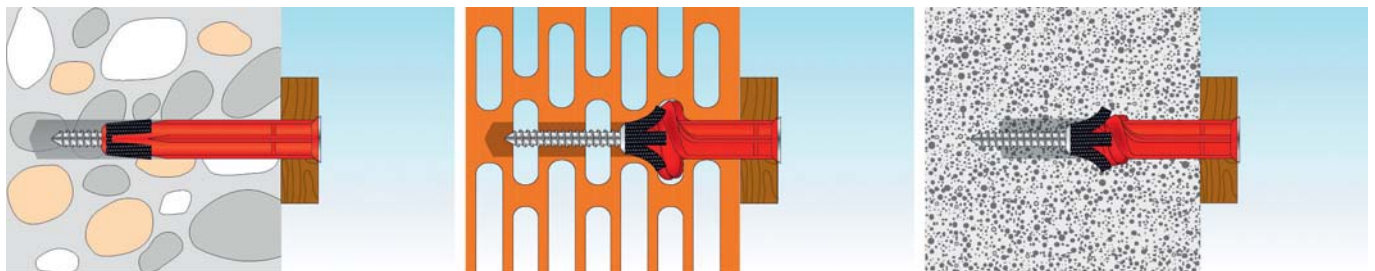
Usage:

- Always tighten the screw after putting the VLF universal frame anchor in position
- In PP2 cellular concrete, the VLF is simply hammered in without pre-drilling
- Optimum hold in cellular concrete achieved after 6 turns of the screw



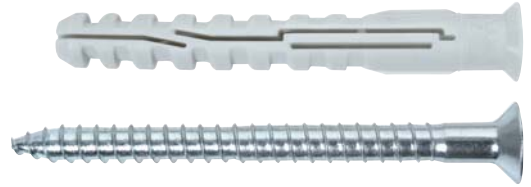
Article No.	Article Description	QTY
8109 6 50	UNIV.FRAME ANCH.VLF 6X 50 C.HD	100
8109 6 70	UNIV.FRAME ANCH.VLF 6X 70 C.HD	100
8109 8 60	UNIV.FRAME ANCH.VLF 8X 60 C.HD	100
8109 8 80	UNIV.FRAME ANCH.VLF 8X 80 C.HD	100
8109 8 100	UNIV.FRAME ANCH.VLF 8X100 C.HD	50
8109 8 120	UNIV.FRAME ANCH.VLF 8X120 C.HD	50
8109 8 140	UNIV.FRAME ANCH.VLF 8X140 C.HD	50
8109 10 100	UNIV.FRAME ANCH.VLF10X100 C.HD	50
8109 10 120	UNIV.FRAME ANCH.VLF10X120 C.HD	50
8109 10 140	UNIV.FRAME ANCH.VLF10X140 C.HD	50
8109 10 160	UNIV.FRAME ANCH.VLF10X160 C.HD	50

Technical Data									
Art.-No.	Drive	max. clamping thckn. mm	Min.anchoring depth mm	Concrete C20 / 25	Solid brick MZ12	Vertic.perfor. bricks ≥ Hlz12	hollow block ≥Hbl2	Aerated concrete ≥ PB2, PP2	Plaster-board 12,5 mm
8109 6 50	TX 20	15 (- -)	35 (- -)	0,20	0,15	0,20	0,25		0,10
8109 6 70	TX 20	35 (- -)	35 (- -)	0,20	0,15	0,20	0,25		0,10
8109 8 60	TX 25	10 (- -)	50 (- -)	0,50	0,40	0,25	0,30		0,10
8109 8 80	TX 25	30 (10)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 100	TX 25	50 (30)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 120	TX 25	70 (50)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 8 140	TX 25	90 (70)	50 (70)	0,50	0,40	0,25	0,30	0,15	0,10
8109 10 100	TX 40	40 (20)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 120	TX 40	60 (40)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 140	TX 40	80 (60)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10
8109 10 160	TX 40	100 (80)	60 (80)	0,80	0,60	0,30	0,35	0,30	0,10



Multi-Function Facade Anchor MFR, countersunk TX

- Recess TX: - Ø10 mm TX40 - Ø14 mm TX50
- With European Technical Approval ETA-07/0337
- Universal facade anchors for concrete, perforated brick, solid brick and aerated concrete
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of non-bearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 1 8 60	SK-TX30 FAC.ANCHOR 8X 60/ 10	100
8107 1 8 80	SK-TX30 FAC.ANCHOR 8X 80/ 30	100
8107 1 8 100	SK-TX30 FAC.ANCHOR 8X100/ 50	50
8107 1 8 120	SK-TX30 FAC.ANCHOR 8X120/ 70	50
8107 1 10 80	SK-TX40 FAC.ANCHOR 10X 80/ 10	50
8107 1 10 100	SK-TX40 FAC.ANCHOR 10X100/ 30	50
8107 1 10 115	SK-TX40 FAC.ANCHOR 10X115/ 45	50
8107 1 10 135	SK-TX40 FAC.ANCHOR 10X135/ 65	50
8107 1 10 160	SK-TX40 FAC.ANCHOR 10X160/ 90	50
8107 1 10 200	SK-TX40 FAC.ANCHOR 10X200/130	25
8107 1 10 240	SK-TX40 FAC.ANCHOR 10X240/170	25
8107 1 14 80	SK-TX50 FAC.ANCHOR 14X 80/ 10	25
8107 1 14 110	SK-TX50 FAC.ANCHOR 14X110/ 40	25
8107 1 14 140	SK-TX50 FAC.ANCHOR 14X140/ 70	25
8107 1 14 170	SK-TX50 FAC.ANCHOR 14X170/100	25
8107 1 14 200	SK-TX50 FAC.ANCHOR 14X200/130	25
8107 1 14 230	HEX-FACADE ANCHOR 14X230/160	25
8107 1 14 270	HEX-FACADE ANCHOR 14X270/200	25

Technical Data		*admissible loads in kN				
max. Clamp. thckn. mm	Concrete	Solid brick	Sand-limePerfor. brick	Sand-limeperfor. stone	Aerat. concrete	
	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4
10	1,51	0,87	1,33	0,24	0,34	0,31
30	1,51	0,87	1,33	0,24	0,34	0,31
50	1,51	0,87	1,33	0,24	0,34	0,31
70	1,51	0,87	1,33	0,24	0,34	0,31
10	1,59	0,86	0,86	0,21	0,26	0,43
30	1,59	0,86	0,86	0,21	0,26	0,43
45	1,59	0,86	0,86	0,21	0,26	0,43
65	1,59	0,86	0,86	0,21	0,26	0,43
90	1,59	0,86	0,86	0,21	0,26	0,43
130	1,59	0,86	0,86	0,21	0,26	0,43
170	1,59	0,86	0,86	0,21	0,26	0,43
10	1,79	1,29	1,29	0,21	0,34	0,43
40	1,79	1,29	1,29	0,21	0,34	0,43
70	1,79	1,29	1,29	0,21	0,34	0,43
100	1,79	1,29	1,29	0,21	0,34	0,43
130	1,79	1,29	1,29	0,21	0,34	0,43
160	1,79	1,29	1,29	0,21	0,34	0,43
200	1,79	1,29	1,29	0,21	0,34	0,43

For further information with regard to brickwork (type of bricks and sizes) - see approval.

Multi-Function Facade Anchor MFR, countersunk HEX

- Recess: - Ø10 mm SW13/TX40 - Ø14 mm SW17/TX50
- With European Technical Approval ETA-07/0337
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of nonbearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 2 8 60	HEX-FACADE ANCHOR 8X 60/ 10	100
8107 2 8 80	HEX-FACADE ANCHOR 8X 80/ 30	100
8107 2 8 100	HEX-FACADE ANCHOR 8X100/ 50	50
8107 2 8 120	HEX-FACADE ANCHOR 8X120/ 70	50
8107 2 10 80	HEX-FACADE ANCHOR 10X 80/ 10	50
8107 2 10 100	HEX-FACADE ANCHOR 10X100/ 30	50
8107 2 10 115	HEX-FACADE ANCHOR 10X115/ 45	50
8107 2 10 135	HEX-FACADE ANCHOR 10X135/ 65	50
8107 2 10 160	HEX-FACADE ANCHOR 10X160/ 90	50
8107 2 10 200	HEX-FACADE ANCHOR 10X200/130	25
8107 2 10 240	HEX-FACADE ANCHOR 10X240/170	25
8107 2 14 80	HEX-FACADE ANCHOR 14X 80/ 10	25
8107 2 14 110	HEX-FACADE ANCHOR 14X110/ 40	25
8107 2 14 140	HEX-FACADE ANCHOR 14X140/ 70	25
8107 2 14 170	HEX-FACADE ANCHOR 14X170/100	25
8107 2 14 200	HEX-FACADE ANCHOR 14X200/130	25
8107 2 14 230	HEX-FACADE ANCHOR 14X230/160	25
8107 2 14 270	HEX-FACADE ANCHOR 14X270/200	25

Technical Data		*admissible loads in kN				
max. clamp. thickn.	Concrete	Solid brick	Sand-lime brick	Perfor. brick	Sand-lime perfor. stone	Aerated concrete
mm	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4
10	1,51	0,87	1,33	0,24	0,34	0,31
30	1,51	0,87	1,33	0,24	0,34	0,31
50	1,51	0,87	1,33	0,24	0,34	0,31
70	1,51	0,87	1,33	0,24	0,34	0,31
10	1,59	0,86	0,86	0,21	0,26	0,43
30	1,59	0,86	0,86	0,21	0,26	0,43
45	1,59	0,86	0,86	0,21	0,26	0,43
65	1,59	0,86	0,86	0,21	0,26	0,43
90	1,59	0,86	0,86	0,21	0,26	0,43
130	1,59	0,86	0,86	0,21	0,26	0,43
170	1,59	0,86	0,86	0,21	0,26	0,43
10	1,79	1,29	1,29	0,21	0,34	0,43
40	1,79	1,29	1,29	0,21	0,34	0,43
70	1,79	1,29	1,29	0,21	0,34	0,43
100	1,79	1,29	1,29	0,21	0,34	0,43
130	1,79	1,29	1,29	0,21	0,34	0,43
160	1,79	1,29	1,29	0,21	0,34	0,43
200	1,79	1,29	1,29	0,21	0,34	0,43

For further information with regard to brickwork (type of bricks and sizes) - see approval.

Multi-Function Facade Anchor MFR, flat collar HEX

- Recess: - Ø10 SW13/TX40 - Ø14 SW17/TX50
- With European Technical Approval ETA-07/0337
- Flat collar version avoids building of contact corrosion
- Universal facade anchors for concrete, perforated brick, solid brick and aerated concrete
- Quadruple extension with side bar provide a secure grip on all surfaces
- Low insertion depth of 70 mm in all building materials and for all dowel lengths
- Pre-assembled screws (from a length of 170 mm screws and dowels are not delivered in a pre-assembled version due to transport reasons)
- For fixation of: facade substructures made of wood and metal, roof constructions, window and door frames, gates, metal brackets and rails, support brackets, panels, square timber
- Fixation of non-bearing systems in cracked concrete to pure tensile load in case of multiple mounting



Article No.	Article Description	QTY
8107 3 8 60	FLAT-HEX-FAC.ANCHOR 8X 60/ 10	100
8107 3 8 80	FLAT-HEX-FAC.ANCHOR 8X 80/ 30	100
8107 3 10 80	FLAT-HEX-FAC.ANCHOR 10X 80/ 10	50
8107 3 10 100	FLAT-HEX-FAC.ANCHOR 10X100/ 30	50
8107 3 14 80	FLAT-HEX-FAC.ANCHOR 14X 80/ 10	25
8107 3 14 110	FLAT-HEX-FAC.ANCHOR 14X110/ 40	25
8107 3 14 140	FLAT-HEX-FAC.ANCHOR 14X140/ 70	25

Technical Data		*admissible loads in kN				
max. clamp. thickn. mm	Concrete	Solid brick	Sand-lime brick	Perfor. brick	Sand-lime perfor. stone	Aerated concrete
	≥ C 16/20	MZ 20	KS 20	HLZ 12	KSL 12	AAC 4
10	1,51	0,87	1,33	0,24	0,34	0,31
30	1,51	0,87	1,33	0,24	0,34	0,31
10	1,59	0,86	0,86	0,21	0,26	0,43
30	1,59	0,86	0,86	0,21	0,26	0,43
10	1,79	1,29	1,29	0,21	0,34	0,43
40	1,79	1,29	1,29	0,21	0,34	0,43
70	1,79	1,29	1,29	0,21	0,34	0,43

For further information with regard to brickwork (types of bricks and sizes) - see approval.

Lightweight Concrete Anchor

- For expansion-free fixtures in lightweight concrete and gypsum
- 100% nylon – rot-proof, high pull-out values
- Screws with metric or wooden thread can be screwed in
- Including appropriate screwing-in tool of HP



Article No.	Dimension		Article No.	Qty
8130 6	6 X 50	H	8130P 6	200
8130 8	8 X 60	f	8130P 8	120
8130 10	10 X 70	b	8130P 10	70

Technical Data						*Recommended loads in kN	
Drilling Ø mm							
Item No	Lightweight concrete	Air concrete	Hexagon drive AF	Screw Ø wood	Screw Ø M	Lightweight concrete P1-P2*	Lightweight concrete P3-P4*
8130 6	10	8	10	5,0 - 6,0	6	1,1	2,6
8130 8	12	10	12	7,0 - 8,0	8	1,7	3,8
8130 10	14	12	14	9,0 - 10,0	10	2,3	5,5

Lightweight Concrete Dowel Pin

- special anchors with excellent holding values in aerated concrete
- suitable for fixations in aerated concrete using wood screws
- after inserting the screw, the spreading is optimally transmitted over three edges due to the dowel pin forming a kind of undercut

Installation tip

- in aerated concrete P4 all lightweight concrete dowel pins can also be hammered into a smaller size borehole
- in aerated concrete P2 the dowel pins can be driven by impact without hammer pre-drilling
- the screw length is calculated from the thickness of the fixture +dowel pin length + 10 mm

Suitable materials:

- aerated concrete
- gypsum wallboards

Article No.	Article Description	QTY
8130 1 10	AAC DOWEL PIN GB 10X55	25
8130 1 12	AAC DOWEL PIN GB 12X60	20
8130 1 14	AAC DOWEL PIN GB 14X75	10



8130 1 10



8130 1 12



8130 1 14

Technical Data						
Art.-No.	Drill-Ø mm	Depth of drill hole mm	Anchorage depth mm	Screw-Ø mm	Lightweight concrete P2	Lightweight concrete P4
8130 1 10	10	65	55	4,5 - 6	1.5	3.3
8130 1 12	12	70	60	7 - 8	2.0	4.0
8130 1 14	14	90	75	10	3.0	6.7

Cellular Concrete Screw

- Galvanised steel
- Quick and secure assembly with or without pre-drilling
- High service loads
- Force transfer via the undercut in the surface
- Material:
- With hexagonal head and force-locked washer
- With sunken head and multi-gear drive

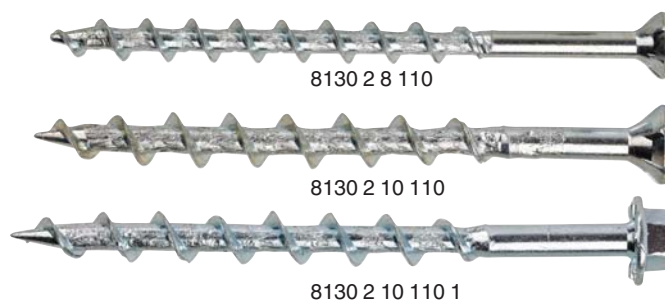
Direct assembly:

- During direct assembly, the screw is inserted via the fixture

Assembly with pre-drilling:

- Drill the hole
- Insert screw (without percussion)
- The head of the screw must be in full contact with the fixture

Article No.	Article Description	QTY
8130 2 8 110	CELL.CONCR.SCREW GV 8X110	100
8130 2 10 110	CELL.CONCR.SCREW GV 10X110	100
8130 2 10 110 1	CELL.CONCR.HEX SCREW GV 10X110	100



Technical Data

Drill-Ø mm	Drill hole- depth mm	Anchoring- depth mm	Offset torque in Nm
0/4	40	80	8
0/4	50	100	10 – 12
0/4	50	100	10 – 12

Insulation Panel Screw IPS 80

- Special screw anchor for fast, simple direct fastening of wall connecting strips (capping strips) and light components in external thermal insulation composite systems (ETICS) without pre-drilling
- **TX drive** – quick, easy fixing
- **Tapered drill tip** – pre-drilling in plaster not necessary
- **Very pronounced threads** – increased hold in ETICS
- **Head hole** – possibility of additional fastening with Ø 3.0 – 3.5 mm chipboard screws
- **EPDM seal** – optimum, ageing-resistant seals

Suitable building materials:

- External thermal insulation composite systems (ETICS)
- Polystyrene panels (EPS, XPS)
- Hard foam panels
- Polystyrene panels



8136 10 80 1



8136 10 80 2



8136 10 80 3

Article No.	Article Description	QTY
8136 10 80 1	IPS SCREW SIGNAL WHITE RAL9003	100
8136 10 80 2	IPS SCREW TELEGREY 1 RAL7045	100
8136 10 80 3	IPS SCRE. TRAFFIC BLACK RAL9017	100

Technical Data

Length mm	TX drive	Thread Ø mm	Head Ø mm
80	25	8 – 10	16
80	25	8 – 10	16
80	25	8 – 10	16

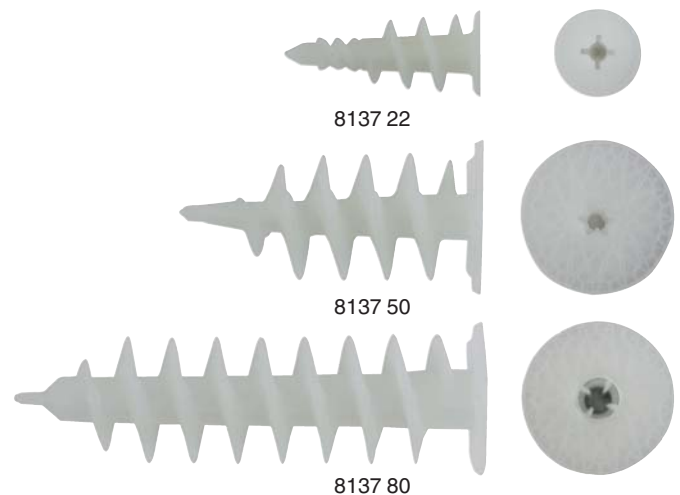


ISO spiral dowel

- For plastered or unplastered polystyrene and polyurethane hard foam panels
- Unique drill bits, **no pre-drilling**, not even through thick and reinforced layers of plaster
- Direct, form-locking attachment to insulation material
- No thermal bridges
- High extraction force
- For lightweight attachments, e.g. lamps, motion sensors, letterboxes, signs, house numbers, capping strips, end strips, overhang rails, downspouts, etc. in the insulation material
- **Includes screw-in tools, in accordance with Art. 8137P**

Assembly tip:

- Holes of the size of the max. anchor $\varnothing$ must be drilled in metal-faced sandwich panels before assembly
- After assembly is complete, seal the dowel flange with silicone/acrylic compound to prevent the ingress of water into the insulating material



Article No.	Article Description		QTY
8137 22	ISO-SPIRAL DOWEL	22	100
8137 50	ISO-SPIRAL DOWEL	50	50
8137 80	ISO-SPIRAL DOWEL	80	25
8137P 22	HP<2.0>ISO SPIRAL DOWEL 22		1
8137P 50	HP<1.0>ISO SPIRAL DOWEL 50		1
8137P 80	HP<0.5>ISO SPIRAL DOWEL 80		1

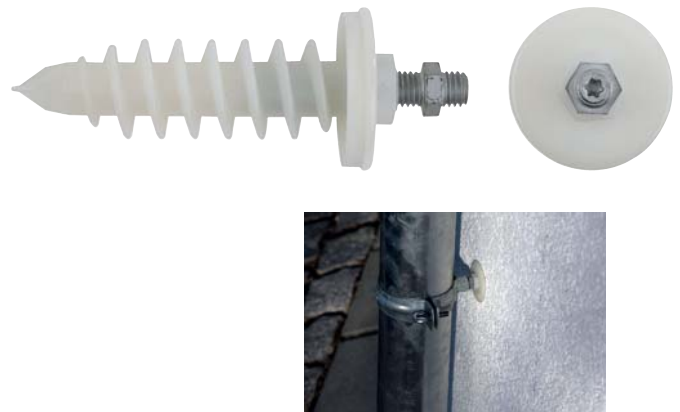
Technical Data				
Dowel length mm	Dowel $\varnothing$ mm	Drive	Bolt $\varnothing$ mm	permissible loads in kN
22	14	PZ 2	3.5 – 4.0	0.01
55	28	TX 40	4.0 – 5.0	0.05
85	28	I-6-edges 8	6.0 – 7.0	0.10

ISO spiral dowel with threaded pin

- Special threaded pin made of A2 stainless steel or with zinc flake coating for good corrosion protection
- Perfect solution for fixing downpipe clamps to the ETIC system: simple, flexible, fast and adjustable!
- Direct thermal-bridge-free attachment to the insulating material
- Pre-assembled special threaded pin: ideal distance of 30 mm between the downpipe and the wall; adjustment by up to a further 25 mm possible by hand
- Pre-assembled sealing ring made of weather-resistant cellular rubber
- Robust, self-drilling (ETICS plaster ≤ 7 mm) nylon dowel, weather resistant

Suitable building materials:

- Heat insulation composite systems (ETICS), polystyrene panels (EPS, XPS), wood fibre insulation boards (pre-drilling: 13 mm), hard foam boards, polystyrene boards and Heraklith boards



Article No.	Article Description	QTY
8137 10 95	ISO SPIR.DOWEL W.THR.PIN M10GV	z 50
8137 10 95 1	ISO SPIR.DOWEL W.THR.PIN M10A2	z 50

Technical Data			
Dowel Drive length mm	Drive Dowel $\varnothing$	Drive Threaded pin	$\varnothing$ Internal thread / Connector thread
95	Size 17	TX 25 / SW 13	M 10
95	Size 17	TX 25 / SW 13	M 10

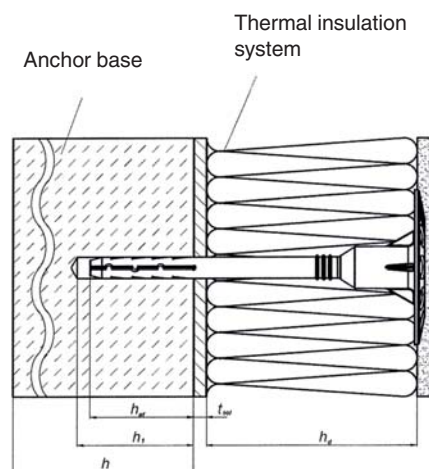
Recommended loads in kN polystyrene
0.10
0.10

Insulation Plugs ETICS

- Impact anchor to fix external thermal insulation composite systems with rendering in concrete and brickwork
- With reduced installation depth of 35 mm
- With European technical approval ETA-07/0336
- The plug must only be used as multi-fixture for the anchoring of glued external thermal insulation composite systems (ETICS) according to ETAG 004 in concrete and brickwork.
- Appropriate for concrete and brickwork
- The used ETICS is not subject of this general technical approval



Technical Data			
Art.-No.	Plug Ø length mm	Disc-Ø mm	Insulation material thickness mm
8086 8 95	8 x 95	60	60
8086 8 115	8 x 115	60	80
8086 8 135	8 x 135	60	100
8086 8 155	8 x 155	60	120
8086 8 175	8 x 175	60	140
8086 8 195	8 x 195	60	160
8086 8 215	8 x 215	60	180
8086 8 235	8 x 235	60	200
8086 8 255	8 x 255	60	220
8086 8 275	8 x 275	60	240



Article No.	Article Description	QTY
8086 8 95	INSULATION PLUGS ETICS 8 X 95	200
8086 8 115	INSULATION PLUGS ETICS 8 X 115	200
8086 8 135	INSULATION PLUGS ETICS 8 X 135	200
8086 8 155	INSULATION PLUGS ETICS 8 X 155	200
8086 8 175	INSULATION PLUGS ETICS 8 X 175	200
8086 8 195	INSULATION PLUGS ETICS 8 X 195	200
8086 8 215	INSULATION PLUGS ETICS 8 X 215	100
8086 8 235	INSULATION PLUGS ETICS 8 X 235	100
8086 8 255	INSULATION PLUGS ETICS 8 X 255	100
8086 8 275	INSULATION PLUGS ETICS 8 X 275	100

Characteristic Tensile Strength N_{RK} kN each PlugType TFIX-8M

Anchoring base	Tube density class (kg/dm ³)	Min.resistance to pressure β (N/mm ²)	Notes	Characteristic Tensile Strength N_{RK}
Concrete C 12/15			EN 206-1	1.5 kN
Concrete C 20/25			EN 206-1	1.5 kN
Concrete C 50/60			EN 206-1	1.5 kN
Brick e.g. according to DIN 105, Mz	≥ 2.0 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface	1.5 kN
Solid sand-lime brick e.g. acc. to DIN 106, KS	≥ 1.8 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface	1.5 kN
Solid sand-lime brick e.g. according to DIN 106, KSL	≥ 1.6 kg/dm ³	12 N/mm ²	Cross section up to 15% reduced by vertical perforation with regard to the bearing surface, thickness of the outer strap ≥ 20 mm	0.9 kN
Vertically perforated brick e.g. acc. to DIN 106, KS	≥ 1.0 kg/dm ³	12 N/mm ²	Cross section more than 15% and less than 50% reduced by perforation (2) EN 206-1	0.6 kN
Lightweight concrete DIN 18152, Vbl	≥ 0.7 kg/dm ³	4 N/mm ²	Ratio of the handle holes to the bearing surface up to 10%, maximum size of the holes: 110 x 45 mm	0.5 kN
Lightweight concrete DIN 18151, Hbl	≥ 0.9 kg/dm ³	2 N/mm ²	According to annex 6 (3)	0.5 kN

Corresponding partial safety factor γ_M : 2,0³⁾

1 Thickness of the outer strap ≥ 14 mm 2 Thickness of the outer strap ≥ 35 mm 3 To be used in the absence of national regulations

Insulation Plugs made of Plastic Material

- Pre-mounted with plastic expansion nail
- For building heights up to 8 meters in order to fix polystyrene
- To fix smooth and pressure-resistant insulation boards
- On bricks, lightweight concrete, lightweight and solid bricks, etc.
- High-quality, impact-proof plastic material – high retaining values
- For stuccoers, plasterers, painters and facade constructor
- Minimum depth of the anchorage: 50 mm



Article No.	Article Description	QTY
8084 90	INS.PL. M.- OF PLASTIC MAT. 90	250
8084 120	INS. PL. M.-OF PLAST. MAT.120	250
8084 140	INS. PL. M.-OF PLAST.MAT. 140	250
8084 160	INS. PL. M.-OF PLAST. MAT. 160	250
8084 180	INS. PL. M.-OF PLAST. MAT.180	250
8084 200	INS.PL.M.-OF PLASTIC MAT 200	250
8084 220	INS.PL.M.-OF PLASTIC MAT 220	250

Technical Data			*Recommended loads in kN		
Plug-Ø mm	Disk-Ø mm	Insulat- material mm	Concr.	Vertic. perf.brick	Solid- brick
10 x 90	50	55	0,18	0,12	0,14
10 x 120	60	85	0,18	0,12	0,14
10 x 140	60	105	0,18	0,12	0,14
10 x 160	60	125	0,18	0,12	0,14
10 x 180	60	145	0,18	0,12	0,14
10 x 200	60	165	0,18	0,12	0,14
10 x 220	60	185	0,18	0,12	0,14

Insulating Board Fixation Metal

- Increased corrosion protection due to aluminium-zinc layer
- All-metal execution, fire-resistance time F120 acc. to the General Test Certificate No. P-3444/7404-MPA BS
- For fastening of smooth and pressure-resistant insulation boards onto concrete and other solid underground
- For stuccoers, plasterers, painters and facade constructors
- Head Ø 35 mm, can be increased with the insulation panel disk out of metal to 80 mm
- Diameter of bore hole: 8 mm



Article No.	Article Description	QTY
8082 30	INSUL. BOARD FIXATION METAL 30	250
8082 60	INSUL. BOARD FIXATION METAL 60	250
8082 90	INSUL. BOARD FIXATION METAL 90	250
8082 170	INSUL.BOARD FIX.MET. TID-S 170	250
8082 200	INSUL.BOARD FIX.MET. TID-S 200	250
8082 250	INSUL.BOARD FIX.MET. TID-S 250	200

Technical Data				*Recommended loads in kN	
dimen- sion mm	min. setting depth mm	min. drill hole depth mm	max. thickn. of insulat. material	Con- crete	Sand-lime brick
8 x 80	30	40	50	0,2	0,2
8 x 110	35	45	75	0,2	0,2
8 x 140	40	50	100	0,2	0,2
8 x 170	45	55	125	0,2	0,2
8 x 200	50	55	150	0,2	0,2
8 x 250	50	55	200	0,2	0,2

Insulation Board Disk made of Metal

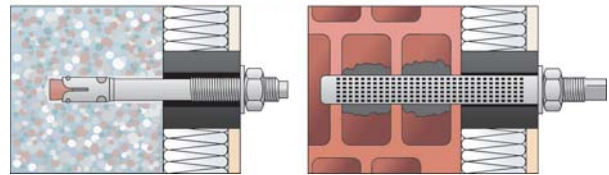
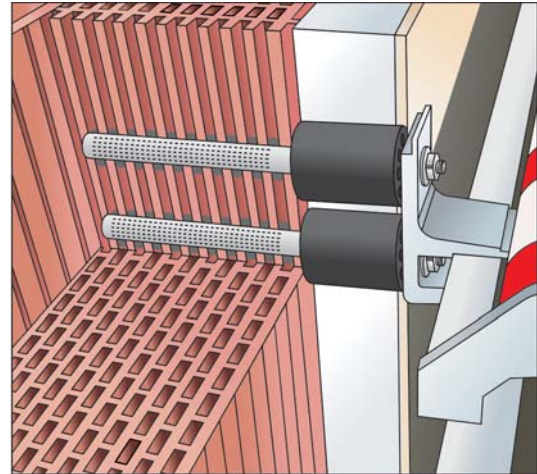
- Appropriate for insulation board fixing metal
- In particular for smooth insulation boards

Article No.	Article Description	QTY
8083 80	INSUL. BOARD DISK M.-OF MET.80	250



Distance Mounting Bushes DIMO-BLOCK

- Material: plastic material
- Pluggable distance bush to bridge loads of heavy-duty fixings in facades with full thermal protection
- To mount marquees, projecting roofs, window shutters, industrial ladders, consoles, etc.
- Applicable with FÖRCH injection mortar, anchor bolts, heavy-duty anchors or cladding plugs, etc.



Article No.	Article Description	QTY
8154 10	DIMO-BLOCK 10MM	50
8154 30	DIMO-BLOCK 30MM	25
8154 50	DIMO-BLOCK 50MM	25
8154 100	DIMO-BLOCK 100MM	20

Technical Data

Outer Ø mm	Inner Ø mm	Distance height mm	Drilling Ø mm
49	18	10	50/51
49	18	30	50/51
49	18	50	50/51
49	18	100	50/51

Hole Saw XL DIMO-BLOCK

- Bimetal hole saw to drill in insulations
- Art.-No 5750 4 50:**
 - Ø 50 mm, length 120 mm
 - Replacement drill bit Art.-No. 5510 70
- Art.-No 5750 4 51:** • Ø 50 mm, length 250 mm
- Art.-No 5750 4 50 and Art.-No 5750 4 51:**
 - Incl. hexagon adapter and drill bit
 - Replacement drill bit Art.-No. 5508 90
 - Not suitable for abrasive materials (Wedi and Haraklith-plates)

Article No.	Article Description	QTY
5750 4 50	KIT BMETAL HOLE SAW XL DIMO 50	1
5750 4 50 1	BIMETAL HOLE SAW XL DIMO 50	1
5750 4 51	KIT BMETAL HOLE SAW XL DIMO 51	1
5750 4 51 1	BIMETAL HOLE SAW XL DIMO 50	1



Scaffolding Screws

To fix:

- Scaffolds, tensioning ropes, chains for trellis, safety harnesses, etc.

Suitable for:

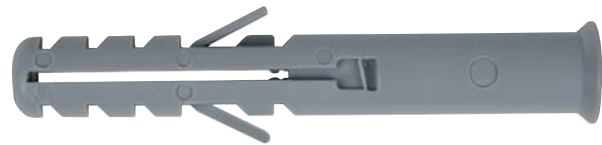
- Concrete, natural stones, solid bricks, hollow blocks, lightweight concrete, wood (without plugs), etc.
- Eyebolt Ø 23 mm

Article No.	Article Description	QTY
8090 12 90	SCAFF. EYEBOLT ZINC PL. 12X 90	20
8090 12 120	SCAFF. EYEBOLT ZINC PL. 12X120	20
8090 12 160	SCAFF. EYEBOLT ZINC PL. 12X160	20
8090 12 190	SCAFF. EYEBOLT ZINC PL. 12X190	10
8090 12 230	SCAFF. EYEBOLT ZINC PL. 12X230	20
8090 12 300	SCAFF. EYEBOLT ZINC PL. 12X300	25
8090 12 350	SCAFF. EYEBOLT ZINC PL. 12X350	25

(Shaft dimensions Ø mm x L mm)



Scaffolding Plug Nylon



Article No.	Article Description	QTY
8091 14 70	SCAFFOLDING PLUG NYLON 14X70	20
8091 14 100	SCAFFOLDING PLUG NYLON 14X100	20
8091 14 135	SCAFFOLDING PLUG NYLON 14X135	20
8091 14 185	SCAFFOLDING PLUG NYLON 14X185	20

(Drill bit Ø mm/plug length mm)

Technical Data

Min. drill hole depth for push-through mounting mm	Min. depth of anchoring mm	Max. useful length mm	Min. slide-in depth mm
80	70	-	75
110	70	30	105
145	70	65	140
195	70	110	190

Cover Caps for Drill Holes

- Avoids the penetration of humidity
- Slightly cracked drill holes are well-covered
- For multiple use of a drill hole or plug the cap can be easily disassembled using a screwdriver

Article No.	Article Description	QTY
8092 1	COVER CAPS 12X40 WHITE	100
8092 2	COVER CAPS 12X40 GREY	100



Cover Caps for Frame Plugs Metal TX

- For TX 30 drive



8044 15

8044 16

Article No.	Article Description	QTY
8044 15	COV.CAPS CONVEX WHITE 15 9016	H 500
8044 16	COV. CAPS FLAT WHITE 16 9016	H 500

Technical Data

For plug Ø	Type	Color
10 mm	Curved Ø 15 mm	white RAL 9016
10 mm	Flat Ø 16 mm	white RAL 9016

Cover Caps for Frame Plugs Metal PZ

- For PZ drive
- For AGR 8040



8041 15

8044 15 1

8041 16

8041 16 1

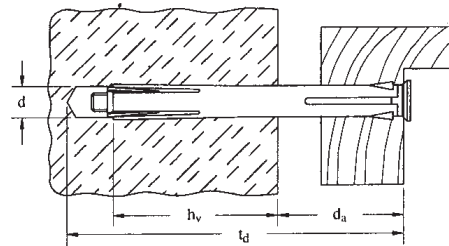
Article No.	Article Description	QTY
8041 15	COV.CAPS CONVEX WHITE 15 9016	H 500
8041 15 1	COV.CAPS CONVEX D.BR.15 1 8017	H 500
8041 16	COV. CAPS FLAT WHITE 16 9016	H 500
8041 16 1	COV. CAPS FLAT D.BR.16 1 8017	H 500

Technical Data

For plug Ø	Type
10 mm	Curved Ø 15 mm
10 mm	Curved Ø 15 mm
10 mm	Flat Ø 16 mm
10 mm	Flat Ø 16 mm

Frame Anchor Metal with Countersunk Head Screw PZ

- With PZ 3 drive
- Screw head Ø 13 mm, with captive cone
- Rapid, stable frame mounting without stresses and without back filling or splitting with a wedge
- Exact distance mounting of window and door frames made of wood, plastic material light metal or steel
- Exact radial tensioning of the metal bushes
- Special stud avoids that the cone rotates simultaneously
- Material:- Screw: steel, yellow chromated - Cone: steel diecast, yellow chromated- Bush: steel, aluminum-zinc coated
- Appropriate for concrete, solid bricks, solid sand-lime bricks, vertically perforated bricks, perforated sand-lime bricks, hollow blocks, solid pumice, gas concrete, natural stone, etc.
- Min. anchoring depth 30 mm (refer to hv)



Article No.	Article Description	QTY
8040 10 72	CS PZ3 METAL FR.ANCH. 10X 72	100
8040 10 92	CS PZ3 METAL FR.ANCH. 10X 92	100
8040 10 112	CS PZ3 METAL FR.ANCH. 10X112	100
8040 10 132	CS PZ3 METAL FR.ANCH. 10X132	100
8040 10 152	CS PZ3 METAL FR.ANCH. 10X152	100
8040 10 182	CS PZ3 METAL FR.ANCH. 10X182	100
8040 10 202	CS PZ3 METAL FR.ANCH. 10X202	100

Technical Data			Recomm.loads in KN				Recomm.cross-loads in KN	
Art.-No.	min. drill hole-depth;push-through install. mm	max. usable-length mm	Concrete and solid brick	Vertic.perfor.- brick	Sand-lime brick perfor.stone	Aerated concrete	Concrete, sol.brick Vertic.perfor.brick Sand-lime brick	Aerated-concrete
8040 10 72	90	42	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 92	110	62	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 112	130	82	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 132	150	102	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 152	170	122	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 182	200	152	0,6	0,5	0,3	0,1	0,4	0,25
8040 10 202	215	172	0,6	0,5	0,3	0,1	0,4	0,25

Plasterboard Fasteners

- For mounting electrical equipment on plasterboard and Heraklith panels
- Even when screwing in the fastener, the dowel remains firmly anchored in the building material
- Quick and easy mounting
- Galvanized spring steel
- Temperature range: -10 °C to +85 °C
- Colour: light grey

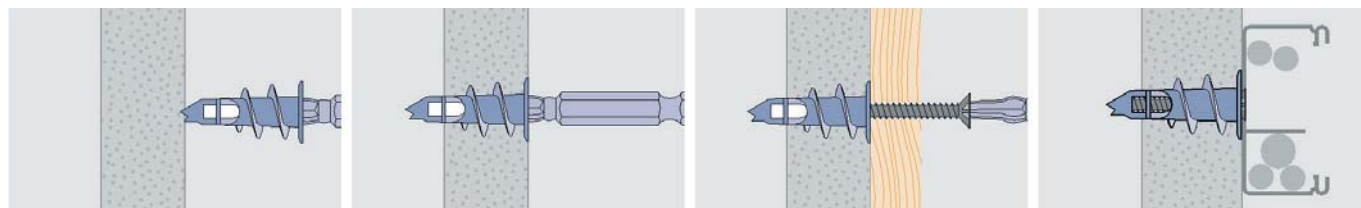
Technical Data		
Art.-No.	Screw- Ø	Length mm
8104 30	3.5 - 4.5	30
8104 43	3.5 - 4.5	43

Article No.	Article Description	QTY
8104 30	PLASTERBOARD FASTENERS 30MM	100
8104 43	PLASTERBOARD FASTENERS 43MM	100



Plasterboard Plug

- Perfect for plasterboard and lightweight construction boards such as lightweight concrete and gypsum – for gypsum pre-drill 8 mm
- Centered plug drill bit – precise marking
- Special structure of the interior threads – wooden screws of 3.9 - 4.5 as well as threaded screws M 4 can be universally screwed in
- Delivery including appropriate screw-in tool in HP



Article No.	Dimension		Article No.	Qty
8055 29	25	R	8055P 29	750
8055 39	39	HR	8055P 39	500

(mm)

Technical Data		*Recommended loads in kN	
Screw mm	Material	Gypsum plasterboards*	Lightweight concrete*
4,0 - 4,5 / M4	Metal	0,10	0,10
4,0 - 4,5 / M4	Plastic material	0,09	-

Duo-Bit for Plasterboard Plugs

- Drive 1/4" hexagon E 6.3
- Duo-Bit for type 29 + 39
- Screwing in the plug and a screw with PZ/PH 2 drive

Article No.	Article Description	QTY
8055 39 1	DUO-BIT F.PLASTERBOARD PLUG	e 10



Board Anchor

- To mount light-weighted structural components into gypsum plasterboards and chipboards
- For chipboard screws 3.5 mm, minimum screw length 50 mm
- Appropriate for electricians, interior work
- Clamping width plate thickness max. 2 x 12.5 mm



Article No.	Dimension		Article No.	Qty
8104 10 47	10X47	H	8104P 10 47	250

Technical Data		*Recommended loads in kN			
Screw Ø mm	Concrete*	Solid brick*	Vertic. perfor. brick*	Perfor. sand-lime brick*	Gypsum plasterboard*
4,0 - 5,0	0,30	2,00	0,10	0,20	0,08

Injection Fixing 2K

- 2-component injection system on the basis of polyurethane
- To fix light-weighted components, to repair and fill broken out or too large drilled holes in all mineral building materials
- Slight increase in volume during curing guarantees maximum retention
- Can also be used in hollow or perforated materials with perforated sleeve
- Expansion-free anchoring avoids damages on tiles and plaster
- Rapid curing, therefore little waiting times until mounting is possible
- Screws can be directly screwed in the cured compound and thus it is possible to screw them in and out several times
- Can be painted over or sanded
- Mounting of different screws, hook or eyelets up to Ø 6 mm
- Ideal to anchor, e.g. curtain rails, coat pegs, lamps, towel rails, light-weighted racks, shower rods, etc.

Notes:

- Storage space must be cool, dry and dark
- Storage temperature: +10 °C to +30 °C
- Minimum durability: 12 months
- Cure time: 2 - 4 minutes



8140 25



8140 25 1



8140 25 2



8140 25 3



Article No.	Article Description	QTY
8140 25	2K-INJECTION FIXING 25ML	e 10
8140 25 1	STATIC MIXT. F.2K-INJ.FIXING	10
8140 25 2	PERF.SLEEVE F.2K-INJECT.FIXING	10
8140 25 3	EXTENSION FOR 2K-INJECT.FIXING	10

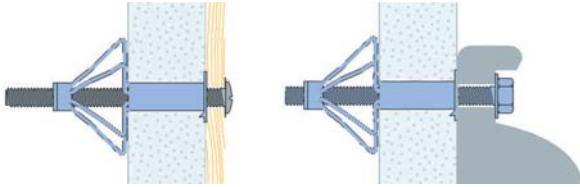
Contents of Art.-No. 8140 25:

- 1x Injection fixing 25 ml, 2x static mixtures, 2x perforated sleeve, 2x extensions

Technical Data			*Recommended loads in kN	
Screw-Ø mm	Drill-Ø mm	Min. anch. depth mm	Solid material*	Perforated- material*
4	6 - 10	45	0.4	0.2
5	8 - 10	45	0.5	0.25
6	10	45	0.6	0.3

Hollow Plug Metal

- To fix component parts of medium weight on gypsum plasterboards or other board materials
- Appropriate for electricians, heat, air conditioning and sanitary installers, drywall installation and interior work
- Screws pre-mounted
- Efficient, easy expanding process by using tongs



Article No.	Article Description	QTY
8145 4 38	LK-PH2 METAL HOLLOW PLUG 4X38	100
8145 4 45	LK-PH2 METAL HOLLOW PLUG 4X45	100
8145 4 52	LK-PH2 METAL HOLLOW PLUG 4x52	100
8145 5 52	LK-PH2 METAL HOLLOW PLUG 5X52	100
8145 5 65	LK-PH2 METAL HOLLOW PLUG 5X65	100
8145 5 80	LK-PH2 METAL HOLLOW PLUG 5x80	100
8145 6 52	LK-PH2 METAL HOLLOW PLUG 6X52	100
8145 6 65	LK-PH2 METAL HOLLOW PLUG 6X65	100
8145 6 80	LK-PH2 METAL HOLLOW PLUG 6x80	100
8145 8 53	LK-PH2 METAL HOLLOW PLUG 8X53	100
8145 8 66	LK-PH2 METAL HOLLOW PLUG 8X66	100
8145 8 81	LK-PH2 METAL HOLLOW PLUG 8x81	100

Technical Data			*Recommended loads in kN		
Drive	Clamp. thickn. plate thickn. mm	Drill-Ø mm	Plaster board*	Wooden board*	Cement fibre board*
PH 2	8 - 16	8	0,15	0,20	0,35
PH 2	18 - 24	8	0,15	0,20	0,35
PH 2	32 - 38	8	0,18	0,25	0,40
PH 2	3 - 16	10	0,18	0,25	0,40
PH 2	14 - 32	10	0,18	0,25	0,40
PH 2	32 - 45	10	0,20	0,28	0,42
PH 2	3 - 16	12	0,20	0,28	0,42
PH 2	14 - 32	12	0,20	0,28	0,42
PH 2	32 - 45	12	0,20	0,30	0,45
PH 2	3 - 16	13	0,20	0,30	0,45
PH 2	16 - 32	13	0,20	0,30	0,45
PH 2	32 - 45	13	0,20	0,30	0,45

Mounting Tongs for Hollow Plugs Made of Metal

Article No.	Article Description	QTY
8145 1	M. TO. F. H. PL. M.-OF ME. M4-M6	1
8145 2	MOUNT. PLIERS F. HOLL. PLUG M4-M8	1

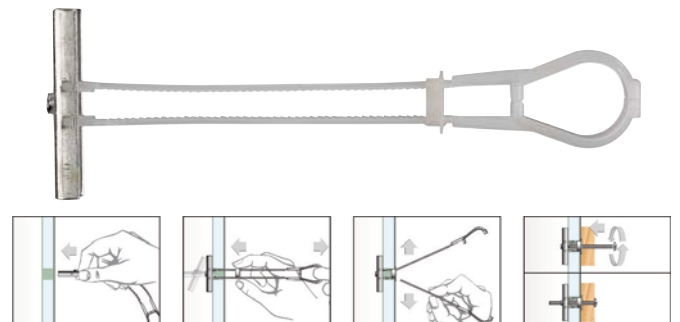


Hollow cavity dowel universal

- Universally usable for plate thicknesses from 10 – 70 mm
- Excellent holding properties
- Immediately usable, no waiting
- Quick and easy handling
- No special setting tool required

Suitable building materials:

- Sandwich-type plaster boards, chipboards, perforated bricks with large chambers, hollow chamber ceilings etc.



Article No.	Article Description	QTY
8146 5	HOLLOW CAV.DOW.UNIVERSAL M5	25
8146 6	HOLLOW CAV.DOW.UNIVERSAL M6	25
8146 8	HOLLOW CAV.DOW.UNIVERSAL M8	25

Technical Data		*Recommended loads in kN			
Screw Ø mm	Bore Ø mm	9.5mm Sandw-type plast.board	12.5mm Sandw-type plast.board	16.0mm Sandw-type plast.board	19.0mm Sandw-type plast.board
5	13	0.10	0.20	0.20	0.20
6	13	0.20	0.20	0.20	0.20
8	19	0.20	0.20	0.20	0.20

Spring Toggle Fixing with Knurled Nut

- Suitable for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: racks, switches, wall units, curtain rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8060 3 85	SPR. TOG. FIX. W.MS-MU. M3X85	100
8060 4 95	SPR. TOG. FIX. W.MS-MU. M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster-board*	Wooden board*	Cement fiber plate*	Breaking forces*
11	3 x 85	0.16*	0.30*	0.33	1.00
15	4 x 95	0.20*	0.35*	0.57	2.00

Spring Toggle Fixing with Disk

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: racks, switches, wall units, curtain rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8061 4 95	SP. TOG. FIX. W.NUT A.WA.M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster-board*	Wooden board*	Cement fiber plate*	Breaking forces*
15	4 x 95	0.16*	0.3*	0.33	2.00

Spring Toggle Fixing with Hook and Disk

Appropriate for:

- plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.

To fix:

- lamps, hanging baskets, etc.



Article No.	Article Description	QTY
8062 3 85	SPR. TOGG. FIXING W.HOOK M3X90	100
8062 4 95	SPR. TOGG. FIXING W.HOOK M4X95	50

Technical Data		*Recommended loads in kN			
Drilling Ø mm	Thread M x length mm	Plaster-board*	Wooden board*	Cement fiber plate*	Breaking forces*
11	3 x 85	0.16	0.30	0.33*	0.10**
15	4 x 95	0.20	0.35	0.57*	0.40**

* Indicated values depending on the building material

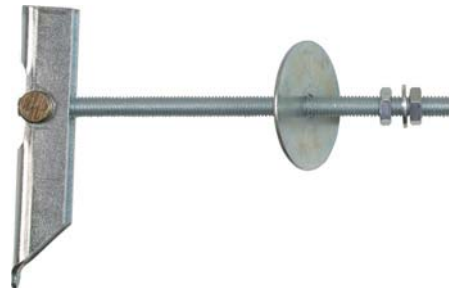
** Hooks are bending up

Breaking forces:

Threaded rod breaking or failure of the tipping element (the load-bearing capacity of the ceiling or of the wall is not considered)

Toggle Fixing with Disk

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: lamps, racks, switches, wall units, curtain rails, rack rails, cable ducts, boilers, wardrobes, etc.



Article No.	Article Description	QTY
8065 5 100	TOGG.FIX. W.NUT A.WASH. M5X100	25

Technical Data			*Recommended loads in kN		
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
14	5 x 100	0.23*	0.40*	0.65*	3.00

Toggle Fixing with Hook

- Appropriate for: plasterboards, gypsum fibreboards, chipboards, cement fibreboards, wood wool slabs, hardboards, hollow tile ceilings, reinforced block floor, hollow brick ceilings, trapezoidal sheet metal, etc.
- To fix: lamps, hanging baskets, etc.



Article No.	Article Description	QTY
8066 5 100	TOGGLE FIXING W.HOOK M5X100	25

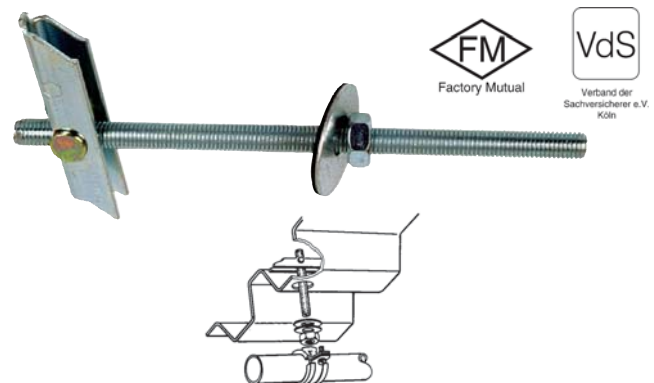
Technical Data			*Recommended loads in kN		
Drilling Ø mm	Thread M x length mm	Plaster- board*	Wooden board*	Cement fiber plate*	Breaking forces*
14	5 x 100	0.23*	0.40*	0.65*	0.60**

Toggle Bolt for Trapezoidal Steel Sheets

- Pre-mounted including turnout-protected threaded rod, Hypalen sealing disk, U-washer and hexagon nut – rapidly and economic
- FM-tested and approved by the VdS No G 4890027 – approved for tube fixture up to Ø 50 according to VdS provisions as well as of air conditioning channels, illumination rails, mounting rails, holding traverses, etc. – tested and guaranteed safety
- Turnable threaded rod – each fixing point can be leveled individually; it is possible to create any incline
- Galvanized – corrosion-protected

Load value:

- Max. point load on trapezoidal sheet metals / tubes and other fixtures: 800 N / 1000 N
- Breaking load value plug: 20 kN
- It is recommended to apply each 4th or 5th fixture at a statically highly loadable position



Article No.	Article Description	QTY
8067 8 100	TOGG.FIX. F.TRAP. SH. M. 8X100	50
8067 8 200	TOGG.FIX. F.TRAP. SH. M. 8X200	25
8067 8 300	TOGG. FIX. F.TRAP. SH. M.8X300	25
8067 10 100	TOGG. FIX. F.TRAP. SH.M.10X100	25

Technical Data	
Drilling Ø	Thread M x length mm
22 mm	8 x 100
22 mm	8 x 200
22 mm	8 x 300
25 mm	10 x 100

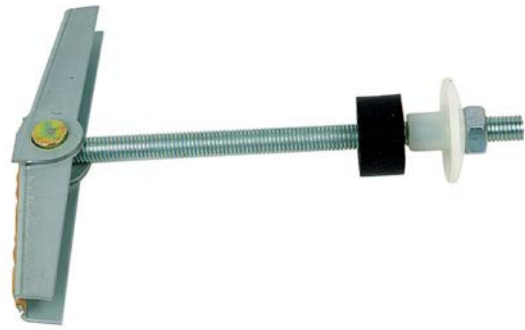
* Indicated values depending on the building material

** Hooks are bending up

Breaking forces: Threaded rod breaking or failure of the tipping element (the load-bearing capacity of the ceiling or of the wall is not considered)

Spring Toggle Fixing for Washstand Attachment

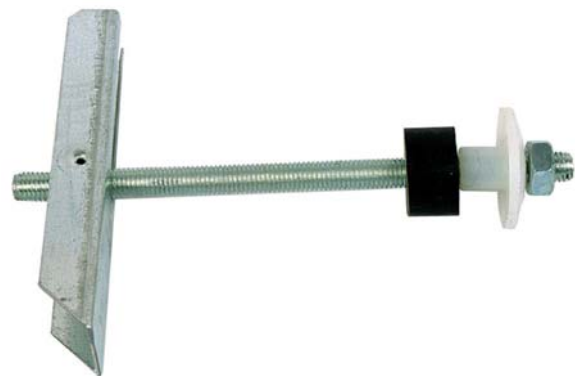
- Pre-mounted with turnout-protected threaded rod, rubber plug to fill the drilling hole and to center the threaded rod, nylon collar bushing and hexagon nut M10
- Large bearing surface – perfect wash stand fixing, in particular in smooth materials with little compressive strength such as gas concrete, plasterboard or similar materials
- Galvanized – corrosion-protected
- Drilling hole Ø: 30 mm
- Required cavity depth: 90 mm
- Max. wall and ceiling thickness: 140 mm incl. fixing object



Article No.	Article Description	QTY
8063 10 180	SPR.TOGG. FIX. WASH ST. 10X180	25

Spring Toggle Fixings for Washstand Attachment

- Pre-mounted with turnout-protected threaded rod, rubber plug to fill the drilling hole and to center the threaded rod, nylon collar bushing and hexagon nut M10
- Large bearing surface – perfect wash stand fixing, in particular in smooth materials with little compressive strength such as gas concrete, plasterboard or similar materials
- Galvanized – corrosion-protected
- Drilling hole Ø: 30 mm
- Required cavity depth: 145 mm
- Max. wall and ceiling thickness: 140 mm incl. fixing object
- Bearing surface: 30 cm²



Article No.	Article Description	QTY
8068 10 180	TOGG. FIXING F.WASH ST. 10X180	25

Spike Grid Metal

- Applicable in poroton, perforated brick tiles, pumice and lightweight concrete
- Particularly designed for light-weight assemblies
- Drive in the plug into gas concrete without pre-drilling
- For hanger bolts, wooden boards, chipboards and drywall screws, etc.
- Complies with the technical guidelines for gas installations (TRGI) in relation with hanger bolts



Article No.	Dimension		Article No.	Qty
8155 6	6X32	H	8155P 6	1000
8155 8	8X38	H	8155P 8	500
8155 8 60	8X60	H	8155P 8 60	250
8155 10	10 X 60	H	8155P 10	200

Technical Data	*Recommended loads in kN		
	Concrete B25*	Light-weight concrete*	Vertically perforated brick*
Screws Ø mm			
5 - 6	0,30	0,12	0,15
6 - 8	0,44	0,18	0,22
6 - 8	0,76	0,35	0,38
8 - 10	0,86	0,42	0,43

Expansion Anchor Brass

- Applicable in concrete, solid bricks, natural stone, clinker, sand-lime bricks, solid wood and composite lumber
- With metric interior thread
- High retaining values, turn-proof and slip-proof

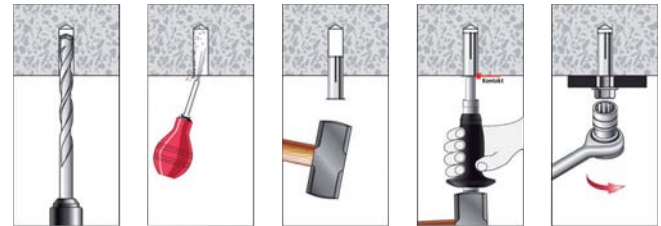
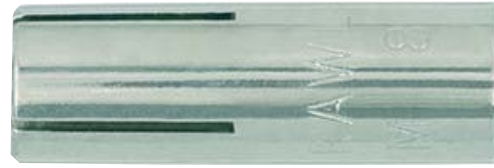


Article No.	Article Description	QTY
8050 5	BRASS EXPANSION ANCHOR M 5	100
8050 6	BRASS EXPANSION ANCHOR M 6	100
8050 8	BRASS EXPANSION ANCHOR M 8	100
8050 10	BRASS EXPANSION ANCHOR M10	100
8050 12	BRASS EXPANSION ANCHOR M12	50
8050 16	BRASS EXPANSION ANCHOR M16	25

Technical Data			*Recommended loads in kN	
Screws M	Drilling Ø mm	min. drilling hole depth mm	Concrete B25*	Solid brick*
5	7,0	30	0,30	0,26
6	8,0	30	0,40	0,36
8	10,0	40	0,8	0,63
10	12,0	45	1,00	0,9
12	15,0	50	1,22	1,1
16	22,0	60	3,90	2,35

R-DCA drop-in anchor , galvanised steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- Galvanised internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



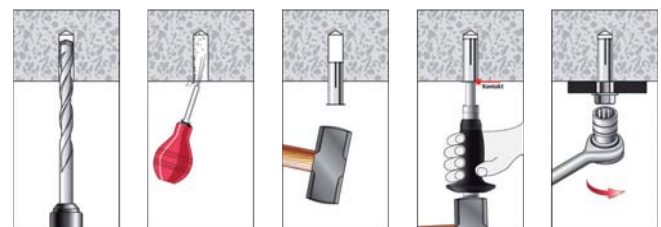
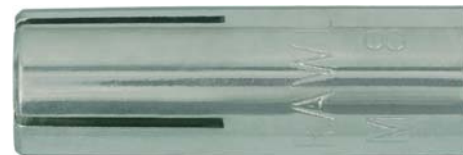
Article No.	Article Description	QTY
8209 2 6	DROP-IN ANCHOR R-DCA-M 6 GV	100
8209 2 8	DROP-IN ANCHOR R-DCA-M 8 GV	100
8209 2 10	DROP-IN ANCHOR R-DCA-M10 GV	50
8209 2 12	DROP-IN ANCHOR R-DCA-M12 GV	50
8209 2 16	DROP-IN ANCHOR R-DCA-M16 GV	25
8209 2 20	DROP-IN ANCHOR R-DCA-M20 GV	15

Technical Data

Thread length mm	recomm.max. tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98
35	130

R-DCA drop-in anchor, A4 stainless steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- A4 stainless-steel internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



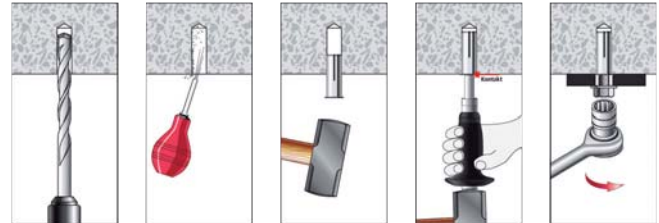
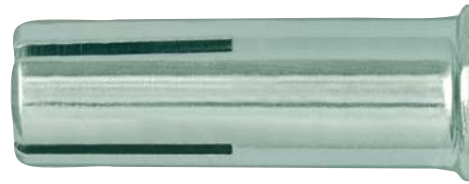
Article No.	Article Description	QTY
8209 3 6	DROP-IN ANCHOR R-DCA-M 6 A4	100
8209 3 8	DROP-IN ANCHOR R-DCA-M 8 A4	100
8209 3 10	DROP-IN ANCHOR R-DCA-M10 A4	50
8209 3 12	DROP-IN ANCHOR R-DCA-M12 A4	50
8209 3 16	DROP-IN ANCHOR R-DCA-M16 A4	25

Technical Data

Thread length mm	Recomm.max tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98

R-DCL-K drop-in anchor, galvanised steel

- Easy-to-place anchor with ETA approval, option 7 for concrete without cracks and part 6 for cracked concrete
- Galvanised internally threaded expansion anchor for mounting threaded rods or bolts
- Fire resistance class F120
- Quick mounting due the special cone geometry
- Attachment using hammer and setting tool
- Extra shallow setting depth for M6 × 25
- Special red plastic disc stabilises the cone during transport
- Ideal for the secure attachment of mechanical components, cable troughs, electrical platforms, drain covers, suspended ceilings, etc.
- Securing of equipment which needs to be removed and reattached



Article No.	Article Description	QTY
8209 1 6	DROP-IN ANCHOR R-DCL-M 6 K GV	100
8209 1 8	DROP-IN ANCHOR R-DCL-M 8 K GV	100
8209 1 10	DROP-IN ANCHOR R-DCL-M10 K GV	50
8209 1 12	DROP-IN ANCHOR R-DCL-M12 K GV	50
8209 1 16	DROP-IN ANCHOR R-DCL-M16 K GV	25

Technical Data

Thread length mm	Recommended max. tightening torque Nm
11	4,5
13	11
15	22
20	38
25	98

Expansion tool R-DCA-ST for drop-in anchor

Article No.	Article Description	QTY
8213 6 2	EXPANSION TOOLR-DCA-ST M 6	1
8213 8 2	EXPANSION TOOLR-DCA-ST M 8	1
8213 10 2	EXPANSION TOOLR-DCA-ST M 10	1
8213 12 2	EXPANSION TOOLR-DCA-ST M 12	1
8213 16 2	EXPANSION TOOLR-DCA-ST M 16	1
8213 20 2	EXPANSION TOOLR-DCA-ST M 20	1



Drop-in anchor R-DCA/R-DCL, steel

Extract from the application conditions in the ETA-13/0584

Overall safety factor taken into account according to ETAG (γ_M und γ_F)

Loads and Charakteristik values		M6	M8	M10	M12	M16	M20
Characteristic transverse load in cracked and uncracked concrete in all load directions							
C20/25 bis C50/60 (Screw / Threaded rod class ≥ 4.8)	FRk	1.52 kN	3.01 kN	4.57 kN	6.43 kN	13.31 kN	17.38 kN
Characteristic bending torque							
Characteristic load capacity (Screw 4.8)	M0Rk,S	6 Nm	15 Nm	30 Nm	52 Nm	133 Nm	260 Nm
Characteristic load capacity (Screw 5.8)	M0Rk,S	8 Nm	19 Nm	37 Nm	66 Nm	167 Nm	325 Nm
Characteristic load capacity (Screw 6.8)	M0Rk,S	9 Nm	23 Nm	45 Nm	79 Nm	200 Nm	390 Nm
Characteristic load capacity (Screw 8.8)	M0Rk,S	12 Nm	30 Nm	60 Nm	105 Nm	267 Nm	520 Nm
Axial spacing and edge clearances							
Anchoring depth	h_{ef}	25 mm	30 mm	40 mm	50 mm	65 mm	80 mm
Axial spacing	s_{min}	200 mm	200 mm	200 mm	200 mm	260 mm	320 mm
Edge clearance	c_{min}	150 mm	150 mm	150 mm	150 mm	195 mm	240 mm
Minimum component thickness	h_{min}	80 mm	80 mm	80 mm	100 mm	130 mm	160 mm
Mounting data							
Hole diameter	d_o	8 mm	10 mm	12 mm	15 mm	20 mm	25 mm
Through-hole in the mounted part	d_f	7 mm	9 mm	12 mm	14 mm	18 mm	22 mm
Drilled hole depth	h_1	27 mm	32 mm	42 mm	53 mm	70 mm	85 mm
Torque	T_{inst}	4,5 Nm	11 Nm	22 Nm	38 Nm	98 Nm	130 Nm

Drop-in anchor R-DCA-A4, stainless steel A4

Extract from the application conditions in the ETA-13/0584

Overall safety factor taken into account according to ETAG (γ_M und γ_F)

Loads and Charakteristik		M6	M8	M10	M12	M16
Characteristic transverse load in cracked and uncracked concrete in all load directions						
C20/25 bis C50/60 (Screw / Threaded rod class A4-70)	FRk	1.00 kN	2.01 kN	3.20 kN	4.59 kN	8.27 kN
Characteristic bending torque						
Characteristic load capacity Screw / threaded rod class A4-70	M0Rk,S	11 Nm	26 Nm	52 Nm	92 Nm	233 Nm
Axial spacing and edge clearances						
Anchoring depth	h_{ef}	25 mm	30 mm	40 mm	50 mm	65 mm
Axial spacing	s_{min}	200 mm	200 mm	200 mm	200 mm	260 mm
Edge clearances	c_{min}	150 mm	150 mm	150 mm	150 mm	195 mm
Minimum component thickness	h_{min}	80 mm	80 mm	80 mm	100 mm	130 mm
Mounting data						
Hole diameter	d_o	8 mm	10 mm	12 mm	15 mm	20 mm
Through-hole in the mounted part	d_f	7 mm	9 mm	12 mm	14 mm	18 mm
Min. drilled hole depth	h_1	27 mm	32 mm	42 mm	53 mm	70 mm
Torque	T_{inst}	4.5 Nm	11 Nm	22 Nm	38 Nm	98 Nm

Coil Hammer Drill Bit with SDS-plus TRIAL **FÖRCH*******

- Innovative 3-edged drill head with depth stop
- Self-centring tip
- Self-sharpening and specially soldered carbide plate
- Temperature resistant up to +1100°C
- Fits into all hammer drills with SDS-plus chuck (licence Bosch, Hilti TE system)
- Permanently aggressive drilling behaviour
- Long service life and high drilling speed when drilling in concrete reinforcement, cuts costs
- Low-vibration, so easier on the joints

Your Advantage / Benefit

- The depth stop ensures precise and repeatable control of drill hole depth
- Does not catch when hitting reinforcing steel, so longer lifespan
- Circular holes thanks to centre point and the three cutting lips
- Does not drift when starting drilling
- More drill holes suitable for anchors, thereby saving time

Application

- Rapid and production-ready assembly of fastening systems with high demands for hole depth and repeat accuracy (inserting drop-in anchor)
- Installation of stadium seating, cable ducts, ventilation shafts etc.



Article No.	Article Description	QTY
8214 8 27	SDS COIL HAMMER DRILL 8X27 5*	1
8214 10 32	SDS COIL HAMMER DRILL 10X32 5*	1
8214 12 42	SDS COIL HAMMER DRILL 12X42 5*	1
8214 15 52	SDS COIL HAMMER DRILL 15X52 5*	1

(Ø × Total length mm)

Technical Data

Ø Drill bit mm	Ø Anchor mm	Borehole depth mm
8	6	27
10	8	32
12	10	42
15	12	52

Related Products

■ Drop-in anchors AGR 8210



AGR 8211



AGR 8212



■ Multi functional telescopic ladder Art.-No. 4986 50 200



■ "Alpha" clear safety glasses Art.-No. 5400 901 1



Impact Anchor E, steel

Abstract from the service conditions of the approval ETA-02/0020

Anchor capacity, transverse load without influence of axis and edge distances.

Total safety factor according to ETAG is considered (γ_M und γ_F)

Loads and characteristic values				Impact anchor E M				M 5 ¹⁾	M 6 ¹⁾	M 8 ¹⁾	M 8x40 M 10 M 12			M 16	M 20
Non-cracked concrete															
Admissible transverse load (screw 5.6)	C20/25	admissible N	[kN]	1,1	2,7	2,3	3,0	4,2	5,9	8,7	11,9				
	C25/30	admissibleN	[kN]	1,2	3,0	2,6	3,3	4,6	6,5	9,6	13,1				
	C30/37	admissible N	[kN]	1,4	3,1	2,7	3,4	4,9	6,8	10,0	13,7				
	C40/50	admissible N	[kN]	1,6	3,4	2,9	3,7	5,2	7,3	10,8	14,8				
	C50/60	admissible N	[kN]	1,8	3,6	3,1	3,9	5,5	7,7	11,4	15,5				
Admissible transverse load (screw 5.6) ≥	C20/25	admissible V	[kN]	1,5	2,1	3,3	3,9	4,1	9,0	16,8	26,2				
Admissible transverse load (screw 5.8/8.8) ≥	C20/25	admissible V	[kN]	2,0	2,9	3,3	3,9	4,1	10,6	18,0	28,6				
Admissible bending moment (screw 5.6)	zul. M	[Nm]	-	2,7	8,1	8,1	15,8	27,8	27,8	71,0					
Admissible bending moment (screw 5.8)	zul. M	[Nm]	-	3,7	10,9	10,9	21,1	37,1	37,1	94,9					
Admissible bending moment (screw 8.8)	zul. M	[Nm]	-	5,8	17,1	17,1	34,3	60,0	60,0	152,0					
Axis and edge distances															
Anchoring depth		h _{ef}	[mm]	25	30	30	40	40	50	65	80				
Distinctive axis distance		s _{cr}	[mm]	75	90	90	120	120	150	195	240				
Distinctive edge distance		c _{cr}	[mm]	37,5	45	45	60	60	75	97,5	120				
Minimum axis distance		s _{min}	[mm]	60	60	55	80	100	120	150	160				
Minimum edge distance		c _{min}	[mm]	95	95	95	95	135	165	200	260				
Minimum component thickness		h _{min}	[mm]	100	100	100	100	120	130	160	200				
Assembly data															
Drilling hole diameter		d _o	[mm]	8	8	10	10	12	15	20	25				
Clearance hole in the add-on part		d _f	[mm]	6	7	9	9	12	14	18	22				
Drilling hole depth		h ₁	[mm]	28	33	33	44	44	54	71	86				
Torque when anchoring		T _{inst}	[Nm]	3	4	8	8	15	35	60	120				

1) Application only for statical undetermined systems. Size M5 is not part of the ETA approval Z-21.12-1090, controls the anchoring of light-weight ceiling claddings and suspended ceilings according to DIN 18 168 for the sizes M5 to M12.

Impact Anchor E, Stainless Steel A4

Abstract from the service conditions of the approval ETA -03/0031

Anchor capacity, transverse load without influence of axis and edge distances.

Total safety factor according to ETAG is considered (γ_M und γ_F)

Loads and characteristic values				Impact anchor E A4				M 5 ¹⁾	M 6 ¹⁾	M 8 ¹⁾	Non-cracked concrete			M 16	M 20
Admissible transverse load	C20/25	admissible N	[kN]	1,3	2,7	2,7	3,0	5,1	7,1	10,5	14,3				
	C25/30	admissible N	[kN]	1,5	3,0	3,0	3,3	5,5	7,7	11,5	15,7				
	C30/37	admissible N	[kN]	1,6	3,3	3,3	3,6	6,2	8,6	12,8	17,4				
	C40/50	admissible N	[kN]	1,9	3,9	3,9	4,2	7,2	10,0	14,8	20,2				
	C50/60	admissible N	[kN]	2,1	4,2	4,2	4,6	7,8	11,0	16,2	22,2				
Admissible transverse load	≥ C20/25	admissible V	[kN]	2,3	3,2	4,6	4,6	6,0	11,9	19,2	28,6				
Admissible bending moment			admissible M	[Nm]	-	5,0	11,9	11,9	23,8	42,1	106,7	207,9			
Axis and edge distances															
Anchoring depth			h _{ef}	[mm]	25	30	30	40	40	50	65	80			
Distinctive axis distance			s _{cr}	[mm]	75	90	90	120	120	150	195	240			
Distinctive edge distance			c _{cr}	[mm]	37,5	45	45	60	60	75	100	120			
Minimum axis distance			s _{min}	[mm]	60	60	60	80	100	120	150	160			
Minimum edge distance			c _{min}	[mm]	95	80	95	95	135	165	200	260			
Minimum component thickness			h _{min}	[mm]	100	100	100	100	130	140	160	250			
Assembly data															
Drilling hole diameter			d _o	[mm]	8	8	10	10	12	15	20	25			
Clearance hole in the add-on part			d _f	[mm]	6	7	9	9	12	14	18	22			
Drilling hole depth			h ₁	[mm]	28	33	33	44	44	54	71	86			
Torque when anchoring			T _{inst}	[Nm]	3	4	8	8	15	35	60	120			

1) Application only for statical undetermined systems. Size M5 is not part of the ETA approval Z-21.12-1090, controls the anchoring of light-weight ceiling claddings and suspended ceilings according to DIN 18 168 for the sizes M5 to M12.

Hollow ceiling anchor

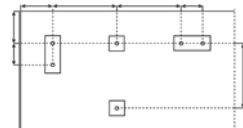
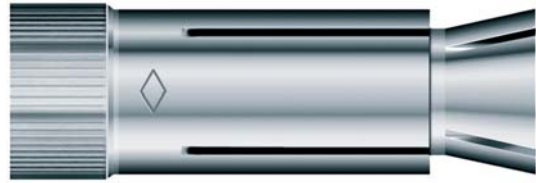
- 'Easy' hollow ceiling anchor with general building approval Z-21.1-1785
- Specifically for use in prestressed concrete hollow ceiling panels
- Simple and flexible in application
- Also approved where the expansion area is not within a hollow cavity
- For use with off-the-shelf screws or threaded rods
- Tested by VdS (VdS Schadenverhütung GmbH, Cologne), approved for mounting sprinkler systems (M8 – M12)
- Fire protection tested R30 – R120

Application examples:

- Suspended items in the heating, sanitary and ventilation sector, suspended ceilings, other attachments with threaded rods or screws

Notes:

- The screws must have threads long enough to expand the anchor securely
- Preferably, screws conforming to DIN 933 / DIN EN ISO 898 should be used
- The required screw length is derived from the „minimum screw length“ and the height of the component to be attached
- M6 screws must have a strength rating of at least 8.8, and M8 – M12 of at least 5.8



Article No.	Article Description	QTY
8258 6	HOLLOW CEILING ANCH.EASY M 6	50
8258 8	HOLLOW CEILING ANCH.EASY M 8	50
8258 10	HOLLOW CEILING ANCH.EASY M 10	50
8258 12	HOLLOW CEILING ANCH.EASY M 12	25

Technical Data

Art.-No.	Sleeve length (without cone) mm	min. screw length mm	min. pin length mm	Diameter drill hole mm	Through hole in the mounting part mm	Drill hole depth mm	Achoring torque Nm
8258 6	30	42	47	10	7	50	10
8258 8	35	47	53	12	9	55	20
8258 10	40	55	63	16	12	60	30
8258 12	45	61	71	18	14	70	40

Hollow ceiling anchor, steel

Extract from the application conditions in the Z-21.1-1785 approval

Permissible loads without the influence of axial spacings and edge distances

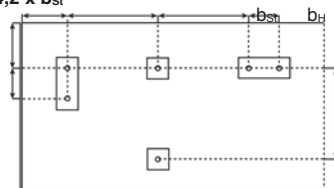
Overall safety factor taken into account according to ETAG 001 (γ_M und γ_F)

Loads and characteristic values Easy E			M6				M8				M10				M12			
			Prestressed concrete hollow ceiling panels ≥ C45/55															
Mirror thickness	d _u	[mm] ≥	25	30	40	50	25	30	40	50	25	30	40	50	25	30	40	50
Single anchor																		
Permissible load ¹⁾ (bei c ≥ c _{cr})	F ¹⁾	[kN]	0,7	0,9	2,0	2,9	0,7	0,9	2,0	3,6	0,9	1,2	3,0	3,6	1,0	1,2	3,0	4,3
Edge distance	c _{cr}	[mm]	150				150				150				150			
Permissible load ¹⁾ (bei c _{min})	F ¹⁾	[kN]	0,35	0,8	1,8	2,4	0,35	0,8	1,8	3,0	0,8	1,0	2,7	3,0	0,8	1,0	2,7	3,6
Minimum edge distance	c _{min}	[mm]	100				100				100				100			
Axial spacing	s _{cr}	[mm]	300				300				300				300			
Anchor pair ²⁾																		
Permissible load ¹⁾ (bei c ≥ c _{cr})	F ¹⁾	[kN]	0,7	1,4	2,6	3,9	0,7	1,4	2,6	4,8	1,1	2,0	4,8	4,8	1,2	2,0	4,8	5,7
Distinctive edge distance	s _{min}	[mm]	70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Edge distance	c _{cr}	[mm]	150				150				150				150			
Permissible load ¹⁾ (bei c _{min})	F ¹⁾	[kN]	0,35	1,25	2,35	3,2	0,35	1,25	2,35	4,0	0,9	1,8	4,3	4,3	1,0	1,8	4,3	4,8
Distinctive edge distance	s _{min}	[mm]	70	80	100	100	70	80	100	100	70	80	100	100	70	80	100	100
Minimum edge distance	c _{min}	[mm]	100				100				100				100			
Permissible bending moments																		
Threaded rods / screw, steel 5.8		[Nm]	-				10,7				21,4				37,4			
Threaded rods / screw, steel 8.8		[Nm]	4,4				17,1				34,2				59,8			
Assembly data																		
Sleeve length (without cone)	L	[mm]	30				35				40				45			
Minimum screw length	min l _s	[mm]	42 + t _{fix}				47 + t _{fix}				55 + t _{fix}				61 + t _{fix}			
Minimum pin length	min l _b	[mm]	47 + t _{fix}				53 + t _{fix}				63 + t _{fix}				71 + t _{fix}			
Requested steel strength of the screws / threaded rods			8.8				5.8				5.8				5.8			
Drilling hole diameter	d _o	[mm]	10				12				16				18			
Clearance hole in the add-on part	d _f	[mm]	7				9				12				14			
Drilling hole depth	h _o	[mm]	50				55				60				70			
Torque when anchoring	T _{inst}	[Nm]	10				20				30				40			

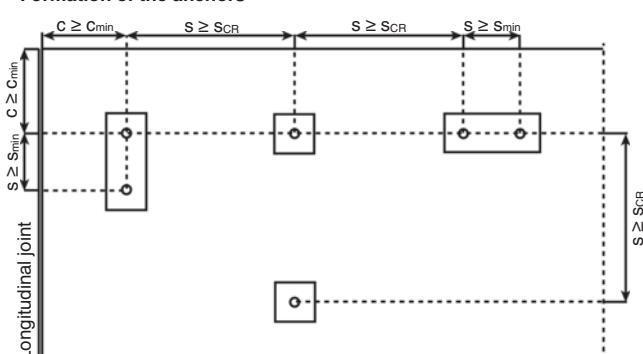
¹⁾ For edge distances $c_{min} < c \leq c_{cr}$, the recommended loads can be determined by linear interpolation.

²⁾ The permissible loads apply to the anchor pair. The permissible load for the most highly loaded anchor must not exceed the values specified for single anchors. For anchor pairs with axial spacings $s_{min} < s < s_{cr}$ the permissible load may be determined by linear interpolation, whereby for the limit $s = s_{cr}$, twice the permissible load for single anchors may be applied for the anchor pair with central load distribution.

Condition: $b_H \leq 4,2 \times b_{St}$

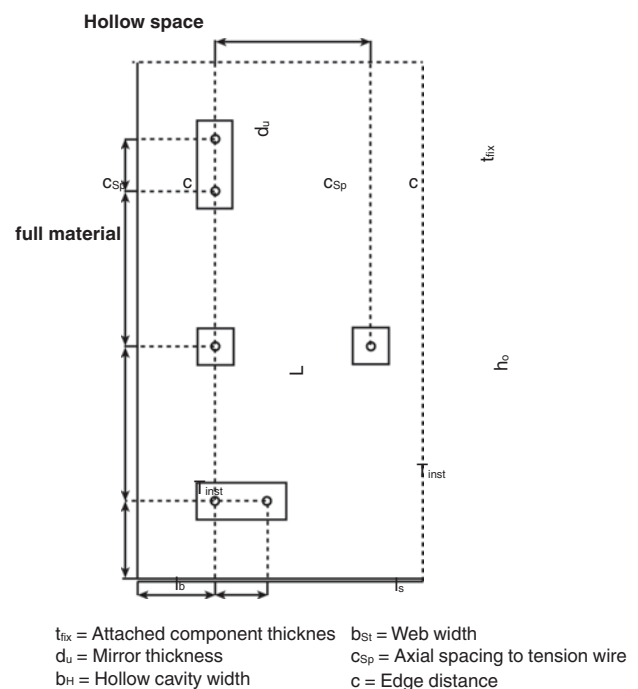


Formation of the anchors



Usage with threaded rod

Usage with screw



Drop-in Anchor ED-DW 15 Galvanized Steel

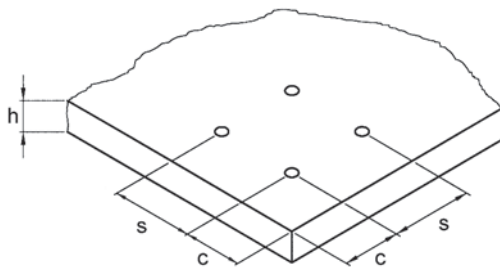
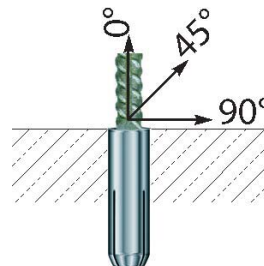
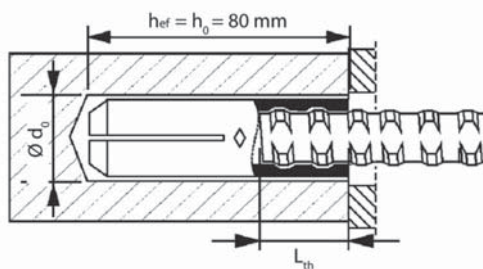
- Drop-in Anchor with DYWIDAG® internal thread 1) DW 15
- For subsequent attachment of anchor bars
- Safe installation due to thread unaffected by dirt
- After removal of the anchor rod, plug does not protrude from bore hole
- Suitable for concrete C12/15-C50/60 or pressure-resistant natural stone

Examples of use:

- Versatile anchors in formwork
- Inexpensive and quick mounting in in-situ concrete
- Fixing of formwork supports and temporary fall protection



Loads and characteristic values		Angle of inclination	0°	15°	30°	45°	60°	75°	90°
Non-cracked concrete									
Recomm. load	C12/15	Recomm.F [kN]	17,3	16,9	16,8	17,4	18,7	20,6	22,6
	>C25/30	Recomm.F [kN]	19,3	18,7	18,3	18,6	19,5	21,1	22,6



Article No.	Article Description	QTY
8250 15	DROP-IN ANCHOR ED DW 15	25

Technical Data

Spacing and edge distance

Embedment	h_{ef}	h_{ef}	80
Depth minimum spacing	s_{min}	s_{min}	600
Minimum edge distance	c_{min}	c_{min}	300
Minimum component thickness	h_{min}	h_{min}	160

Installation data

Drill hole diameter	d_o	d_o	22
Drill hole depth	h_0	h_0	80
Thread length	L_{th}	L_{th}	35
Rod/bolt DW 15 minimum insertion length			28

1) DYWIDAG® internal thread (DYWIDAG® is a registered trademark of Walter Bau AG)

Expansion tool E-SW for ED-DW 15 hammer-in anchor

Article No.	Article Description	QTY
8250 151	EXPANSION TOOL FOR ED DW 15	1



Nail Anchor MND, Galvanized Steel

- Ideal for universal, rapid, rational and secure impact installation of laths, metal profiles, squared timber, wood constructions, chains, ropes, perforated tapes, wood wool - lightweight construction panels (for roof insulation with e.g. washer and insulation board disks metal Art. No. 8083 80) and other rail systems
- For the use in dry rooms
- Full metal design - Fire resistance class F 30-F 120
- Designed load in uncracked and cracked concrete C20/25 – C50/60 of 0.7 kN for multiple fixings
- Pre-spreads when plugging in - holding of workpiece not required
- Drilling diameter 6 mm and min. installation depth 30 mm



Article No.	Article Description	QTY
8256 6 50	NAIL ANCHOR MND 6/50 GALVAN.	100

Technical Data		*Permissible loads in kN
Anchor length	Effective length	Concrete*
mm	mm	
50	10	0.7

Nail Anchor MND with Washer, Galvanized Steel

- Ideal for universal, rapid, rational and secure impact installation of laths, metal profiles, squared timber, wood constructions, wire hangers, chains, ropes, perforated tapes, wood wool - lightweight construction panels (for roof insulation with insulation board disks metal Art. No. 8083 80) and other rail systems
- For the use in dry rooms
- Full metal design
 - Fire resistance class F 30-F 120
- Designed load in uncracked and cracked concrete C20/25 – C50/60 of 1.0 kN for multiple fixings
- Pre-spreads when plugging in - holding of workpiece not required
- Drilling diameter 6 mm and min. installation depth 32 mm
 - Large surface covering head with washer
 - High tear strength and clean covering



Article No.	Article Description	QTY
8257 6 45	NAIL ANCHOR MND 6/45 WASHER GA	100

Technical Data			*Permissible loads in kN
Anchor length	Effective length	Washer-Ø	Concrete*
mm	mm	mm	
45	5	16	1.0

Nail anchor N-K, galvanised steel

- European Technical Approval for multiple attachments in cracked concrete
- Quick and easy installation: Only needs to be hammered in
- Reduced anchoring depth of only 25 mm for less drilling effort
- Very small edge distances and axial spacings
- Permissible load up to 2.14 kN
- All metal design
- With Ø 13 mm nail head
- For use in dry interiors

Application:

- Ceiling suspensions, piping, panels, cable channels, etc.



8254 05



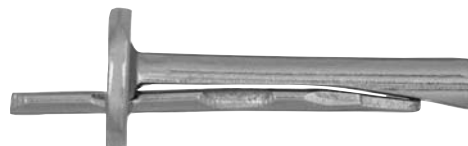
8254 55

Article No.	Article Description	QTY
8254 05	NAIL ANCHOR N-K 6 X 0-5/39	200
8254 35	NAIL ANCHOR N-K 6X30-35/69	200
8254 55	NAIL ANCHOR N-K 6X50-55/89	100

Technical Data		*zulässige Lasten in kN
Anchor length	Clamping thickness	Concrete
mm	mm	
39	5	2.4
69	35	2.4
89	55	2.4

Ceiling anch.R-GS, galvanised steel

- Galvanised steel ceiling anchor bolt with ETA approval, Part 6 for multiple fixing in concrete
- Ideal for universal, rapid, efficient, and safe mounting of slats, wooden beams, rails, wooden substructures, metal profiles, chains, ropes, perforated straps, wire hangers, extension nuts with threaded rods, fire partitions, air ducts, suspended ceilings etc.
- Fire resistance class F120
- Ceiling anchor bolt for push-through installation of suspended ceilings
- When the expanding wedge is driven in, the ceiling anchor bolt spreads against the wall of the drilled hole
- Rapid and easy impact installation reduces installation time



Article No.	Article Description	QTY
8241 40	CEIL.ANCHOR R-GS 6X 4.5/40	100
8241 65	CEIL.ANCHOR R-GS 6X 35 /65	100

Technical Data

Art.No.	Anchor length mm	Clamping thickness mm
8241 40	40	4.5
8241 65	65	35

Nail anchor N-M 6-25 M8/M10 glavanised steel

- Nail anchor N-M with stepped thread M8 and M10
- M8 and M10 threaded rods can be used with the aid of a dowel
- Anchoring depth 25 mm
- Load range: 0,71 kN - 2,14



Your Advantage / Benefit

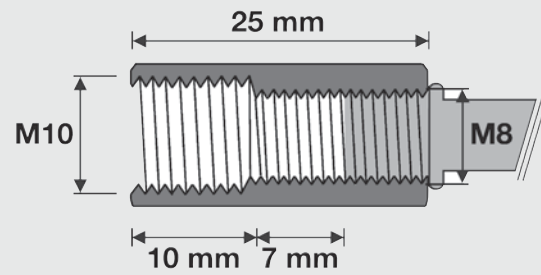
- European technical approval for multiple use in non-structural applications for cracked concrete
- Quick, easy assembly: just hammer in
- Reduced anchoring depth of only 25 mm mean less drilling
- Very short centre and edge distances
- Permitted load up to 2.14 kN
- Just one product for two applications: M8/M10 stepped

Application

- Suspended ceilings, pipelines, cladding, cable trays



Dimensions threaded socket N-M:



Working length:



Article No.	Article Description	QTY
8254 6 25	NAIL ANCHOR N-M 6-25/ M8/M10	100

Nail anchor N-M 6-25 M8/M10 glavanised steel

Art.-No. 8254 6 25

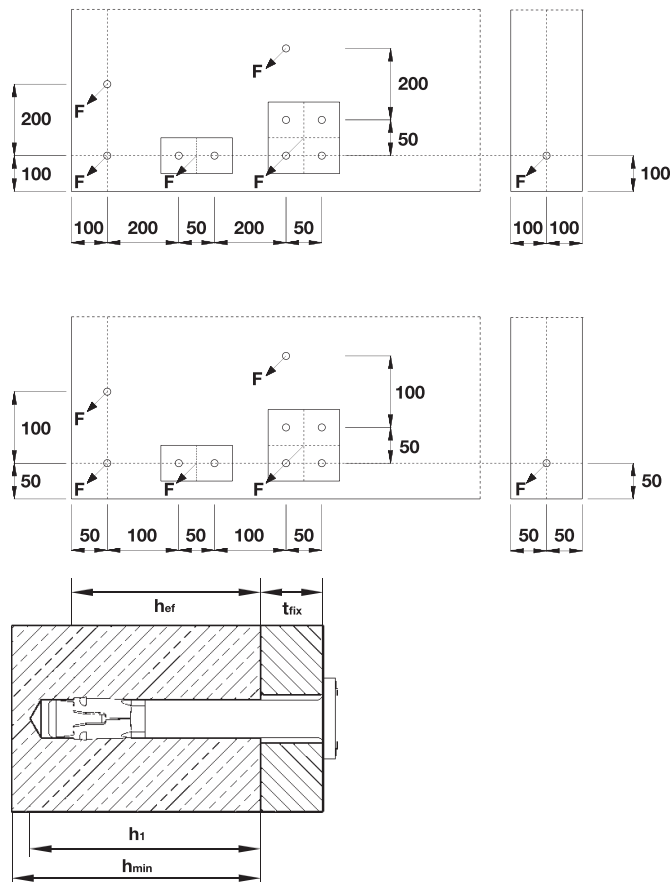
The permissible resistance, perm. F, applies to one fixing point.

A fixing point can be:

- Single anchor,
- Anchor pair with axial spacing $s > 50$ mm or
- Group of four with $s > 50$ mm

If the axial spacing of the anchors in a fixing point is greater than or equal to the associated axial spacing between the fixing points, the characteristic resistances shall apply for each individual anchor.

Image 1: Maximum load-bearing capacity



Technical Data

Loads and characteristic values

Anchoring depth_{ef}: 25 mm

Permissible load (Bild 1)

- C12/15 cert. F: 1,43 kN¹

- C20/25 – C50/60 cert. F: 2,14 kN¹

Permissible load (Bild 2)

- C12/15 cert. F: 0,71 kN¹

- C20/25 – C50/60 cert. F: 0,95 kN¹

Permissible bending moment cert.M.: 7,3 Nm

Minimum component thickness_{min}: 80 mm

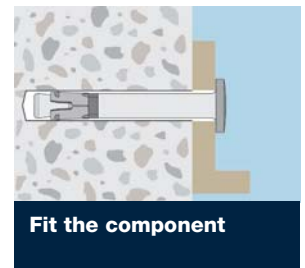
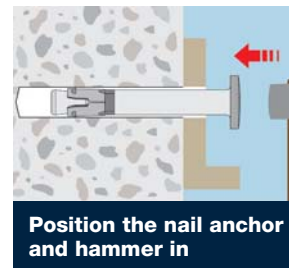
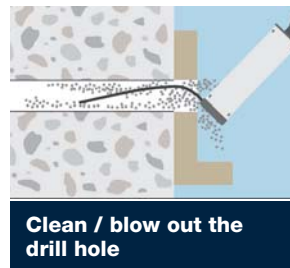
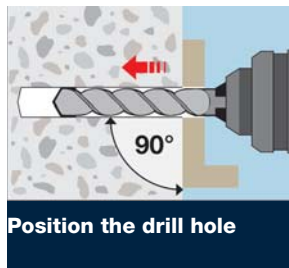
Mounting details

Drill hole diameter_o: 6 mm

Through-hole in attachment part_f: 7 mm

Drill hole depth_l: 35 mm

¹ In the N-M Version, if there is shear force, verification of shear load with a Lever arm must be produced.



Bolt Anchor R-XPT, Galvanised Steel

- Bolt anchor R-XPT with ETA approval, option 7 suited for time-saving push-through installation in non-cracked concrete
- Marking of the setting depth for correct attachment: standard and reduced anchoring depth
- Cold forming of the plug for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, brackets, railings, façades, windows, grates, pipelines, shelves, supports
- Suited for use in pressure-resistant natural stone (without approval)
- Two anchoring depths for increased flexibility
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 6 5	BOLT ANCHOR R-XPT ZN 6* 5/ 65	100
8178 6 25	BOLT ANCHOR R-XPT ZN 6* 25/ 85	100
8178 8 0	BOLT ANCHOR R-XPT ZN 8 0/ 60	100
8178 8 10	BOLT ANCHOR R-XPT ZN 8 10/ 75	100
8178 8 15	BOLT ANCHOR R-XPT ZN 8 15/ 80	100
8178 8 20	BOLT ANCHOR R-XPT ZN 8 20/ 85	100
8178 8 30	BOLT ANCHOR R-XPT ZN 8 30/ 95	100
8178 8 40	BOLT ANCHOR R-XPT ZN 8 40/105	100
8178 8 50	BOLT ANCHOR R-XPT ZN 8 50/115	100
8178 8 75	BOLT ANCHOR R-XPT ZN 8 75/140	100
8178 10 0	BOLT ANCHOR R-XPT ZN10 0/ 65	50
8178 10 10	BOLT ANCHOR R-XPT ZN10 10/ 80	50
8178 10 25	BOLT ANCHOR R-XPT ZN10 25/ 95	50
8178 10 45	BOLT ANCHOR R-XPT ZN10 45/115	50
8178 10 70	BOLT ANCHOR R-XPT ZN10 70/140	50
8178 10 110	BOLT ANCH. R-XPT ZN10 110/180	50
8178 12 0	BOLT ANCHOR R-XPT ZN12 0/ 80	50
8178 12 5	BOLT ANCHOR R-XPT ZN12 5/100	50
8178 12 30	BOLT ANCHOR R-XPT ZN12 30/125	50
8178 12 55	BOLT ANCHOR R-XPT ZN12 55/150	50
8178 12 65	BOLT ANCHOR R-XPT ZN12 65/160	50
8178 12 85	BOLT ANCHOR R-XPT ZN12 85/180	50
8178 12 105	BOLT ANCH. R-XPT ZN12 105/200	50
8178 12 125	BOLT ANCH. R-XPT ZN12 125/220	50
8178 12 185	BOLT ANCH. R-XPT ZN12 185/280	20
8178 16 0	BOLT ANCHOR R-XPT ZN16 0/100	25
8178 16 5	BOLT ANCHOR R-XPT ZN16 5/125	25
8178 16 30	BOLT ANCHOR R-XPT ZN16 30/150	25
8178 16 60	BOLT ANCHOR R-XPT ZN16 60/180	25
8178 16 80	BOLT ANCHOR R-XPT ZN16 80/200	25
8178 16 100	BOLT ANCH. R-XPT ZN16 100/220	25
8178 16 130	BOLT ANCH. R-XPT ZN16 130/250	25
8178 16 160	BOLT ANCH. R-XPT ZN16 160/280	15
8178 20 20	BOLT ANCHOR R-XPT ZN20 20/160	25
8178 20 60	BOLT ANCHOR R-XPT ZN20 60/200	10
8178 20 110	BOLT ANCH. R-XPT ZN20 110/250	10

Technical Data

Drill Ø mm	Anchor length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
6*	65	5	25
6*	85	25	45
8	60	0	10
8	75	10	25
8	80	15	30
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
8	140	75	90
10	65	0	5
10	80	10	20
10	95	25	35
10	115	45	55
10	140	70	80
10	180	110	120
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
12	160	65	85
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	100	0	5
16	125	5	25
16	150	30	50
16	180	60	80
16	200	80	100
16	220	100	120
16	250	130	150
16	280	160	180
20	160	20	40
20	200	60	80
20	250	110	130

S = Standardised installation depth / R = Reduced installation depth

Bolt Anchor R-XPTD, Galvanised Steel

- Bolt anchor R-XPTDI with ETA approval, option 7 suited for time-saving push-through installation in non-cracked concrete, sturdy construction
- With extra large U-washer, DIN 9021, especially for timber construction
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, baseplates, brackets, railings, fences, windows, grates, pipelines, machinery, timber structures, beams, stringers, supports
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 2 12 85	BOLT ANCH.R-XPTD GV12 85/180	50
8178 2 12 105	BOLT ANCH.R-XPTD GV12 105/200	50
8178 2 12 125	BOLT ANCH.R-XPTD GV12 125/220	50
8178 2 12 185	BOLT ANCH.R-XPTD GV12 185/280	20
8178 2 16 100	BOLT ANCH.R-XPTD GV16 100/220	25
8178 2 16 130	BOLT ANCH.R-XPTD GV16 130/250	20
8178 2 16 160	BOLT ANCH.R-XPTD GV16 160/280	15
8178 2 16 180	BOLT ANCH.R-XPTD GV16 180/300	10

Technical Data

Drilling Ø mm	Plug length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	220	100	120
16	250	130	150
16	280	160	180
16	300	180	200

S = standard insertion depth / R = reduced insertion depth

Wedge Anchor M2-U, Galvanized Steel

- Wedge anchor M2-U with ETA approval, option 7 appropriate for time-saving push-through assembly in non-cracked concrete, heavy-duty type
- With extra large washer, DIN 9021 especially for woodwork
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 1 12 90	WEDGE ANCHOR M2-U GAL 12/ 90	25
8165 1 12 105	WEDGE ANCHOR M2-U GAL 12/105	25
8165 1 12 125	WEDGE ANCHOR M2-U GAL 12/125	20
8165 1 12 145	WEDGE ANCHOR M2-U GAL 12/145	20
8165 1 12 165	WEDGE ANCHOR M2-U GAL 12/165	20
8165 1 12 205	WEDGE ANCHOR M2-U GAL 12/205	15
8165 1 12 265	WEDGE ANCHOR M2-U GAL 12/265	15
8165 1 16 105	WEDGE ANCHOR M2-U GAL 16/105	10
8165 1 16 145	WEDGE ANCHOR M2-U GAL 16/145	10
8165 1 16 185	WEDGE ANCHOR M2-U GAL 16/185	5
8165 1 16 215	WEDGE ANCHOR M2-U GAL 16/215	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
12	185	90
12	200	90
12	220	90
12	240	90
12	260	90
12	300	90
12	360	90
16	220	110
16	260	110
16	300	110
16	330	110

Bolt-anchors R-XPT, steel

Extract from the application conditions in the ETA-08/0339 approval

Overall safety factor taken into account according ETAG (γ_M und γ_F)

Loads and characteristics values	Bolt-anchors R-XPT			M8	M10	M12	M16	M20
Characteristic transverse load in uncracked concrete	C20/25	$N_{Rk,p}$	[kN]	12	12	25	40	40
	C30/37			1,1	1,37	1,16	1,17	1,30
	C40/50			1,21	1,74	1,33	1,34	1,59
	C50/60			1,32	1,20	1,49	1,50	1,89
Characteristics shear load capacity		$V_{Rk,s}$	[kN]	10,1	16,0	23,3	43,0	67,4
Characteristic bending torque		$M_{Rk,s}$	[Nm]	17	35	61	154	301
Axial spacing and edge clearances								
Effective anchoring depth	–	h_{ef}	[mm]	47	49	68	85	99
Axial spacing	–	$s_{cr,N}$	[mm]	141	147	204	255	297
Edge clearance	–	$c_{cr,N}$	[mm]	71	74	102	128	149
Minimum axial spacing	–	s_{min}	[mm]	50	55	75	90	140
Minimum edge clearance	–	c_{min}	[mm]	40	50	65	80	100
Minimum component thickness	–	h_{min}	[mm]	100	100	136	170	198
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth	–	h_{ef}	[mm]	32	39	48	65	79
Axial spacing	–	s_{cr}	[mm]	96	177	144	195	237
Edge clearance	–	c_{cr}	[mm]	48	59	72	98	119
Minimum axial spacing	–	s_{min}	[mm]	45	55	100	100	125
Minimum edge clearance	–	c_{min}	[mm]	40	65	100	100	125
Minimum component thickness	–	h_{min}	[mm]	100	100	100	130	158
Mounting data								
Hole diameter	–	d_o	[mm]	8	10	12	16	20
Through-hole in the mounted part	–	d_f	[mm]	9	11	13	18	22
Min. drilled hole depth	–	h_o	[mm]	55/40 ¹⁾	59/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾	119/99 ¹⁾
Anchoring torque	–	T_{inst}	[Nm]	15	30	50	100	200

¹⁾ Reduced anchoring depth (note reduced loads)

Data for Bolt Anchor M2-U, galvanised steel

				M12	M16
Recommended tensile load in concrete ¹⁾	C20/25	N_{Emp}	[kN]	9.9	11.9
Recommended radial load	–	V_{Emp}	[kN]	8.4	15.7
Recommended bending torque	–	M_{EMP}	[Nm]	46.8	118.6
Nominal edge clearance	–	c	[mm]	102	120
Nominal axial spacing	–	s	[mm]	204	240
Minimum component thickness	–	h_{min}	[mm]	140	160
Effective anchoring depth	–	h_{ef}	[mm]	68	80
Spanner size	–	sw	[mm]	19	24
Anchoring torque	–	T_{inst}	[Nm]	50	100
Drilled hole depth	–	h_1	[mm]	90	110
Drilled hole Ø in construction material	–	d_o	[mm]	12	16
Hole Ø in mounted part	–	d_f	[mm]	14	18
Washer Ø	–	d_μ	[mm]	37	50
Thread length	–	l_G	[mm]	120	120
Outer Ø of dowell	–	d_{nom}	[mm]	12	16
Usable installation length	–	t_{fix}	[mm]	90 105 125 145 165 205 265	105 145 185 215

¹⁾ Reduced anchoring depth (note reduced loads)

Bolt anchor R-XPTII, A4

- Bolt anchor R-XPTII with ETA approval, option 7 suited for time-saving push-through installation in concrete without cracks
- Marking of the setting depth for correct attachment: Standard and reduced anchoring depth
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion
- Inexpensive push-through installation for the attachment of metal structures, metal profiles, brackets, railings, façades, windows, grates, pipelines, shelves, supports
- Suited for use in pressure-resistant natural stone (without approval)
- Two anchoring depths for increased flexibility
- Concrete quality: C20/25 – C50/60



Article No.	Article Description	QTY
8178 1 8 10	BOLT ANCH.R-XPTII A4 8X10/ 75	100
8178 1 8 20	BOLT ANCH.R-XPTII A4 8X20/ 85	100
8178 1 8 30	BOLT ANCH.R-XPTII A4 8X30/ 95	100
8178 1 8 40	BOLT ANCH.R-XPTII A4 8X40/105	100
8178 1 8 50	BOLT ANCH.R-XPTII A4 8X50/115	100
8178 1 10 5	BOLT ANCH.R-XPTII A4 10X 5/ 65	50
8178 1 10 15	BOLT ANCH.R-XPTII A4 10X15/ 95	50
8178 1 10 20	BOLT ANCH.R-XPTII A4 10X20/ 80	50
8178 1 10 35	BOLT ANCH.R-XPTII A4 10X35/115	50
8178 1 10 50	BOLT ANCH.R-XPTII A4 10X50/130	50
8178 1 10 60	BOLT ANCH.R-XPTII A4 10X60/140	50
8178 1 12 0	BOLT ANCH.R-XPTII A4 12X 0/ 80	50
8178 1 12 5	BOLT ANCH.R-XPTII A4 12X 5/100	50
8178 1 12 30	BOLT ANCH.R-XPTII A4 12X30/125	50
8178 1 12 55	BOLT ANCH.R-XPTII A4 12X55/150	50
8178 1 16 5	BOLT ANCH.R-XPTII A4 16X 5/125	25
8178 1 16 20	BOLT ANCH.R-XPTII A4 16X20/140	25
8178 1 16 30	BOLT ANCH.R-XPTII A4 16X30/150	25
8178 1 16 60	BOLT ANCH.R-XPTII A4 16X60/180	25

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness S mm	Clamping thickness R mm
8	75	10	25
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
10	65	0	5
10	95	15	35
10	80	0	20
10	115	35	55
10	130	50	70
10	140	60	80
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
16	125	5	25
16	140	20	40
16	150	30	50
16	180	60	80

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchor R-XPTII-A4, stainless steel A4

Extract from the application conditions in the ETA-12/0384 approval

Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchor R-XPT	M8	M10	M12	M16
Characteristic transverse load in uncracked concrete								
	C20/25	N _{Rk,p}	[kN]	9,0	16,0	25,0	39,5	
	C30/37			1,46	1,37	1,20	1,18	
	C40/50			1,91	1,74	1,40	137	
	C50/60			2,36	2,10	1,60	1,55	
Characteristic shear load capacity		V _{Rk,s}	[kN]	11,7	18,5	24,6	45,4	
Characteristic bending torque		M _{Rk,s}	[Nm]	22	45	72	180	
Axial spacing and edge clearances								
Effective anchoring depth		h _{ef}	[mm]	47	59	68	85	
Axial spacing		s _{cr,N}	[mm]	141	177	204	255	
Edge clearance		c _{cr,N}	[mm]	71	89	102	128	
Minimum axial spacing		s _{min}	[mm]	65	90	110	170	
Minimum edge clearance		c _{min}	[mm]	50	60	85	90	
Minimum component thickness		h _{min}	[mm]	100	120	140	170	
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth		h _{ef}	[mm]	32	39	48	65	
Axial spacing		s _{cr}	[mm]	96	177	144	195	
Edge clearance		c _{cr}	[mm]	48	59	72	98	
Minimum axial spacing		s _{min}	[mm]	65	115	150	190	
Minimum edge clearance		c _{min}	[mm]	50	80	100	120	
Minimum component thickness		h _{min}	[mm]	100	100	100	130	
Mounting data								
Hole diameter		d _o	[mm]	8	10	12	16	
Through-hole in the mounted part		d _f	[mm]	9	11	13	18	
Min. drilled hole depth		h ₀	[mm]	55/40 ¹⁾	59/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾	
Anchoring torque		T _{inst}	[Nm]	15	30	50	100	

¹⁾ Reduced anchoring depth (note reduced loads))

Bolt Anchor R-HPTII, Zink / Aluminium Coating

- Bolt anchor R-HPTII with ETA approval , option 1 for concrete with and without cracks
- Approval for use when exposed to fire (R30 – R120)
- Suitable for push-through installation
- Concrete quality: C20/25 – C50/60



Mounting:



Article No.	Article Description	QTY
8225 8 0 15	BOLT ANCH.R-HPTII ZN 8/ 0-15	100
8225 8 15 30	BOLT ANCH.R-HPTII ZN 8/15-30	100
8225 8 35 50	BOLT ANCH.R-HPTII ZN 8/35-50	100
8225 8 50 65	BOLT ANCH.R-HPTII ZN 8/50-65	100
8225 8 75 90	BOLT ANCH.R-HPTII ZN 8/75-90	100
8225 10 0 5	BOLT ANCH.R-HPTII ZN 10/ 0- 5	50
8225 10 0 20	BOLT ANCH.R-HPTII ZN 10/ 0-20	50
8225 10 15 35	BOLT ANCH.R-HPTII ZN 10/15-35	50
8225 10 35 55	BOLT ANCH.R-HPTII ZN 10/35-55	50
8225 10 50 70	BOLT ANCH.R-HPTII ZN 10/50-70	50
8225 10 70 90	BOLT ANCH.R-HPTII ZN 10/70-90	50
8225 10 100 120	BOLT ANCH.R-HPTII ZN10/100-120	50
8225 12 0 5	BOLT ANCH.R-HPTII ZN 12/ 0- 5	50
8225 12 5 25	BOLT ANCH.R-HPTII ZN 12/ 5-25	50
8225 12 25 45	BOLT ANCH.R-HPTII ZN 12/25-45	50
8225 12 30 50	BOLT ANCH.R-HPTII ZN 12/30-50	50
8225 12 40 60	BOLT ANCH.R-HPTII ZN 12/40-60	50
8225 12 55 75	BOLT ANCH.R-HPTII ZN 12/55-75	50
8225 12 65 85	BOLT ANCH.R-HPTII ZN 12/65-85	50
8225 12 85 105	BOLT ANCH.R-HPTII ZN 12/85-105	50
8225 12 105 125	BOLT ANCH.R-HPTII ZN12/105-125	50
8225 12 125 145	BOLT ANCH.R-HPTII ZN12/125-145	50
8225 12 185 205	BOLT ANCH.R-HPTII ZN12/185-205	20
8225 16 0 10	BOLT ANCH.R-HPTII ZN 16/ 0-10	25
8225 16 20 40	BOLT ANCH.R-HPTII ZN 16/20-40	25
8225 16 30 50	BOLT ANCH.R-HPTII ZN 16/30-50	25
8225 16 60 80	BOLT ANCH.R-HPTII ZN 16/60-80	25
8225 16 80 100	BOLT ANCH.R-HPTII ZN 16/80-100	25
8225 16 100 120	BOLT ANCH.R-HPTII ZN16/100-120	25
8225 16 130 150	BOLT ANCH.R-HPTII ZN16/130-150	25
8225 16 160 180	BOLT ANCH.R-HPTII ZN16/160-180	15
8225 16 180 200	BOLT ANCH.R-HPTII ZN16/180-200	10
8225 20 0 5	BOLT ANCH.R-HPTII ZN 20/ 0- 5	25
8225 20 20 40	BOLT ANCH.R-HPTII ZN 20/20-40	25
8225 20 60 80	BOLT ANCH.R-HPTII ZN 20/60-80	10
8225 20 110 130	BOLT ANCH.R-HPTII ZN20/110-130	10
8225 20 160 180	BOLT ANCH.R-HPTII ZN20/160-180	10

Your Advantage / Benefit

- Steel anchor with zinc/aluminium coating with corrosion resistance lasting twice as long as with hot-dip galvanising
- Marking of the setting depths for correct attachment
- Two anchoring depths: Standard and reduced for greater flexibility
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion

Application

- Supports, steel girders, railing attachments, wall boundaries, curtain façades, balustrades, barriers, handrails, shelves, elevators, bollards, etc.



Technische Daten

Drilling Ø mm	Anchor length mm	Clamp. thickn. S mm	Clamp. thickn. R mm
8	65	0	15
8	80	15	30
8	100	35	50
8	115	50	65
8	140	75	90
10	65	0	5
10	80	0	20
10	95	15	35
10	115	35	55
10	130	50	70
10	150	70	90
10	180	100	120
12	80	0	5
12	100	5	25
12	120	25	45
12	125	30	50
12	135	40	60
12	150	55	75
12	160	65	85
12	180	85	105
12	200	105	125
12	220	125	145
12	280	185	205
16	105	0	10
16	140	20	40
16	150	30	50
16	180	60	80
16	200	80	100
16	220	100	120
16	250	130	150
16	280	160	180
16	300	180	200
20	125	0	5
20	160	20	40
20	200	60	80
20	250	110	130
20	300	160	180

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchor R-HPTII-ZF, Steel**Extract from the application conditions in the ETA-12/0309 approval**Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchors R-HPTII-ZF					M8	M10	M12	M16	M20
Characteristic transverse load in uncracked concrete				C20/25	$N_{Rk,p}$	[kN]			9,0	12,0	20,0	35,0	49,6
Characteristic transverse load in cracked concrete				C20/25	$N_{Rk,p}$	[kN]			5,0	9,0	12,0	20,0	30,0
Increasing factors for $N_{Rk,p}$ in cracked and uncracked concrete				C30/37					1,12	1,22	1,00	1,14	1,07
				C40/50					1,22	1,44	1,00	1,43	1,14
				C50/60					1,33	1,67	1,00	1,43	1,21
Characteristic shear load capacity					$V_{Rk,s}$	[kN]			10,1	16,0	23,3	43,0	67,4
Characteristic bending torque					$M_{Rk,s}$	[Nm]			19	38	67	167	328
Axial spacing and edge clearances													
Effective anchoring depth					h_{ef}	[mm]			47	49	68	85	99
Axial spacing					$s_{cr,N}$	[mm]			141	147	204	255	297
Edge clearance					$c_{cr,N}$	[mm]			71	74	102	128	149
Minimum axial spacing cracked / uncracked concrete					s_{min}	[mm]			50	55	75	90	140
Minimum edge clearance cracked / uncracked concrete					c_{min}	[mm]			40	50	65	80	100
Minimum component thickness					h_{min}	[mm]			100	100	136	170	198
Axial spacing and edge clearances at reduced anchoring depth													
Effective anchoring depth					h_{ef}	[mm]			32	39	48	65	80
Axial spacing					$s_{cr,N}$	[mm]			96	177	144	195	240
Edge clearance					$c_{cr,N}$	[mm]			48	59	72	98	120
Minimum axial spacing cracked / uncracked concrete					s_{min}	[mm]			50/55	75/75	150/150	190/190	300/300
Minimum edge clearance cracked / uncracked concrete					c_{min}	[mm]			40/45	50/60	80/100	110/125	120/200
Minimum component thickness					h_{min}	[mm]			100	100	100	130	160
Mounting data													
Hole diameter					d_o	[mm]			8	10	12	16	20
Through-hole in the mounted part					d_f	[mm]			9	11	13	18	22
Min. drilled hole depth					h_0	[mm]			55/40 ¹⁾	69/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾	119/100 ¹⁾
Anchoring torque					T_{inst}	[Nm]			10	20	40	100	180

Bolt anchor R-HPTII, A4 stainless steel

- Bolt anchor R-HPTII with ETA approval, option 1 for concrete with and without cracks
- Approval for use when exposed to fire (R30 – R120)
- Suitable for push-through installation
- Concrete quality: C20/25 – C50/60



Mounting:



Your Advantage / Benefit

- A4 stainless-steel anchor
- Marking of the setting depths for correct attachment
- Two anchoring depths: Standard and reduced for greater flexibility
- Cold forming of the dowel for permanent dimensional stability and precision
- Optimal conical angle for controlled expansion

Application

- Supports, steel girders, railing attachments, wall boundaries, curtain façades, balustrades, barriers, handrails, shelves, elevators, bollards, etc.



Article No.	Article Description	QTY
8226 8 0 10	BOLT ANCH.R-HPTII A4 8/ 0- 10	100
8226 8 10 25	BOLT ANCH.R-HPTII A4 8/10- 25	100
8226 8 20 35	BOLT ANCH.R-HPTII A4 8/20- 35	100
8226 8 30 45	BOLT ANCH.R-HPTII A4 8/30- 45	100
8226 8 40 55	BOLT ANCH.R-HPTII A4 8/40- 55	50
8226 8 50 65	BOLT ANCH.R-HPTII A4 8/50- 65	100
8226 10 0 5	BOLT ANCH.R-HPTII A4 10/ 0- 5	50
8226 10 0 20	BOLT ANCH.R-HPTII A4 10/ 0- 20	50
8226 10 15 35	BOLT ANCH.R-HPTII A4 10/15- 35	50
8226 10 35 55	BOLT ANCH.R-HPTII A4 10/35- 55	50
8226 10 50 70	BOLT ANCH.R-HPTII A4 10/50- 70	50
8226 10 60 80	BOLT ANCH.R-HPTII A4 10/60- 80	50
8226 12 0 5	BOLT ANCH.R-HPTII A4 12/ 0- 5	50
8226 12 5 25	BOLT ANCH.R-HPTII A4 12/ 5- 25	50
8226 12 30 50	BOLT ANCH.R-HPTII A4 12/30- 50	50
8226 12 55 75	BOLT ANCH.R-HPTII A4 12/55- 75	50
8226 12 85 105	BOLT ANCH.R-HPTII A4 12/85-105	50
8226 16 5 25	BOLT ANCH.R-HPTII A4 16/ 5- 25	25
8226 16 20 40	BOLT ANCH.R-HPTII A4 16/20- 40	25
8226 16 30 50	BOLT ANCH.R-HPTII A4 16/30- 50	25
8226 16 60 80	BOLT ANCH.R-HPTII A4 16/60- 80	25

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness S mm	Clamping thick- ness R mm
8	60	0	10
8	75	10	25
8	85	20	35
8	95	30	45
8	105	40	55
8	115	50	65
10	65	0	5
10	80	0	20
10	95	15	35
10	115	35	55
10	130	50	70
10	140	60	80
12	80	0	5
12	100	5	25
12	125	30	50
12	150	55	75
12	180	85	105
16	125	5	25
16	140	20	40
16	150	30	50
16	180	60	80

S = Standard insertion depth / R = Reduced insertion depth

Bolt-anchors R-XPTII-A4, stainless steel A4**Extract from the application conditions in the ETA-12/00021 approval**Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values				Bolt-anchors R-HPTII-A4	M8	M10	M12	M16
Characteristic transverse load in uncracked concrete								
	C20/25	$N_{Rk,p}$	[kN]		9,0	16,0	25,0	39,5
Increasing factors for $N_{Rk,p}$								
	C30/37				1,46	1,37	1,20	1,18
	C40/50				1,91	1,74	1,40	1,37
	C50/60				2,36	2,10	1,60	1,55
Characteristics shear load capacity		$V_{Rk,s}$	[kN]		11,7	18,5	24,6	45,5
Characteristic bending torque		$M_{Rk,s}$	[Nm]		22	45	72	180
Axial spacing and edge clearances								
Effective anchoring depth		h_{ef}	[mm]		47	59	68	85
Axial spacing		$s_{cr,N}$	[mm]		141	177	204	255
Edge clearance		$c_{cr,N}$	[mm]		71	89	102	128
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		65	90	110	170
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		50	60	85	90
Minimum component thickness		h_{min}	[mm]		100	120	140	170
Axial spacing and edge clearances at reduced anchoring depth								
Effective anchoring depth		h_{ef}	[mm]		32	39	48	65
Axial spacing		$s_{cr,N}$	[mm]		96	177	144	195
Edge clearance		$c_{cr,N}$	[mm]		48	59	72	98
Minimum axial spacing cracked / uncracked concrete		s_{min}	[mm]		65	115	150	190
Minimum edge clearance cracked / uncracked concrete		c_{min}	[mm]		50	80	100	120
Minimum component thickness		h_{min}	[mm]		100	120	100	130
Mounting data								
Hole diameter		d_o	[mm]		8	10	12	16
Through-hole in the mounted part		d_f	[mm]		9	11	13	18
Min. drilled hole depth		h_0	[mm]		55/40 ¹⁾	69/49 ¹⁾	80/60 ¹⁾	100/80 ¹⁾
Anchoring torque		T_{inst}	[Nm]		15	30	50	100

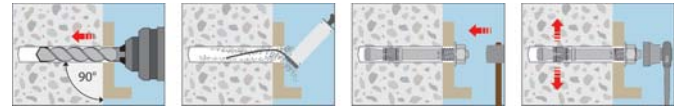
¹⁾ Reduced anchoring depth (note reduced loads)

Wedge Anchor B, Zinc-Coated Steel

- Wedge anchor B with ETA approval, option 7 is appropriate for time-saving push-through assembly in non-cracked concrete as well as ceiling suspensions and similar anchorings
- Combines high bearing capacity with axial and edge distances
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Load range: 2,9 kN - 37,1 kN
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 6 5	WEDGE ANCHOR B ZN 6/ 5*	100
8165 6 10	WEDGE ANCHOR B ZN 6/ 10*	100
8165 6 25	WEDGE ANCHOR B ZN 6/ 25	100
8165 6 40	WEDGE ANCHOR B ZN 6/ 40	100
8165 8 5	WEDGE ANCHOR B ZN 8/ 5*	100
8165 8 10 60	WEDGE ANCHOR B ZN 8/10-60*	100
8165 8 10	WEDGE ANCHOR B ZN 8/ 10	100
8165 8 15	WEDGE ANCHOR B ZN 8/ 15	100
8165 8 20	WEDGE ANCHOR B ZN 8/ 20	100
8165 8 30	WEDGE ANCHOR B ZN 8/ 30	100
8165 8 45	WEDGE ANCHOR B ZN 8/ 45	100
8165 8 55	WEDGE ANCHOR B ZN 8/ 55	100
8165 10 10 60	WEDGE ANCHOR B ZN 10/10-60*	50
8165 10 10	WEDGE ANCHOR B ZN 10/ 10	50
8165 10 15	WEDGE ANCHOR B ZN 10/ 15	50
8165 10 20	WEDGE ANCHOR B ZN 10/ 20	50
8165 10 45	WEDGE ANCHOR B ZN 10/ 45	50
8165 10 50	WEDGE ANCHOR B ZN 10/ 50	50
8165 10 70	WEDGE ANCHOR B ZN 10/ 70	50
8165 10 100	WEDGE ANCHOR B ZN 10/100	50
8165 10 140	WEDGE ANCHOR B ZN 10/140	25
8165 12 5	WEDGE ANCHOR B ZN 12/ 5*	25
8165 12 10	WEDGE ANCHOR B ZN 12/ 10*	25
8165 12 15	WEDGE ANCHOR B ZN 12/ 15	25
8165 12 20	WEDGE ANCHOR B ZN 12/ 20	25
8165 12 30	WEDGE ANCHOR B ZN 12/ 30	25
8165 12 50	WEDGE ANCHOR B GAL. 12/ 50	25
8165 12 65	WEDGE ANCHOR B ZN 12/ 65	25
8165 12 85	WEDGE ANCHOR B ZN 12/ 85	25
8165 12 105	WEDGE ANCHOR B ZN 12/105	25
8165 12 125	WEDGE ANCHOR B ZN 12/125	25
8165 12 145	WEDGE ANCHOR B ZN 12/145	20
8165 12 160	WEDGE ANCHOR B ZN 12/160	20
8165 12 190	WEDGE ANCHOR B ZN 12/190	20
8165 12 230	WEDGE ANCHOR B ZN 12/230	20
8165 12 260	WEDGE ANCHOR B ZN 12/260	20
8165 16 5	WEDGE ANCHOR B ZN 16/ 5*	20
8165 16 15	WEDGE ANCHOR B ZN 16/ 15*	20
8165 16 30	WEDGE ANCHOR B ZN 16/ 30	20
8165 16 60	WEDGE ANCHOR B ZN 16/ 60	20
8165 16 80	WEDGE ANCHOR B ZN 16/ 80	10
8165 16 100	WEDGE ANCHOR B ZN 16/100	10
8165 16 130	WEDGE ANCHOR B ZN 16/130	10
8165 16 165	WEDGE ANCHOR B ZN 16/165	10
8165 16 200	WEDGE ANCHOR B ZN 16/200	10
8165 20 35	WEDGE ANCHOR B ZN 20/ 35	10
8165 20 95	WEDGE ANCHOR B ZN 20/ 95	10

Technical Data

Art.-No	Drilling Ø mm	Anchor length mm	Clamp. thickn. S mm
8165 6 5*	6	40	0
8165 6 10	6	67	10
8165 6 25	6	82	25
8165 6 40	6	97	40
8165 8 5*	8	50	0
8165 8 10 60*	8	60	0
8165 8 10	8	75	10
8165 8 15	8	80	15
8165 8 20	8	85	20
8165 8 30	8	95	30
8165 8 45	8	110	45
8165 8 55	8	120	55
8165 10 10 60*	10	60	0
8165 10 10	10	85	10
8165 10 15	10	90	15
8165 10 20	10	95	20
8165 10 45	10	120	45
8165 10 50	10	125	50
8165 10 70	10	145	70
8165 10 100	10	175	100
8165 10 140	10	215	140
8165 12 5*	12	75	0
8165 12 10*	12	95	0
8165 12 15	12	110	15
8165 12 20	12	115	20
8165 12 30	12	125	30
8165 12 50	12	145	50
8165 12 65	12	160	65
8165 12 85	12	180	85
8165 12 105	12	200	105
8165 12 125	12	220	125
8165 12 145	12	240	145
8165 12 160	12	255	160
8165 12 190	12	285	190
8165 12 230	12	325	230
8165 12 260	12	355	260
8165 16 5*	16	90	0
8165 16 15*	16	115	0
8165 16 30	16	150	30
8165 16 60	16	180	60
8165 16 80	16	200	80
8165 16 100	16	220	100
8165 16 130	16	250	130
8165 16 165	16	285	165
8165 16 200	16	320	200
8165 20 35	20	180	35
8165 20 95	20	240	95

* not part of the approval

Wedge Anchor B, Steel

Extract from the application conditions in the ETA-01/0013 approval

Anchor capacities, transverse load without influence of axial and edge distances.

Total safety factor according to ETAG considered (γ_M und γ_F)

Loads and characteristic values			wedge anchor B		M 6	M 8	Non-cracked concrete			M 20
Admissible transverse load	C20/25	Approval N [kN]			3,0	4,0	5,3	9,9	13,9	19,9
	C25/30	Approval N [kN]			3,3	4,4	5,9	11,0	15,4	21,9
	C30/37	Approval N [kN]			3,6	4,8	6,5	12,1	16,9	24,2
	C40/50	Approval N [kN]			4,2	5,6	7,5	14,0	19,6	28,0
	C50/60	Approval N [kN]			4,6	6,2	8,2	15,4	21,5	30,8
Admissible transverse load	C20/25	Approval V [kN]			2,9	5,8	6,7	14,3	23,6	37,1
	≥ C25/30	Approval V [kN]			2,9	6,3	7,3	14,3	23,6	37,1
Admissible bending moment				Approval M[Nm]	5,1	13,1	25,7	44,6	99,9	195,0
Axis and edge distances										
Anchoring depth		h_{ef}	[mm]		40	44	48	65	82	100
Distinctive axis distance		s_{cr}	[mm]		120	132	144	195	246	300
Characteristic edge distance		c_{cr}	[mm]		60	66	72	98	123	150
Distinctive edge distance		s_{min}	[mm]		40	50	55	75	90	105
Minimum edge distance		c_{min}	[mm]		40	50	65	90	105	125
Minimum component thickness		h_{min}	[mm]		100	100	100	130	170	200
Axial and edge distances for reduced anchoring depth										
Anchoring depth, red.		h_{ef}	[mm]		24	35	42	48	64	79
Distinctive axis distance		s_{cr}	[mm]		120	132	144	195	246	300
Characteristic edge distance		c_{cr}	[mm]		60	66	72	98	123	150
Distinctive edge distance		s_{min}	[mm]		40	50	55	90	105	120
Minimum edge distance		c_{min}	[mm]		40	50	65	105	125	145
Minimum component thickness		h_{min}	[mm]		100	100	100	100	130	160
Assembly data										
Drilling hole diameter		d_o	[mm]		6	8	10	12	16	20
Clearance hole in the add-on part		d_f	[mm]		7	9	12	14	18	22
Drilling hole depth		h_1	[mm]		55/34 ¹⁾	65/55 ¹⁾	70/65 ¹⁾	90/70 ¹⁾	110/90 ¹⁾	130/110 ¹⁾
Torque when anchoring		T_{inst}	[Nm]		8	15	30	50	100	200
Wrench size		SW	[mm]		10	13	17	19	24	30

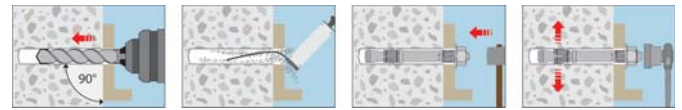
¹⁾ Reduced anchoring depth (note reduced loads)

Wedge Anchor B, Stainless Steel A4

- Wedge anchor B A4 with national DIBt approval (ETA, option 7), stainless steel type of the proven wedge anchor B which is approved for non-cracked concrete for the interior and exterior
- ETA-approval ETAG 001-part 6 for cracked and non-cracked concrete for multiple use and sizes M6/30 and M6/40
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports, etc. appropriate for concrete > B 15, compression-proof natural stone
- Load capacity: 1.5 kN - 9.5 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8166 6 5	WEDGE ANCHOR A4 B 6/ 5	100
8166 6 10	WEDGE ANCHOR A4 B 6/ 10	100
8166 6 40	WEDGE ANCHOR A4 B 6/ 40	100
8166 8 5	WEDGE ANCHOR A4 B 8/ 5	100
8166 8 10 60	WEDGE ANCHOR A4 B 8/ 10-60	100
8166 8 10	WEDGE ANCHOR A4 B 8/ 10	100
8166 8 15	WEDGE ANCHOR A4 B 8/ 15	100
8166 8 20	WEDGE ANCHOR A4 B 8/ 20	100
8166 8 30	WEDGE ANCHOR A4 B 8/ 30	100
8166 8 45	WEDGE ANCHOR A4 B 8/ 45	100
8166 8 55	WEDGE ANCHOR A4 B 8/ 55	100
8166 10 10 60	WEDGE ANCHOR A4 B 10/ 10-60	50
8166 10 10	WEDGE ANCHOR A4 B 10/ 10	50
8166 10 15	WEDGE ANCHOR A4 B 10/ 15	50
8166 10 20	WEDGE ANCHOR A4 B 10/ 20	50
8166 10 45	WEDGE ANCHOR A4 B 10/ 45	50
8166 10 50	WEDGE ANCHOR A4 B 10/ 50	50
8166 10 70	WEDGE ANCHOR A4 B 10/ 70	50
8166 10 100	WEDGE ANCHOR A4 B 10/100	50
8166 10 140	WEDGE ANCHOR A4 B 10/140	25
8166 12 5	WEDGE ANCHOR A4 B 12/ 5	25
8166 12 10	WEDGE ANCHOR A4 B 12/ 10	25
8166 12 15	WEDGE ANCHOR A4 B 12/ 15	25
8166 12 20	WEDGE ANCHOR A4 B 12/ 20	25
8166 12 30	WEDGE ANCHOR A4 B 12/ 30	25
8166 12 50	WEDGE ANCHOR A4 B 12/ 50	25
8166 12 65	WEDGE ANCHOR A4 B 12/ 65	25
8166 12 85	WEDGE ANCHOR A4 B 12/ 85	25
8166 12 105	WEDGE ANCHOR A4 B 12/105	25
8166 12 145	WEDGE ANCHOR A4 B 12/145	20
8166 16 15	WEDGE ANCHOR A4 B 16/ 15	20
8166 16 30	WEDGE ANCHOR A4 B 16/ 30	20
8166 16 60	WEDGE ANCHOR A4 B 16/ 60	20
8166 16 80	WEDGE ANCHOR A4 B 16/ 80	10
8166 16 100	WEDGE ANCHOR A4 B 16/100	10
8166 20 5	WEDGE ANCHOR A4 B 20/ 5	10
8166 20 35	WEDGE ANCHOR A4 B 20/ 35	10
8166 20 95	WEDGE ANCHOR A4 B 20/ 95	10

Technical Data

Art.-No.	Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
8166 6 5*	6	40	35
8166 6 10	6	67	55
8166 6 40	6	97	55
8166 8 5*	8	50	45
8166 8 10 60*	8	60	50
8166 8 10	8	75	65
8166 8 15	8	80	65
8166 8 20	8	85	65
8166 8 30	8	95	65
8166 8 45	8	110	65
8166 8 55	8	120	65
8166 10 10 60*	10	60	50
8166 10 10	10	85	70
8166 10 15	10	90	70
8166 10 20	10	95	70
8166 10 45	10	120	70
8166 10 50	10	125	70
8166 10 70	10	145	70
8166 10 100	10	175	70
8166 10 140	10	215	70
8166 12 5*	12	75	65
8166 12 10*	12	95	80
8166 12 15	12	105	90
8166 12 20	12	110	90
8166 12 30	12	125	90
8166 12 50	12	145	90
8166 12 65	12	160	90
8166 12 85	12	180	90
8166 12 105	12	200	90
8166 12 125	12	220	90
8166 12 145	12	240	90
8166 16 15*	16	115	90
8166 16 30	16	150	110
8166 16 60	16	180	110
8166 16 80	16	200	110
8166 16 100	16	220	110
8166 20 5	20	150	130
8166 20 35	20	180	130
8166 20 95	20	240	130

* Not part of the approval

wedge anchor B, Edelstahl A4

Extract from the application conditions in the Z-21.1-1598 approval

Anchor load-bearing capacities, shear loads without the influence of axial spacings and edge distances
Overall safety factor taken into account according to ETAG)

Loads and characteristic values			Heavy-duty anchors B A4	M 6	M 8	M 10	M 12	M 16
				Non-cracked concrete				
Admissible transverse load /Querlast	C20/25	Approval F	[kN]	1,5	2,8	4,0	5,7	8,4
	≥ C30/37	Approval F	[kN]	1,8	3,5	4,8	6,5	9,5
Admissible bending moment			zul. M	[Nm]	3,8	9,4	18,7	32,7
Axis and edge distances								
Anchoring depth		h_{ef}	[mm]	40	44	48	65	82
Center distance		a	[mm]	160	180	260	340	460
Edge distance		a_r	[mm]	80	90	130	170	320
Minimum component thickness		h_{min}	[mm]	150	150	200	220	250
Assembly data								
Drilling hole diameter		d_o	[mm]	6	8	10	12	16
Clearance hole in the add-on part		d_f	[mm]	7	9	12	14	18
Drilling hole depth		h_1	[mm]	60	65	70	90	110
Torque when anchoring		T_{inst}	[Nm]	6	15	30	50	100
Wrench size		SW	[mm]	10	13	17	19	24

Bolt anchor BZ, Galvanized Steel

- With European technical certification ETA-99 / 0010, option 1 for concrete with and without cracks (tensile and compression zones)
- Dowel for wide range of applications
- Bolt anchor BZ unites high permissible loads with low edge clearances and axial spacing
- Easy setting process: Drill hole, insert dowel, tighten, the expansion clip is expanded after the BZ bolt anchor is hammered in by tightening of the hexagon nut, immediately loadable, ideal for pressure distribution, minimum slippage
- Ideal for moderately heavy and heavy loads
- Force-controlled expansion with high safety reserves
- Tested by VdS (German Association of Damage Insurers), approved for the installation of sprinkler systems
- Approved for use under category C1 and C2 seismic impacts (M10 – M20, max. anchor length 210 mm)
- Fire protection tested R30 – R120
- Shock approval by the Office of Civil Defence, Bern

Application:

- Anchoring of moderately heavy to heavy loads in concrete: Supports, steel girders, consoles, doors, railings, façade substructures
- Load range: 2.4 kN – 96.8 kN
- Concrete quality: C20/25 – C50/60



Mounting



Article No.	Article Description	QTY
8169 8 30	BOLT ANCHOR BZ ZN 8/ 30	100
8169 8 50	BOLT ANCHOR BZ ZN 8/ 50	100
8169 12 160	BOLT ANCHOR BZ ZN 12/160	20
8169 16 80	BOLT ANCHOR BZ ZN 16/ 80	10
8169 20 100	BOLT ANCHOR BZ ZN 20/100	5

Technical Data

Drill Ø mm	Anchor length mm	Clamping Thickness S mm	Clamping Thickness R mm
8	95	30	41
8	115	50	61
12	255	160	0
16	200	80	100
20	235	100	0

Bolt-anchors BZ, galvanised steel

Extract from the application conditions in the ETA-99/0010 approval

Shear load capacities, shear load without influence of axial spacing and edge clearances.

Overall safety factor taken into account according to ETAt (γ_M and γ_F)

Loads and characteristic values			Bolt-anchor BZ, galvanised steel	M8	M10	M12	M16
Admissible load			C20/25	cracked concrete			
			admissible N [kN]	2,0	3,6	4,8	9,9
			C25/30	2,2	4,0	5,3	11,0
			admissible N [kN]	2,4	4,4	5,8	12,1
			C30/37	2,8	5,0	6,7	14,0
			admissible N [kN]	3,1	5,5	7,4	15,4
admissible load			C20/25	uncracked concrete			
			admissible N [kN]	4,8	6,3	7,9	13,9
			C25/30	5,3	7,1	8,8	15,4
			admissible N [kN]	5,8	7,7	9,7	16,9
			C30/37	6,7	9,0	11,2	19,6
			admissible N [kN]	7,4	9,8	12,3	21,5
admissible shear load			C20/25	cracked and uncracked concrete			
			admissible N [kN]	8,6	12,6	15,0	22,4
admissible bending shape			$\geq$ C25/30	8,6	12,6	16,4	24,5
			admissible N [Nm]	13,1	26,9	46,9	119,4
Axial spacing and edge clearances							
Anchoring depth	h_{ef}	[mm]		46	60	65	85
Characteristics axial spacing	s_{cr}	[mm]		138	180	195	255
Characteristics edge clearance	c_{cr}	[mm]		69	90	97,5	127,5
				uncracked concrete			
Minimum axial spacing / for edge clearance c	s_{min}/c	[mm]		40/60	45/70	60/100	60/100
Minimum edge clearance / for axial spacing s	c_{min}/s	[mm]		40/70	45/90	60/140	60/180
				ungerissener Beton			
Minimum axial spacing / for edge clearance c	s_{min}/c	[mm]		40/70	45/70	60/120	65/120
Minimum edge clearance / for axial spacing s	c_{min}/s	[mm]		40/80	50/100	75/150	80/150
Minimum component thickness	h_{min}	[mm]		100	120	130	170
Mounting data							
Hole diameter	d_o	[mm]		8	10	12	16
Through-hole in the mounted part	d_f	[mm]		9	12	14	18
Drill hole depth	h_1	[mm]		60	75	90	110
Anchoring torque	T_{inst}	(Nm)		15	25	45	90
Wrench size	SW	[mm]		13	17	19	24

Bolt anchor BZ, Stainless Steel A4

- With European technical certification ETA-99 / 0010, option 1 for concrete with and without cracks (tensile and compression zones)
- Dowel for wide range of applications
- Bolt anchor BZ plus A4 unites high permissible loads with low edge clearances and axial spacing
- Easy setting process: Drill hole, insert dowel, tighten, the expansion clip is expanded after the BZ plus bolt anchor is hammered in by tightening the hexagon nut, immediately loadable, ideal for pressure distribution, minimum slippage
- Ideal for moderately heavy and heavy loads
- Force-controlled expansion with high safety reserves
- Tested by VdS (German Association of Damage Insurers), approved for the installation of sprinkler systems
- Approved for use under category C1 and C2 seismic impacts (M10 – M20, max. anchor length 210 mm)
- Fire protection tested R30 – R120
- Shock approval by the Office of Civil Defence, Bern

Application:

- Anchoring of moderately heavy to heavy loads in concrete: Supports, steel girders, consoles, doors, railings, façade substructures
- Load range: 2.4 kN – 70.6 kN
- Concrete quality: C20/25 – C50/60



Mounting:



Article No.	Article Description	QTY
8169 1 10 75	BOLT ANCH. BZ A4 10/ 75	50
8169 1 12 30	BOLT ANCH. BZ A4 12/ 30	25
8169 1 16 15	BOLT ANCH. BZ A4 16/ 15	20
8169 1 16 50	BOLT ANCH. BZ A4 16/ 50	20

Technical Data

Drill-Ø mm	Anchor length mm	Clamping thick- ness R mm
10	155	95
12	125	50
16	135	35
16	170	70

Bolt-anchor BZ, stainless steel A4

Extract from the application conditions in the ETA-99/0010 approval

Anchor resistance, shear load without influence of axial spacing and edge clearances.
Overall safety factor taken into account according to ETAG (γ_M and γ_F)

Loads and characteristic values			Bolt-anchor BZ, stainless steel A4				M8	M10	M12	M16
Admissible load			C20/25	admissible N[kN]			1,7	3,0	4,0	6,6
			C25/30	admissible N[kN]			1,8	3,3	4,4	7,3
			C30/37	admissible N[kN]			2,0	3,6	4,8	8,0
			C40/50	admissible N[kN]			2,3	4,2	5,6	9,3
			C50/60	admissible N[kN]			2,6	4,6	6,2	10,3
			cracked concrete							
Admissible load			C20/25	admissible N[kN]			4,0	5,3	6,6	9,9
			C25/30	admissible N[kN]			4,4	5,9	7,3	11,0
			C30/37	admissible N[kN]			4,8	6,4	8,1	12,1
			C40/50	admissible N[kN]			5,6	7,5	9,3	14,0
			C50/60	admissible N[kN]			6,2	8,2	10,3	15,4
			uncracked concrete							
Admissible shear load			C20/25	admissible N[kN]			6,1	9,5	14,0	20,4
			≥ C25/30	admissible N[kN]			6,1	19,5	14,0	23,4
Admissible bending shape				admissible N[Nm]			15,6	30,7	54,1	123,4
Axial spacing and edge clearances			cracked and uncracked concrete							
Anchoring depth		h_{ef}	[mm]				45	58	65	80
Characteristics axial spacing		s_{cr}	[mm]				135	174	195	240
Characteristics edge clearances		c_{cr}	[mm]				68	87	98	120
Minimum axial spacing / for edge clearance c			cracked concrete							
			s_{min}/c	[mm]			50/60	60/80	70/100	80/120
Minimum edge clearance / for axial spacing s			c_{min}/s	[mm]			50/75	60/100	70/100	80/120
Minimum axial spacing / for edge clearance c			uncracked concrete							
			s_{min}/c	[mm]			50/80	60/100	65/120	80/160
Minimum edge clearance / for axial spacing s			c_{min}/s	[mm]			50/115	60/155	70/170	100/210
Minimum component thickness			h_{min}	[mm]			100	120	130	160
Mounting data										
Hole diameter		d_o	[mm]				8	10	12	16
Through-hole in the mounted part		d_f	[mm]				9	12	14	18
Drilled hole depth		h_1	[mm]				60	75	90	105
Anchoring torque		T_{inst}	[Nm]				20	35	55	110
Wrench size		SW	[mm]				13	17	19	24

Wedge Anchor M2-U, Galvanized Steel

- Wedge anchor M2-U with ETA approval, option 7 appropriate for time-saving push-through assembly in non-cracked concrete, heavy-duty type
- With extra large washer, DIN 9021 especially for woodwork
- Cost-efficient push-through assembly to fix metal constructions, metal profiles, base plates, consoles, handrails, facades, windows, fences, piping, machines, wooden constructions, beams, purlins, supports
- Concrete quality: C20/25 - C50/60



Mounting:



Article No.	Article Description	QTY
8165 1 12 90	WEDGE ANCHOR M2-U GAL 12/ 90	25
8165 1 12 105	WEDGE ANCHOR M2-U GAL 12/105	25
8165 1 12 125	WEDGE ANCHOR M2-U GAL 12/125	20
8165 1 12 145	WEDGE ANCHOR M2-U GAL 12/145	20
8165 1 12 165	WEDGE ANCHOR M2-U GAL 12/165	20
8165 1 12 205	WEDGE ANCHOR M2-U GAL 12/205	15
8165 1 12 265	WEDGE ANCHOR M2-U GAL 12/265	15
8165 1 16 105	WEDGE ANCHOR M2-U GAL 16/105	10
8165 1 16 145	WEDGE ANCHOR M2-U GAL 16/145	10
8165 1 16 185	WEDGE ANCHOR M2-U GAL 16/185	5
8165 1 16 215	WEDGE ANCHOR M2-U GAL 16/215	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
12	185	90
12	200	90
12	220	90
12	240	90
12	260	90
12	300	90
12	360	90
16	220	110
16	260	110
16	300	110
16	330	110

Data bolt-anchor M2-U, galvanized steel

				M12	M16
Recomm.load concrete ¹⁾	C20/25	N _{Emp}	[kN]	9,9	11,9
Recomm. shear load		V _{Emp}	[kN]	8,4	15,7
Recomm. bending torque		M _{EMP}	[Nm]	46,8	118,6
Edge clearance nominal		c	[mm]	102	120
Axial spacing nominal		s	[mm]	204	240
Minimum component thickness		h _{min}	[mm]	140	160
Effective anchoring depth		h _{ef}	[mm]	68	80
Wrench size		sw	[mm]	19	24
Anchoring torque		T _{inst}	[Nm]	50	100
Drilled hole depth		h ₁	[mm]	90	110
Drill hole diameter in build.material		d _o	[mm]	12	16
Hole diameter in the mounted part		d _f	[mm]	14	18
U-disc		d _μ	[mm]	37	50
Thread length		l _G	[mm]	120	120
Outer Ø anchor		d _{nom}	[mm]	12	16
Usable mounting length		t _{fix}	[mm]	90 105 125 145 165 205 265	105 145 185 215

¹⁾ Reduced anchoring depth (note reduced loads)

Bolt anchor PTB-SS-ETA1-PRO, stainless steel A4

ETA 10/0230 ETAG 001, Part 2, option 1 Approval for single fixings

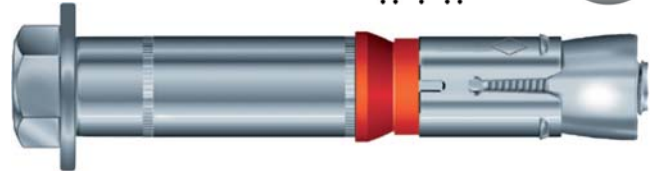
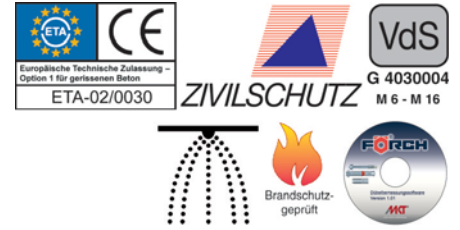
Loads and characteristic values			M8	M10	M12		M16	
					$h_{ef,1}$	$h_{ef,2}$	$h_{ef,1}$	$h_{ef,2}$
Admissible transverse load Option 1	cracked concrete							
	C20/25	Approval N [kN]	1,19	2,98	4,76	4,76	7,94	7,94
	C25/30	Approval N [kN]	1,30	3,26	5,22	5,22	8,69	8,69
	C30/37	Approval N [kN]	1,45	3,62	5,79	5,79	9,66	9,66
	C40/50	Approval N [kN]	1,68	4,21	6,73	6,73	11,22	11,22
	C50/60	Approval N [kN]	1,84	4,61	7,38	7,38	12,30	12,30
Admissible transverse load Option 1	Non-cracked concrete							
	C20/25	Approval N [kN]	3,57	5,71	7,14	9,52	9,52	14,29
	C20/30	Approval N [kN]	3,91	6,26	7,82	10,43	10,42	14,29
	C30/37	Approval N [kN]	4,34	6,95	8,69	11,59	11,59	17,38
	C40/50	Approval N [kN]	5,05	8,08	10,10	13,47	13,47	20,20
	C50/60	Approval N [kN]	5,53	8,85	11,07	14,75	14,75	22,13
Admissible transverse load (cracked concrete)		C20/25 Approval V [kN]	4,34	8,04	11,61	11,61	21,88	21,88
Admissible bending moment		Approval M [Nm]	10,27	20,54	36,16	36,16	91,96	91,96
Axis and edge distances								
Anchoring depth	h_{ef}	[mm]	40	60	60	80	80	100
Distinctive axis distance (concrete cone)	s_{cr}	[mm]	120	180	180	240	240	300
Characteristic edge distance (concrete cone)	c_{cr}	[mm]	60	90	90	120	120	150
Distinctive edge distance / for edge distance c	s_{min}	[mm]	50/90	55/90	60/100	60/100	70/130	70/130
Minimum edge distance /for centre distance s	c_{min}	[mm]	55/120	60/150	65/190	65/190	85/160	85/160
Minimum component thickness	h_{min}	[mm]	100	120	120	160	160	200
Assembly data								
Drilling hole diameter	d_o	[mm]	8	10	12	12	16	16
Clearance hole in the add-on part	d_f	[mm]	9	12	14	14	18	18
Drilling hole depth	h_1	[mm]	55	75	75	95	100	120
Torque when anchoring	T_{inst}	[mm]	25	45	70	70	120	120
Wrench size	SW	[mm]	13	17	19	19	24	24

Heavy-duty Anchor Type SZ-S

- Heavy-duty anchor type SZ-S with ETA approval, option 1, is a high performance push-through anchoring system with triple expanding special bushing which allows very high admissible loads at little axial and edge distances
- Plastic pressure ring ensures durable bracing of the fixing part against the substructure and avoids turning with the anchor during assembly
- Available in three types
- Shock-tested by the 'Bundesamt für Bevölkerungsschutz' at Bern

Application:

- Average to heavy anchoring in cracked concrete of steel supports, handrails, machines, scaffolds, consoles
- Load range: 2,0 kN - 31,3 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8176 10 0	H.-DUTY ANCH. TYPE SZ-S 10/ 0	100
8176 10 10	H.-DUTY ANCH. TYPE SZ-S 10/ 10	50
8176 10 30	H.-DUTY ANCH. TYPE SZ-S 10/ 30	50
8176 10 50	H.-DUTY ANCH. TYPE SZ-S 10/ 50	50
8176 12 0	H.-DUTY ANCH. TYPE SZ-S 12/ 0	50
8176 12 10	H.-DUTY ANCH. TYPE SZ-S 12/ 10	50
8176 12 30	H.-DUTY ANCH. TYPE SZ-S 12/ 30	50
8176 12 50	H.-DUTY ANCH. TYPE SZ-S 12/ 50	25
8176 15 0	H.-DUTY ANCH. TYPE SZ-S 15/ 0	25
8176 15 15	H.-DUTY ANCH. TYPE SZ-S 15/ 15	25
8176 15 25	H.-DUTY ANCH. TYPE SZ-S 15/ 25	25
8176 15 45	H.-DUTY ANCH. TYPE SZ-S 15/ 45	25
8176 15 95	H.-DUTY ANCH. TYPE SZ-S 15/ 95	25
8176 18 0	H.-DUTY ANCH. TYPE SZ-S 18/ 0	20
8176 18 10	H.-DUTY ANCH. TYPE SZ-S 18/ 10	20
8176 18 20	H.-DUTY ANCH. TYPE SZ-S 18/ 20	20
8176 18 40	H.-DUTY ANCH. TYPE SZ-S 18/ 40	20
8176 18 70	H.-DUTY ANCH. TYPE SZ-S 18/ 70	20
8176 24 0	H.-DUTY ANCH. TYPE SZ-S 24/ 0	10
8176 24 20	H.-DUTY ANCH. TYPE SZ-S 24/ 20	10
8176 24 50	H.-DUTY ANCH. TYPE SZ-S 24/ 50	10

Technical Data

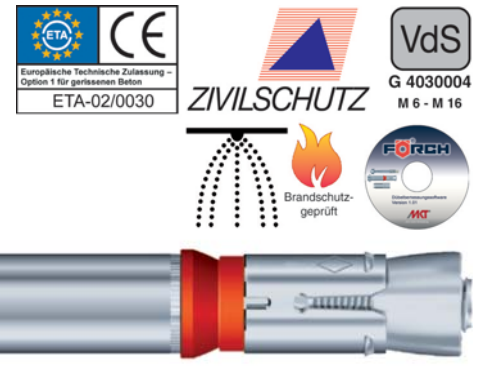
Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
10	60	60
10	70	60
10	90	60
10	110	60
12	70	70
12	80	70
12	100	70
12	120	70
15	85	85
15	100	85
15	110	85
15	130	85
15	180	85
18	100	95
18	110	95
18	120	95
18	140	95
18	170	95
24	120	120
24	140	120
24	170	120

Heavy-duty Anchor Type SZ-B

- Heavy-duty anchor type SZ-B with ETA approval, option 1, is a high performance push-through anchoring system with triple expanding special bushing which allows very high admissible loads at little axial and edge distances
- Plastic pressure ring ensures durable bracing of the fixing part against the substructure and avoids turning with the anchor during assembly
- Available in three types
- Shock-tested by the 'Bundesamt für Bevölkerungsschutz' at Bern

Application:

- Average to heavy anchoring in cracked concrete of steel supports, handrails, machines, scaffolds, consoles
- Load range: 2,0 kN - 31,3 kN
- Concrete quality: C20/25 - C50/60



Mounting



Article No.	Article Description	QTY
8177 10 0	H.-DUTY ANCH. TYPE SZ-B 10/ 0	100
8177 10 10	H.-DUTY ANCH. TYPE SZ-B 10/ 10	50
8177 10 30	H.-DUTY ANCH. TYPE SZ-B 10/ 30	50
8177 10 50	H.-DUTY ANCH. TYPE SZ-B 10/ 50	50
8177 10 100	H.-DUTY ANCH. TYPE SZ-B 10/100	25
8177 12 0	H.-DUTY ANCH. TYPE SZ-B 12/ 0	50
8177 12 10	H.-DUTY ANCH. TYPE SZ-B 12/ 10	50
8177 12 30	H.-DUTY ANCH. TYPE SZ-B 12/ 30	50
8177 12 50	H.-DUTY ANCH. TYPE SZ-B 12/ 50	25
8177 12 100	H.-DUTY ANCH. TYPE SZ-B 12/100	25
8177 15 0	H.-DUTY ANCH. TYPE SZ-B 15/ 0	25
8177 15 15	H.-DUTY ANCH. TYPE SZ-B 15/ 15	25
8177 15 25	H.-DUTY ANCH. TYPE SZ-B 15/ 25	25
8177 15 45	H.-DUTY ANCH. TYPE SZ-B 15/ 45	25
8177 15 95	H.-DUTY ANCH. TYPE SZ-B 15/ 95	25
8177 18 0	H.-DUTY ANCH. TYPE SZ-B 18/ 0	20
8177 18 10	H.-DUTY ANCH. TYPE SZ-B 18/ 10	20
8177 18 20	H.-DUTY ANCH. TYPE SZ-B 18/ 20	20
8177 18 40	H.-DUTY ANCH. TYPE SZ-B 18/ 40	20
8177 18 70	H.-DUTY ANCH. TYPE SZ-B 18/ 70	20
8177 18 100	H.-DUTY ANCH. TYPE SZ-B 18/100	10
8177 24 0	H.-DUTY ANCH. TYPE SZ-B 24/ 0	10
8177 24 20	H.-DUTY ANCH. TYPE SZ-B 24/ 20	10
8177 24 50	H.-DUTY ANCH. TYPE SZ-B 24/ 50	10
8177 24 100	H.-DUTY ANCH. TYPE SZ-B 24/100	5

Technical Data

Drilling Ø mm	Anchor length mm	Minimum drilling hole depth mm
10	69	60
10	79	60
10	99	60
10	119	60
10	169	60
12	82	70
12	92	70
12	112	70
12	132	70
12	182	70
15	98	85
15	113	85
15	123	85
15	143	85
15	193	85
18	115	95
18	125	95
18	135	95
18	155	95
18	185	95
18	215	95
24	141	120
24	161	120
24	191	120
24	241	120

Heavy duty type SZ-S and type SZ-B

Extract from the application conditions in the ETA-02/0030 1598 approval

Anchor load-bearing capacities, shear loads without the influence of axial spacings and edge distances

Overall safety factor taken into account according to ETAG 001 (γ_M und γ_F)

Loads and characteristic values	Heacy-duty anchors SZ			SZ 10	SZ 12	SZ 15	SZ 18	SZ 24
				M 6	M 8	M 10	M 12	M 16
cracked concrete								
Admissible transverse load	C20/25	Approval N	[kN]	2.4	5.7	7.6	12.3	17.1
	C25/30	Approval N	[kN]	2.6	6.3	8.4	13.5	18.9
	C30/37	Approval N	[kN]	2.9	7.0	9.3	15.0	20.9
	C40/50	Approval N	[kN]	3.4	8.1	10.7	17.3	24.2
	C50/60	Approval N	[kN]	3.7	8.9	11.8	19.0	26.6
Non-cracket concrete								
Admissible transverse load	C20/25	Approval N	[kN]	7.6	9.5	14.3	17.2	24.0
	C25/30	Approval N	[kN]	7.6	10.5	15.7	18.9	26.4
	C30/37	Approval N	[kN]	7.6	11.6	17.4	21.0	29.3
	C40/50	Approval N	[kN]	7.6	13.4	20.1	24.2	33.8
	C50/60	Approval N	[kN]	7.6	13.8	21.9	26.6	37.2
cracket and Non-cracket concrete								
Admissible transverse load SZ-S	C20/25	Approval V	[kN]	10.3	15.9/17.1	20.5/27.4	24.5/34.3	34.3/48.0
	≥ C25/30	Approval V	[kN]	10.3	17.1	22.6/27.4	27.0/37.8	37.7/52.8
Admissible bending moment	C20/25	Approval V	[kN]	9.1	14.3	20.5/20.6	24.5/34.3	34.3/48.0
	≥ C25/30	Approval V	[kN]	9.1	14.3	20.6	27.0/36.0	37.7/52.0
Admissible bending moment	–	Approval M	[Nm]	6.9	17.1	34.3	60.0	152.0
Axis and edge distances								
Anchoring depth	–	h_{ef}	[mm]	50	60	71	80	100
Distinctive axis distance	–	s_{cr}	[mm]	150	180	213	240	300
Characteristic edge distance	–	c_{cr}	[mm]	75	90	107	120	150
Distinctive edge distance / for edge distance c	–	s_{min}/c	[mm]	50/80	60/100	70/120	80/160	100/180
Minimum edge distance / for edge distance s	–	c_{min}/s	[mm]	50/100	60/120	70/175	80/200	100/220
Minimum component thickness	–	h_{min}	[mm]	100	120	140	160	200
Assembly data								
Drilling hole diameter	–	d_o	[mm]	10	12	15	18	24
Clearance hole in the add-on part	–	d_f	[mm]	12	14	17	20	26
Drilling hole depth	–	h_1	[mm]	65	80	95	105	130
Torque when anchoring	–	T_{inst}	[Nm]	15	30	50	80	160
Wrench size	–	SW	[mm]	10	13	17	19	24

Screw anchor with pressed-on washer, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **M10 and M12** approved for use under seismic impact C1
- Hexagonal head with pressed-on washer and stamped head
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of railings, metal structures, pipes in the sanitary and ventilation fields, wood structures, beams, stringers, sills, etc.
- Wrench sizes Ø 6.0 = AF 8, Ø 7.5 = AF 10, Ø 10.0 = AF 13, Ø 12.0 = AF 15, Ø 14.0 = AF 21, Ø 16.0 = AF 21



Article No.	Article Description	QTY
8171 60 40	SCREW ANCH. HEX GV 6,0X 40	100
8171 60 50	SCREW ANCH. HEX GV 6,0X 50	100
8171 60 60	SCREW ANCH. HEX GV 6,0X 60	100
8171 60 70	SCREW ANCH. HEX GV 6,0X 70	100
8171 60 80	SCREW ANCH. HEX GV 6,0X 80	50
8171 75 35	SCREW ANCH. HEX GV 7,5X 35	100
8171 75 40	SCREW ANCH. HEX GV 7,5X 40	100
8171 75 50	SCREW ANCH. HEX GV 7,5X 50	50
8171 75 60	SCREW ANCH. HEX GV 7,5X 60	50
8171 75 70	SCREW ANCH. HEX GV 7,5X 70	50
8171 75 80	SCREW ANCH. HEX GV 7,5X 80	50
8171 75 100	SCREW ANCH. HEX GV 7,5X100	50
8171 75 120	SCREW ANCH. HEX GV 7,5X120	50
8171 75 140	SCREW ANCH. HEX GV 7,5X140	50
8171 100 60	SCREW ANCH. HEX GV 10,0X 60	25
8171 100 70	SCREW ANCH. HEX GV 10,0X 70	25
8171 100 80	SCREW ANCH. HEX GV 10,0X 80	25
8171 100 90	SCREW ANCH. HEX GV 10,0X 90	25
8171 100 100	SCREW ANCH. HEX GV 10,0X100	25
8171 100 120	SCREW ANCH. HEX GV 10,0X120	25
8171 100 140	SCREW ANCH. HEX GV 10,0X140	25
8171 100 160	SCREW ANCH. HEX GV 10,0X160	25
8171 120 80	SCREW ANCH. HEX GV 12,0X 80	25
8171 120 90	SCREW ANCH. HEX GV 12,0X 90	25
8171 120 100	SCREW ANCH. HEX GV 12,0X100	25
8171 120 120	SCREW ANCH. HEX GV 12,0X120	25
8171 120 140	SCREW ANCH. HEX GV 12,0X140	25
8171 120 160	SCREW ANCH. HEX GV 12,0X160	25

Technical Data					
Pilot hole Ø mm	Disk Ø mm	Clamping thickness mm	Anchoring depth mm	Larg.perm. tens.load of cracked concr. C 20/25 in kN	Larg.perm. tens.load of un-cracked concr.C 20/25 in kN
5	11	5	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	5 – 15	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	15 – 25	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	25 – 35	35 – 45	0.5 – 0.7	2.0 – 3.0
5	11	35 – 45	35 – 45	0.5 – 0.7	2.0 – 3.0
6	14	1	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	5	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	15	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	5 – 25	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	15 – 35	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	25 – 45	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	45 – 65	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	65 – 85	35 – 55	1.0 – 2.0	2.0 – 4.4
6	14	85 – 105	35 – 55	1.0 – 2.0	2.0 – 4.4
8	19	10	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	5 – 20	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	15 – 30	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	25 – 40	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	35 – 50	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	55 – 70	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	75 – 90	50 – 65	3.0 – 4.4	5.9 – 7.9
8	19	95 – 110	50 – 65	3.0 – 4.4	5.9 – 7.9
10	22	5	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	1 – 15	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	10 – 25	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	30 – 45	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	50 – 65	75 – 90	5.9 – 7.9	9.9 – 12.3
10	22	70 – 85	75 – 90	5.9 – 7.9	9.9 – 12.3

Test sleeve for screw anchor

- Measuring sleeve for checking the thread diameter for multiple use of Multi-Monti plus with Ø 10 – Ø 20 mm

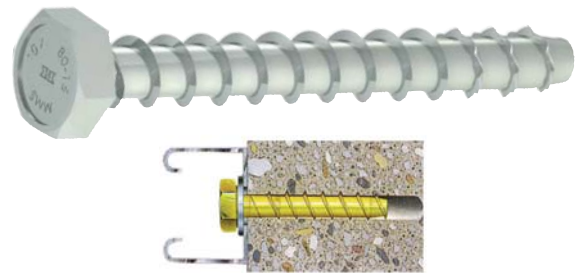
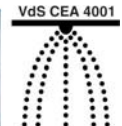


Article No.	Article Description	QTY
8171 10	TEST SLEEVE F.SCREW ANCHOR 10	1
8171 12	TEST SLEEVE F.SCREW ANCHOR 12	1
8171 16	TEST SLEEVE F.SCREW ANCHOR 16	1
8171 20	TEST SLEEVE F.SCREW ANCHOR 20	1

Technical Data	
Sleeve Ø mm	Sleeve length in mm
9.5	24
11.5	32
15.5	36
19.5	58

Screw Anchor, Blue Galvanized Steel

- With general technical approval number Z-21.1-1503 for anchoring in non-cracked concrete and for anchoring of light-weight ceiling claddings and suspended ceilings in concrete
- Screw anchor from Ø 10.0 x 70 on with general technical approval number Z-21.1-1549 or ETA approval ETA 05/0010 for anchoring in cracked and non-cracked concrete
- Wrench size Ø 7.5 = SW 13. Ø 10.0 = SW 16, Ø 12.0 = SW 18
- Fixture with technical approval without screw in concrete, in the interior
- Assembly of handrails, metal structures, pipings in the sanitary and ventilation field, wood structures, joists, purlins, sills, etc.
- Assembly of light-weight suspended ceilings and ceiling claddings
- High extract values at little setting depths
- Fire protection tested; fulfills fire resistance class F 120
- Fire protection tested in concrete, sand-lime bricks, solid bricks, clinker, natural stone and hollow block concrete
- From 12 x 200 on: is used in wooden construction to fix sills (incl. appropriate washer DIN 440)
- Art.-No. 8170 120 60: not part of the approval



Article No.	Article Description	QTY
8170 140 110	HEX. SCREW ANCH. GV 14.0X110	25
8170 140 130	HEX. SCREW ANCH. GV 14.0X130	25
8170 140 150	HEX. SCREW ANCH. GV 14.0X150	25
8170 160 130	HEX. SCREW ANCH. GV 16.0X130	10
8170 160 150	HEX. SCREW ANCH. GV 16.0X150	10

Technical Data			*Recommended loads in kN	
Drill-Ø mm	Anch.-depth mm	Clamping thickness mm	Tens.load in cracked concr. C20/25	Tens.load in uncrack.concr. C20/25
12	95	15	8,2	12,3
12	95	35	8,2	12,3
12	95	55	8,2	12,3
14	115	15	12,1	16,4
14	115	35	12,1	16,4

¹according to DIBT-approval Z-21.1-1503

* not part of the ETA-approval

Screw anchor with pressed-on washer DIN 440, gv

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Approved for use under seismic impact C1
- Hexagonal head with pressed-on DIN 440 washer and stamped head
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of wood structures, beams, stringers, sills, etc.

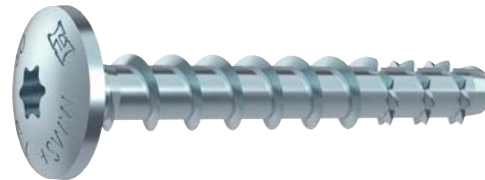


Article No.	Article Description	QTY
8171 120 180	SCREW ANCH.HEX GALV.12,0X180	25
8171 120 200	SCREW ANCH.HEX GALV.12,0X200	25
8171 120 240	SCREW ANCH.HEX GALV.12,0X240	25
8171 120 280	SCREW ANCH.HEX GALV.12,0X280	25
8171 120 320	SCREW ANCH.HEX GALV.12,0X320	25

Technical Data				Larg.perm. tens.load of cracked concr. C 20/25 in kN	Larg.perm. tens.load of un-cracked concr. C 20/25 in kN
Pilot hole Ø mm	Disk Ø mm	Clamping thickn. mm	Anchoring depth mm		
10	43,5	90 – 105	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	110 – 125	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	150 – 165	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	190 – 205	75 – 90	5,9 – 7,9	9,9 – 12,3
10	43,5	230 – 245	75 – 90	5,9 – 7,9	9,9 – 12,3

Rail anchor with flat round head, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Installation of railings, metal structures, pipes in the sanitary and ventilation fields



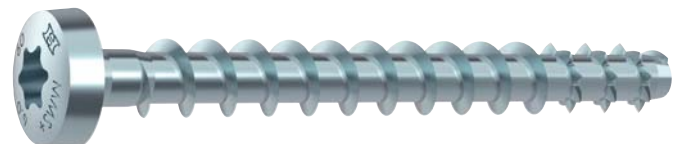
Technical Data

Article No.	Article Description	QTY
8171 2 75 35	RAIL ANCHOR RH GV 7.5X 35	100
8171 2 75 40	RAIL ANCHOR RH GV 7.5X 40	100
8171 2 75 45	RAIL ANCHOR RH GV 7.5X 45	100
8171 2 75 50	RAIL ANCHOR RH GV 7.5X 50	100

Drill- Ø mm	Head- Ø mm	Clamping- thickness mm	Anchoring depth mm	Larg.perm. tens. load of cracked concrete C 20/25 in kN	Larg.perm. tens.load of uncracked concrete C 20/25 in kN
6	17	1	35	1,0	2,0
6	17	5	35	1,0	2,0
6	17	10	35	1,0	2,0
6	17	15	35	1,0	2,0

Screw anchor with pan head round head, galvanised

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permi 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Anchor-less approved fastening in concrete in interior areas
- **Drive: TX-30**



Technical Data

Article No.	Article Description	QTY
8171 4 75 50	RAIL ANCH.PANHEAD GV 7.5X 50	100
8171 4 75 60	RAIL ANCH.PANHEAD GV 7.5X 60	50

Drill- Ø mm	Head- Ø mm	Clamping thickness mm	Anchoring- depth mm	Larg.perm. tens. load in cracked concrete C 20/25 in kN	Larg.perm. tens. load in uncracked concrete C 20/25 in kN
6	14,5	15	35	1,0	2,0
6	14,5	5 – 25	35 – 55	1,0 – 2,0	2,0 – 4,4

Inner thread anchor, combination thread M8/M10, GV

- MMS-plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Combination thread M8 / M10 × 23
- Spanner size 13



Technical Data

Article No.	Article Description	QTY
8171 3 75 40	INNER THREAD ANCHOR GV 7.5X 40	40
8171 3 75 60	INNER THREAD ANCHOR GV 7.5X 60	40

Drill- Ø mm	Head Ø mm	Clamping thickness mm	Anchoring depth mm	Larg.perm. tens.load of cracked concrete C 20/25 in kN	Larg.perm. tens.load of uncracked concrete C 20/25 in kN
6	14,5	5	35	1,0	2,0
6	14,5	5 – 25	35	1,0	2,0

Stick anchor with connecting thread, galvanised

- MMS plus anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- Anchor-less approved fastening in concrete in interior areas
- Stick anchor Ø 6,0: Connecting thread M6 × 5 mm
- Stick anchor Ø 7,5: Connecting thread M8 × 14 mm
- Stick anchor Ø 10,0: Connecting thread M10 × 11 mm



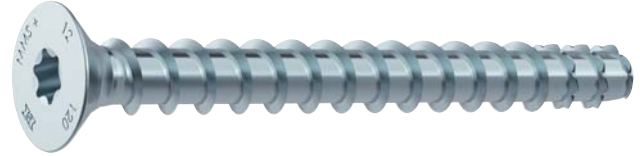
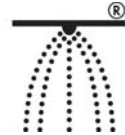
Technical Data

Article No.	Article Description	QTY
8171 5 60 55	STICK ANCH HEX GV 6,0X 55	100
8171 5 60 65	STICK ANCH HEX GV 6,0X 65	50
8171 5 75 60	STICK ANCH HEX GV 7,5X 60	50
8171 5 75 70	STICK ANCH HEX GV 7,5X 70	50
8171 5 75 80	STICK ANCH HEX GV 7,5X 80	50
8171 5 75 100	STICK ANCH HEX GV 7,5X100	50
8171 5 75 120	STICK ANCH HEX GV 7,5X120	50
8171 5 100 75	STICK ANCH HEX GV 10,0X 75	25
8171 5 100 85	STICK ANCH HEX GV 10,0X 85	25

Drill- Ø mm	Head- Ø mm	Clamping thickness mm	Achoring depth mm	Larg.perm. tens.load in cracked concrete C 20/25 in kN	Larg.perm. tens.load in uncracked concrete C 20/25 in kN
5	10	10 – 20	35 – 45	0,5 – 0,7	2,0 – 3,0
5	10	20 – 30	35 – 45	0,5 – 0,7	2,0 – 3,0
6	10	5 – 25	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	15 – 35	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	25 – 45	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	45 – 65	35 – 55	1,0 – 2,0	2,0 – 4,4
6	10	65 – 85	35 – 55	1,0 – 2,0	2,0 – 4,4
8	13	10 – 25	50 – 65	3,0 – 4,4	5,9 – 7,9
8	13	20 – 35	50 – 65	3,0 – 4,4	5,9 – 7,9

Countersunk head scr.anch. galvanised

- MMS plus screw anchor for anchoring in cracked and uncracked concrete
- ETA permit 15/0784, Option 1
- Fire resistance class F120
- Suitable for the installation of sprinkler systems
- **M10 and M12** approved for use under seismic impact C1
- **Concrete thread:** Reduced core diameter and larger outer diameter for greater effective surface area
- **Functional highlights:** Larger outer diameter and stronger toothing for less wear
- Anchor-less approved fastening in concrete in interior areas
- Flat, countersunk head, 90°, for flush mounting, e.g. hand rails, railings, metal structures, fire protection panels, wood structures, etc.
- Drive: Ø 6.0 mm TX 30
- Drive: Ø 7.5 mm TX 40
- Drive: Ø 10.0 mm TX 45
- Drive: Ø 12.0 mm TX 50



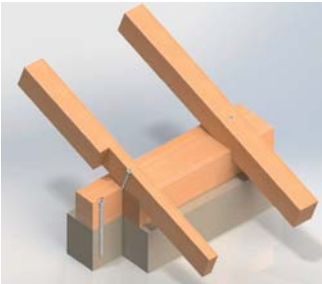
Technical Data

Article No.	Article Description	QTY
8171 6 60 40	COUNTERS.HEAD SCR GV 6,0X 40	100
8171 6 60 50	COUNTERS.HEAD SCR GV 6,0X 50	100
8171 6 60 60	COUNTERS.HEAD SCR GV 6,0X 60	100
8171 6 60 70	COUNTERS.HEAD SCR GV 6,0X 70	100
8171 6 60 80	COUNTERS.HEAD SCR GV 6,0X 80	50
8171 6 60 100	COUNTERS.HEAD SCR GV 6,0X100	50
8171 6 60 120	COUNTERS.HEAD SCR GV 6,0X120	50
8171 6 60 140	COUNTERS.HEAD SCR GV 6,0X140	50
8171 6 75 45	COUNTERS.HEAD SCR GV 7,5X 45	100
8171 6 75 50	COUNTERS.HEAD SCR GV 7,5X 50	100
8171 6 75 60	COUNTERS.HEAD SCR GV 7,5X 60	50
8171 6 75 70	COUNTERS.HEAD SCR GV 7,5X 70	50
8171 6 75 80	COUNTERS.HEAD SCR GV 7,5X 80	50
8171 6 75 100	COUNTERS.HEAD SCR GV 7,5X100	50
8171 6 75 120	COUNTERS.HEAD SCR GV 7,5X120	50
8171 6 75 140	COUNTERS.HEAD SCR GV 7,5X140	50
8171 6 75 160	COUNTERS.HEAD SCR GV 7,5X160	50
8171 6 100 60	COUNTERS.HEAD SCR GV 10,0X 60	25
8171 6 100 70	COUNTERS.HEAD SCR GV 10,0X 70	25
8171 6 100 80	COUNTERS.HEAD SCR GV 10,0X 80	25
8171 6 120 90	COUNTERS.HEAD SCR GV 12,0X 90	25
8171 6 120 100	COUNTERS.HEAD SCR GV 12,0X100	25
8171 6 120 120	COUNTERS.HEAD SCR GV 12,0X120	25

Drill- Ø mm	Head - Ø mm	Clam- ping- thick- ness mm	Ancho- ring depth mm	Larg.perm. tens.load in cracked concrete C 20/25 in kN	Larg.perm. tens.load in uncracked concrete C 20/25 in kN
5	11,5	5	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	5 - 15	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	15 - 25	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	25 - 35	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	35 - 45	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	55 - 65	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	75 - 85	35 - 45	0,5 - 0,7	2,0 - 3,0
5	11,5	95 - 100	35 - 45	0,5 - 0,7	2,0 - 3,0
6	15,5	10	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	15	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	5 - 25	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	15 - 35	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	25 - 45	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	45 - 65	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	65 - 85	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	85 - 105	35 - 55	1,0 - 2,0	2,0 - 4,4
6	15,5	105 - 125	35 - 55	1,0 - 2,0	2,0 - 4,4
8	19,5	10	50 - 65	3,0 - 4,4	5,9 - 7,9
8	19,5	5 - 20	50 - 65	3,0 - 4,4	5,9 - 7,9
8	19,5	15 - 30	50 - 65	3,0 - 4,4	5,9 - 7,9
10	24,0	5 - 15	75 - 90	5,9 - 7,9	9,9 - 12,3
10	24,0	10 - 25	75 - 90	5,9 - 7,9	9,9 - 12,3
10	24,0	30 - 45	75 - 90	5,9 - 7,9	9,9 - 12,3

Timber Connect screw anchor, galvanised

- Ideally suited to fastening timber components to concrete and solid brick walls
- Transmission of high tensile and shear forces without additional design effort
- Can be counterbored in the wood so that one product is suitable for various wood thicknesses
- Small hole diameter
- Simple mounting with suitable setting tool
- General building approval Z-21.1-1879
- TX 30 setting tool with bit drive
- TX 45 and TX 50 setting tools with 1/2" socket wrench drive



8171 8 30



8171 8 45, 8171 8 50

Article No.	Article Description	QTY
8171 8 75 100	SCREW ANCHOR TC-GV 7,5X100	50
8171 8 100 130	SCREW ANCHOR TC-GV 10,0X130	25
8171 8 120 160	SCREW ANCHOR TC-GV 12,0X160	25
8171 8 30	SETTING TOOL F.TIMER CONN.TX30	1
8171 8 45	SETTING TOOL F.TIMER CONN.TX45	1
8171 8 50	SETTING TOOL F.TIMER CONN.TX50	1

Technical Data			
Drill-Ø	Head-Ø	Clamping- thickn.	Drive
mm	mm	mm	TX
6	10,0	40 – 150	30
8	16,0	60 – 200	45
10	17,5	80 – 300	50

Screw Anchor, Stainless Steel A4

- ETA approval ETA 05/0011 for anchoring in cracked and uncracked concrete
- approved for fastening in concrete without dowels
- for installing railings, metal structures, piping and ventilation in sanitary and HVAC, wooden constructions, beams, purlins, sills, etc
- width across flats: Ø 7,5 = WAF 13, Ø 10,0 = WAF 16, Ø 12,0 = WAF 18
- high pull-out values at low setting depths



Article No..	Article Description	QTY
8170 1 75 65	HEX. SCREW ANCH. A4 7.5X50/ 65	50
8170 1 75 75	HEX. SCREW ANCH. A4 7.5X60/ 75	50
8170 1 100 85	HEX. SCREW ANCH. A4 10.0X70/85	25
8170 1 100 95	HEX. SCREW ANCH. A4 10.0X95	25
8170 1 120 100	HEX. SCR. ANCH. A4 12.0X100/120	25
8170 1 120 120	HEX. SCREW ANCH. A4 12.0X120	25

Technical Data		*Recommended loads in kN		
Drill- Ø	Anchor depth	Clamp.- thickn.	Tensile load in crack.concr. C20/25	Tensile load in uncr.concr. C20/25
mm	mm	mm		
6	40	10	0,5 ¹	2,0 ¹
6	65	10	1,8	2,6
8	75	10	3,7	4,9
8	75	20	3,7	4,9
10	90	10	4,9	6,5
10	90	30	4,9	6,5

¹ according to DIBT approval Z-21.1-1697

* not part of the ETA-approval

Screw anchors, countersunk head, stainl.steel A5

- With ETA approval 05 / 0011 for attachment in cracked and non-cracked concrete
- Stainless steel A5, Material No. 1.4571, functional nibs phosphated
- 90° flat countersunk head for flush mounting of, e.g., handrails, guardrails, metal structures, etc., in wet rooms or outside

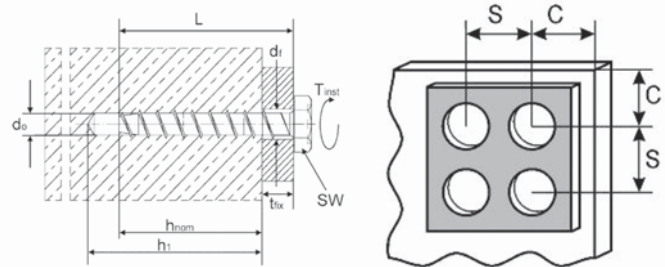


Article No.	Article Description	QTY
8170 7 75 75	SCR.ANCH.CH TX30 A5 7.5X75/ 10	50
8170 7 75 85	SCR.ANCH.CH TX30 A5 7.5X85/ 20	50
8170 7 75 95	SCR.ANCH.CH TX30 A5 7.5X95/ 30	50
8170 7 75 115	SCR.ANCH.CH TX30 A5 7.5X115/50	50

Technical Data		*Recommended loads in kN		
Pilot hole- Ø mm	Anch. depth mm	Clamp. thickn. mm	Tensile load in cracked concr. C20/25	Tensile load in ncrack.concr. C20/25
6	65	10	1.8	2.6
6	65	20	1.8	2.6
6	65	30	1.8	2.6
6	65	50	1.8	2.6

Permissible loads in concrete

- 1.1 Permissible maximum loads for a single anchor for fastening in cracked and non-cracked concrete according to ETA 05/0010 and ETA 05/0011.
(The whole approval document must be observed for the design.)



Anchor size		MMS-7,5		MMS-10		MMS-12		MMS-14	MMS-16
		A4	gvz	A4	gvz	A4	gvz	gvz	gvz
Approval document no. ETA 05/		0011	0010	0011	0010	0011	0010	0010	0010
Admissible transverse load "N_{zul}" from one single anchor without edge influence¹⁾									
Cracked concrete C20/25 ³⁾	[kN]	1,8	2,0	3,7		4,9		8,2	12,1
Non-cracked concrete C20/25 ³⁾	[kN]	2,6	3,1	4,9		6,5		12,3	16,4
Permissible transverse force "V_{zul}" from one single anchor without edge influence²⁾									
Cracked concrete +C20/25 ³⁾	[kN]	4,5	3,4 ⁵⁾	9,8 ⁵⁾	7,9 ⁵⁾	14,3	11,3 ⁵⁾	17,7 ⁵⁾	24,2 ⁵⁾
Non-cracked concrete C20/25 ³⁾	[kN]	6,0 ⁵⁾	3,4 ⁵⁾	9,8 ⁵⁾	7,9 ⁵⁾	16,2 ⁵⁾	11,3 ⁵⁾	17,7 ⁵⁾	24,2 ⁵⁾
Admissible bending moment*⁴⁾ "M_{zul}"									
	[Nm]	10,9	9,4	22,2	18,7	45,9	35	65,1	107,1
Component dimension and installation parameters									
Nominal hole diameter	d ₀ = [mm]	6,0		8,0		10,0		12,0	14,0
Drilling hole depth	h ₁ = [mm]	75	65	90	75	100	85	105	130
Total anchoring depth	h _{nom} ≤ [mm]	65	55	75	65	90	75	95	115
Mathematical anchoring depth	h _{ef} = [mm]	40		47,5		54,5		71,5	87,5
Min. edge distance	s _{min} = [mm]	40		50		60		90	100
Min. centre distance	c _{min} = [mm]	40		50		60		90	100
Minimum component thickness	h _{min} = [mm]	105	100	130	115	140	125	150	180
Clearance hole in component to be connected	d _f = [mm]	9		12		14		16	18
Recomm. max. tightening torque ⁴⁾	T _{inst} = [Nm]	20		40		55		90	110

1) This means $c \geq 1.5 \cdot h_{ef}$ and $s \geq 3 \cdot h_{ef}$

2) This means $c \geq 10 \cdot h_{ef}$

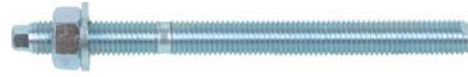
3) The concrete is prepared as normally reinforced. Correspondingly higher resistances are possible with higher concrete strengths

4) The tightening torque is not defined in the approval document; the observance of this specification is therefore not relevant for the approval

5) Steel failure is decisive factor *) The partial safety factors for the anchor resistances defined in the approval documents as well as a partial safety factor for the influence of $\gamma_G = 1.35$ have been taken into account. In the case of coups and combined loads, anchor gr also axial or edge effects, please note the requirements for the design procedure A in Appendix C of the ETAG or our design aid

Composite Anchor Rods, Galvanised Steel

- With European technical approval
- Steel quality / strength class 5.8
- For heavy-duty fixings in non-cracked indoor areas
- Normally supplied with external hex drive and setting tool



Article No.	Article Description	QTY
8167 8 110	COMPOS.ANCHOR RODS GV 8/110	10
8167 10 130	COMPOS.ANCHOR RODS GV 10/130	10
8167 10 170	COMPOS.ANCHOR RODS GV 10/170	10
8167 10 190	COMPOS.ANCHOR RODS GV 10/190	10
8167 12 160	COMPOS.ANCHOR RODS GV 12/160	10
8167 12 220	COMPOS.ANCHOR RODS GV 12/220	10
8167 12 300	COMPOS.ANCHOR RODS GV 12/300	10
8167 16 190	COMPOS.ANCHOR RODS GV 16/190	10
8167 16 260	COMPOS.ANCHOR RODS GV 16/260	10
8167 20 260	COMPOS.ANCHOR RODS GV 20/260	5
8167 24 300	COMPOS.ANCHOR RODS GV 24/300	2

Technical Data

Drilling Ø mm	Clamping thickness mm
10	20
12	28
12	68
12	88
14	35
14	95
14	175
18	46
18	116
24	67
28	62

Composite Anchor Rods, A4

- With European technical approval
- Strength class 70
- For heavy-duty fixings in non-cracked outdoor areas
- Normally supplied with external hex drive and setting tool



Article No.	Article Description	QTY
8168 8 110	COMPOS.ANCHOR RODS A4 8/110	10
8168 10 130	COMPOS.ANCHOR RODS A4 10/130	10
8168 12 160	COMPOS.ANCHOR RODS A4 12/160	10
8168 12 300	COMPOS.ANCHOR RODS A4 12/300	10
8168 16 190	COMPOS.ANCHOR RODS A4 16/190	10
8168 20 260	COMPOS.ANCHOR RODS A4 20/260	5
8168 24 300	COMPOS.ANCHOR RODS A4 24/300	2

Technical Data

Drilling Ø mm	Clamping thickness mm
10	20
12	28
14	35
14	175
18	46
24	67
28	62

Composite Anchor Cartridge R-CAS-V

- With European Technical Approval Option 7 in connection with composite anchor rods
- Styrene-free vinyl ester resin
- For heavy-duty fixings in non-cracked concrete
- Drilled hole must be cleaned thoroughly and free from grease
- Fix anchor rod by turning-knocking into the drilled hole
- Expansion-free anchoring in concrete
- Small edge distances and centre-to-centre distances
- Setting procedure also possible in old or damp concrete
- Suitable for fitting under water
- For fastening: Steel structures, supports, rails, baseplates and cover plates, high racks, brackets, railings, windows, crash barriers, scaffolding, sign gantries, guide barriers, machinery, façades, soundproofing walls, etc.



Article No.	Article Description	QTY
8160 1 8	COMPOS.ANCHOR CART. R-CAS-V- 8	10
8160 1 10	COMPOS.ANCHOR CART. R-CAS-V-10	10
8160 1 12	COMPOS.ANCHOR CART. R-CAS-V-12	10
8160 1 16	COMPOS.ANCHOR CART. R-CAS-V-16	10
8160 1 20	COMPOS.ANCHOR CART. R-CAS-V-20	6
8160 1 24	COMPOS.ANCHOR CART. R-CAS-V-24	6

Technical Data

Drilling Ø mm	Drilled ole Depth mm	Composite anchor Rods Ø mm	Cleaning Brush Ø mm
10	85	8	12
12	95	10	14
14	115	12	16
18	130	16	20
24	175	20	26
28	215	24	30

Extract from the usage conditions of the approval ETA-10/0108

Total safety coefficient according to ETAG (γ_M and γ_F)

Loads and parameters	Composite Anchor R-CAS-V		M8	M10	M12	M16	M20	M24	M30
Characteristic load capacity in uncracked concrete									
	C20/25 NRk,p	[kN]	25.0	30.0	50.0	60.0	95.0	140.0	200.0
Increase factors for NRk,p	C30/37		1.04					1.0	
	C40/50		1.07					1.0	
	C50/60		1.09					1.0	
Characteristic load capacity steel 5.8	VRk,s	[kN]	9.0	14.0	21.0	39.0	61.0	88.0	140.0
Characteristic load capacity steel 8.8	VRk,s	[kN]	15.0	23.0	34.0	63.0	98.0	141.0	224.0
Characteristic load capacity steel 10.9	VRk,s	[kN]	18.0	29.0	42.0	78.0	122.0	176.0	280.0
Characteristic load capacity steel A4-70	VRk,s	[kN]	13.0	20.0	29.0	55.0	86.0	124.0	196.0
Characteristic bending torques steel 5.8	MRk,s	[Nm]	19.0	37.0	65.0	166.0	324.0	561.0	1.124.0
Characteristic bending torques steel 8.8	MRk,s	[Nm]	30.0	60.0	105.0	266.0	519.0	898.0	1.799.0
Characteristic bending torques steel 10.9	MRk,s	[Nm]	37.0	75.0	131.0	333.0	649.0	1,123.0	2.249.0
Characteristic bending torques steel A4-70	MRk,s	[Nm]	26.0	52.0	92.0	233.0	454.0	786.0	1.574.0
Axial spacing and edge clearance									
Effective anchoring depth	h_{ef}	[mm]	80	90	110	125	170	210	270
Minimal axial spacing	s_{min}	[mm]	40	45	55	62.5	85	105	135
Minimal edge clearance	c_{min}	[mm]	40	45	55	62.5	85	105	135
Minimum component thickness	h_{min}	[mm]	120	130	140	180	230	270	340
Mounting data									
Drilled hole diameter	d_o	[mm]	10	12	14	18	24	28	35
Through-hole in the mounted part	d_f	[mm]	9	12	14	18	22	26	32
Min. drilled hole depth	h_o	[mm]	85	95	115	130	175	215	275
Anchoring torque	T_{inst}	[mm]	10	20	40	80	120	180	300

Injection mortar FIT Express 345

High strength, fast setting 2-part mortar for expansion-free fastening of threaded rods and armoured irons down to -10 °C component temperature

- Can be worked down to -20 °C
- Styrene-free, hence odourless
- Side-by-Side cartridge containing 345 ml
- FÖRCH Fit fastens securely even with small edge distances and axial spacings
- Suitable for fastening high loads on concrete, solid and perforated brickwork and wood
- Can be used with perforated sleeves in perforated brickwork
- Suitable for dry and wet concrete, may also be applied in water-filled drill holes
- Waterproof
- High resistance to chemical action
- Can be used as a repair adhesive for concrete parts

Notes:

- Storage location must be cool, at least +5 °C, dry and dark
- Storage temperature: +5 °C to max. +35 °C
- Shelf life: see packaging



8150 345 1



8150P 345 1

Technical Data

Contents:	345 ml
Material base:	Vinylester
Cartridge system:	side-by-side
Required gun:	Art.-No. 8153 345
Reaction behaviour:	
Temperature:	-20 °C -15 °C -10 °C -5 °C 0 °C 5 °C 10 °C 15 °C 20 °C
Pot life:	90 min 75 min 60 min 50 min 25 min 10 min 6 min 3 min 1,5 min
Curing time:	24 hrs 16 hrs 10 hrs 5 hrs 150 min 80 min 60 min 45 min 35 min

Article No.	Article Description	QTY
8150 345 1	INJ.MORTAR FIT EXPRESS 345	e 12
8150P 345 1	HP(20)INJ.M.FIT EXPRESS 345	1

System Box Empty

- Dimensions LxWxH: 40 x 30 x 22 mm

Article No.	Article Description	QTY
9027 403022	SYSTEM BOX - SMALL PARTS	1



Injection mortar FIT Z-MB7 SF

- Styrene-free injection mortar with ETA approval 15 / 0584 Option 7 for non-cracked concrete with anchor rods in the sizes
- M8 to M24 in galvanized steel and stainless steel
- ETA approval 15 / 0586 for brickwork with FIT Z-MB7 perforated sleeves and commercially available threaded rods in the
- sizes M8 to M16
- Tested for indoor and outdoor applications
- Styrene-free polyester resin, odourless without additives or solvents
- Safe for the environment and processors
- Minimum axial spacing and edge distances at the highest characteristic loads

Note:

- Storage temperature: +5 °C to +25 °C (dry and dark place)
- Shelf life: see packaging



8150 300 3

8150 345 3

8150 410 3



8150P 300 3, 8150P 345 3, 8150P410 3

Technical Data

Art.-No.	Cartridge system	Required Dispensers	Ambient-temperature °C	Processing time min	Hardening time min
8150 300 3	Standard silicone gun	6010 0001	-5 to 0	90	360
8150 345 3	Side-by-Side	8153 345	0 to +5	45	180
8150 410 3	Coaxial system	8153 410	+5 to +10	25	120
			+10 to +20	15	80
			+20 to +30	6	45
			+30 to +35	4	25
			+35	2	20

Article No.	Article Description	QTY
8150 300 3	INJ.MORT.FIT EASY Z-MB7 300SF	e 12
8150 345 3	INJ.MORTART FIT Z-MB7 345SF	e 12
8150 410 3	INJ.MORTART FIT Z-MB7 410SF	e 12
8150P 300 3	HP(20)INJ.EASY FIT Z-MB7 300SF	1
8150P 345 3	HP(20)INJ.FIT Z-MB7 345SF	1
8150P 410 3	HP(20)INJ.FIT Z-MB7 410SF	1

Injection Mortar FIT Z-B SF

- Styrene-free injection mortar with ETA-approval Option 7 for non-cracked concrete
- Licensed in connection with threaded rods, zinc-plated from class 5.8 as well as threaded rods made of stainless steel A4 M8-M24 or composite anchor rods AGR 8161/ 8162
- Tested for interior and exterior use
- Side by Side cartridge with a contents of 345 ml
- Styrene-free vinyl premium resin, odor-free
- Suitable for dry and wet concrete
- Minimum axial and edge distances at highest loads up to 367 kN



8150 345 5

8150 300 5

Technical Data

Ambient temperature	Processing time	Cure time for dry concrete	Cure time for wet concrete
≥ -10 °C	90 min	24 hrs	48 hrs
≥ -5 °C	90 min	14 hrs	48 hrs
≥ 0 °C	45 min	7 hrs	14 hrs
≥ +5 °C	25 min	2 hrs	4 hrs
≥ +10 °C	15 min	80 min	160 min
≥ +20 °C	6 min	45 min	90 min
≥ +30 °C	4 min	25 min	50 min
≥ +35 °C	2 min	20 min	40 min
≥ +40 °C	1.5 min	15 min	30 min

Article No.	Article Description	QTY
8150 345 5	INJECTION MORTAR FIT Z-B 345SF	e 12
8150P 345 5	HP(20)INJECT.MORTAR Z-B 345SF	1
8150 300 5	INJECT.MORT.FIT EASY Z-B 300SF	e 12
8150P 300 5	HP(20)INJ.MO.FIT EASY Z-B300SF	1

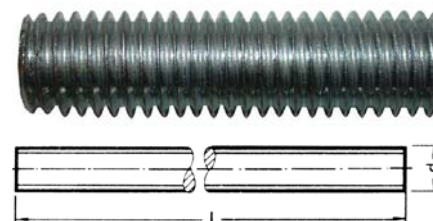
*not part of the ETA approval 13/0912

Threaded Rods DIN 976 8.8, Galvanised, 1m

- Strength class 8.8
- Length 1 m
- Galvanised steel

Article No.	Dimension	QTY
1824 8	M 8	1 f
1824 10	M 10	1 g
1824 12	M 12	1 w
1824 16	M 16	1 z
1824 20	M 20	1 ü
1824 24	M 24	1 ü

(d thread.-Ø mm)

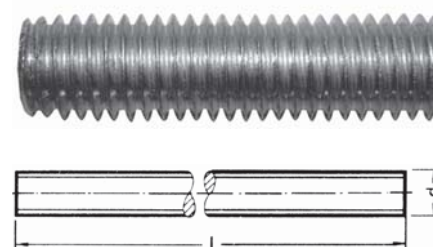


Threaded Rods DIN 976, Stainless Steel A4

- Length: 1 m
- Stainless steel A4

Article No.	Dimension	QTY
1826 8	M 8	1
1826 10	M 10	1
1826 12	M 12	1
1826 16	M 16	1
1826 20	M 20	1
1826 24	M 24	5

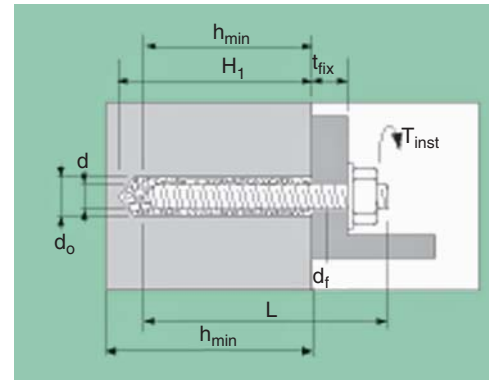
(d thread.-Ø mm)



Installation parameters for threaded rods in concrete

LEGEND

H_1	= Drilling hole depth - Hole depth
t_{fix}	= Max. fixing thickness
L	= Stud length
d	= Stud diameter
d_o	= Drilling hole diameter - Hole diameter - Stud diameter
T_{inst}	= Tightening torque
h_{min}	= Base material thickness
d_f	= Clearance hole in the fixture
h_{ef}	= Anchoring depth - Effective anchorage depth
c_{min}	= Edge distance
s_{min}	= Min. spacing



Installation parameters for threaded rods in concrete

	M8	M10	M12	M16	M20	M24	M27	M30
Drilling hole diameter d_o mm	10	12	14	18	24	28	32	35
effective Mindestanchoring depth h_{ef} min. mm	60	60	70	80	90	96	108	120
effective Maximalanchoring depth h_{ef} max. mm	160	200	240	320	400	480	540	600
Through hole of the adjacent construction d_f mm	≤ 9	≤ 12	≤ 14	≤ 18	≤ 22	≤ 26	≤ 30	≤ 33
Tightening torque T_{inst} Nm	10	20	40	80	120	160	180	200
Max. fixing thickness t_{fix} max. mm	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500	< 1.500
Minimal thickness of the concrete slab h_{min} mm	$h_{ef} + 30 \text{ mm}, \geq 100 \text{ mm}$							
Min. centre distance s_{min} mm	40	50	60	80	100	120	135	150
Min. edge distance c_{min} mm	40	50	60	80	100	120	135	150

Average consumption of mortar per fixing for a hole filling of 2/3 of its volume

Solid subsurface

Threaded rod	Drilling hole diameter x Drilling hole depth $d_o \times h_1$ mm	approx. amount 345 ml	Fixings 300 ml
M8	10 x 60	109	95
M10	12 x 60	76	66
M12	14 x 70	48	41
M16	18 x 80	25	22
M20	24 x 90	12	11
M24	28 x 96	8	7
M27	32 x 108	5	5
M30	35 x 120	4	3

Hollow subsurface

Threaded rod	Nylon filter bushing mm	approx. amount 345 ml	Fixings 300 ml
M6	10 x 45	97	84
M8	12 x 50	61	53
	12 x 60	51	44
	12 x 80	38	33
	15 x 85	23	20
	15 x 100	20	17
	15 x 130	15	13
M10	15 x 85	23	20
	15 x 100	20	17
	15 x 130	15	1
M12	20 x 85	13	11

Filter Bushings FIT Z-B Type SH

- Filter bushing made of nylon for hollow materials
- DIBT (Center of Competence in Civil Engineering) certificated. Part of the Masonry Approvals FIT Z-M and FIT Z-B



Article No.	Article Description	QTY
8158 13 100 1	FILTER BUSHING SH 13/100	10
8158 15 100 1	FILTER BUSHING SH 15/100	10

Technical Data

Drill hole Ø mm	for tie bars	hollow underground 345 ml
16	M10	20
16	M10 – M12	105

Filter Bushing FIT Z-MB7

- Filter bushing made of nylon for hollow materials



Article No.	Article Description	QTY
8158 10 45	FIT-FILTER BUSH. PLASTIC 10X45	10
8158 12 50	FIT-FILTER BUSH. PLASTIC 12X50	10
8158 12 60	FIT-FILTER BUSH. PLASTIC 12X60	10
8158 12 80	FIT-FILTER BUSH. PLASTIC 12X80	10
8158 15 85	FIT-FILTER BUSH. PLASTIC15X 85	10
8158 15 100	FIT-FILTER BUSH. PLASTIC15X100	10
8158 15 130	FIT-FILTER BUSH. PLASTIC15X130	10
8158 20 85	FIT-FILTER BUSH. PLASTIC20X 85	10

Technical Data

Ø Drill hole mm	Ø Anchor- rods	Drill hole- depth mm
10*	M6*	50
12*	M8*	55
12*	M8*	65
12	M8	85
16	M10	90
16*	M10*	105
16	M10	135
20	M12 – M16	90

*Not part of the ETA-approval

Perforated Sleeve FIT Metal

- To fix tie bars and threaded bars in hollow building material



Article No.	Article Description	QTY
8158 95 1000	FIT PERF. SLEE. METAL 9.5X1000	1
8158 125 1000	FIT PERF. SL. METAL 12.5X1000	1
8158 185 1000	FIT PERF. SL. METAL 18.5X1000	1

Technical Data

Drilling Ø in mm	Internal Ø in mm	External Ø in mm
12	9,5	11
16	12,5	14
22	18,5	20

Internal Thread Sleeves FIT

- Yellow galvanized steel
- To be used in perforated sleeves or in solid material
- For demountable metric screwings



Article No.	Article Description	QTY
8159 6 48	FIT INT. THREAD SLEEVE M 6X48	10
8159 8 80	FIT INT. THR. SLEEVE GAL M8X80	10
8159 10 80	FIT IN. THR. SLEEVE GAL M10X80	10
8159 12 80	FIT INT. THR. SL. YEL. M12X80	10

Technical Data

Drilling Ø in mm	External Ø in mm	minimum drilling hole depth
10	8	50
14	10	90
16	14	90
18	16	90

Cleaning Brush FIT-ZB

- Wire scratch brush for cleaning drill holes

Article No.	Article Description	QTY
8153 10	CLEANING BRUSH 10MM	1
8153 12	CLEANING BRUSH 12MM	1
8153 14	CLEANING BRUSH 14MM	1
8153 18	CLEANING BRUSH 18MM	1
8153 24	CLEANING BRUSH 24MM	1



Blow-out Pump

- Air outlet can be pivoted 360°

Article No.	Article Description	QTY
8163 2	BLOW-OUT PUMP 310MM	1



FIT Mixing Nozzles / Extension Tubes

Article No.	Article Description	QTY
8153 6	FIT MIXING NOZZLES	12
8153 7	FIT EXTENSION TUBES	12



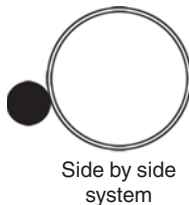
8153 6

8153 7

Cartridge Applicator Gun FIT



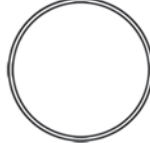
8153 345



Side by side system



6010 0310



Standard silicone gun



8153 410



Coaxial system

Article No.	Article Description	QTY
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
6010 0001	HAND-PRESSURE GUN F.CART.310ML	1
8153 410	FIT-INJECTION GUN COAX 410ML	1

Cartridge Applicator Gun FIT



Article No.	Article Description	QTY
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
6010 0001	HAND-PRESSURE GUN F.CART.310ML	1
8153 410	FIT-INJECTION GUN COAX 410ML	1

Mortar Injection Set, **VAROBOXX**

- Assortment in VAROBOXX 2

Contents:

Article No.	Article Description	Quantity
8150 345 5	INJECTION MORTAR FIT Z-B 345SF	2
8153 1	FIT MIXING NOZZLE FOR FIT Z-M	4
8153 24	REINIGUNGSBÜRSTE 24MM	1
8153 345	FIT CARTR. APPL. GUN 235+345ML	1
8153 410	FIT-AUSPRESSPISTOLE COAX 410ML	1
8163 2	BLOW-OUT PUMP 310MM	1
9003 2	VAROBOXX SIZE:2 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1



Article No.	Article Description	QTY
9003 8150	VAROBOXX MORTAR INJECTION SET	1

Anchor Rods / Perforated Sleeves, **VAROBOXX**

- Product assortment in VAROBOXX 1
- Perforated sleeves made from nylon for hollow materials
- Anchor rods approved in accordance with general building inspection approval Z-21.3-1953 and Z-21.3-1977 in M8 and M10 dimensions for FIT Z-B and FIT Z-M

Contents:

Article No.	Article Description	Quantity
8157 8 110	ANCHOR RODS TYPE C M8X110 GV	20
8157 10 130	ANCHOR RODS TYPE C M10X130 GV	10
8157 10 130 1	ANCHOR RODS TYPE C M10X130 A4	20
8158 13 100 1	FILTER BUSHING SH 13/100	10
8158 15 100 1	FILTER BUSHING SH 15/100	10
8158 20 85	FIT-FILTER BUSH. PLASTIC20X 85	10
8159 8 80	FIT INT. THR. SLEEVE GAL M8X80	10
8159 10 80	FIT IN. THR. SLEEVE GAL M10X80	10
8161 8 110	COMP. ANCH. ROD GAL 8/110	20
9003 1	VAROBOXX SIZE:1 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1
9004 1 8	DEEP DRAWN INS.8COMP.VAROBOXX1	1

Article No.	Article Description	QTY
9003 8157	VAROBOXX ANCH.R./PERFOR.SLEEVE.	1



Cleaning Brush FIT-ZB

- Wire scratch brush for cleaning drill holes

Article No.	Article Description	QTY
8153 10	CLEANING BRUSH 10MM	1
8153 12	CLEANING BRUSH 12MM	1
8153 14	CLEANING BRUSH 14MM	1
8153 18	CLEANING BRUSH 18MM	1
8153 24	CLEANING BRUSH 24MM	1



Blow-out Pump

- Air outlet can be pivoted 360°

Article No.	Article Description	QTY
8163 2	BLOW-OUT PUMP 310MM	1



FIT Mixing Nozzles / Extension Tubes

Article No.	Article Description	QTY
8153 6	FIT MIXING NOZZLES	12
8153 7	FIT EXTENSION TUBES	12



8153 6

8153 7

Injection Mortar VMZ 345

- Styrene-free injection mortar with ETA (European Technical Approval) Option 1 for cracked and uncracked concrete; minimum strength class: C 20/25 and maximum strength class: C 50/60
- Approved in connection with anchor rod VMZ made of galvanized steel or with anchor rod VMZ made of stainless steel (A4) with the sizes M8-M24
- Can be used for medium and heavy load range. High load bearing capacities, small edge and axial distances (see approval)
- Styrene-free medium polyester resin, odourless. Tested for fire resistance.
- Side-by-Side cartridge with 345ml contents
- Suitable for wet and dry concrete. From dowel size M12, it can also be used for water filled drill holes.

Application:

Anchoring of heavy loads in cracked and uncracked concrete such as steel girders, steel supports, railings (also on bridges), brackets and facades. The stainless steel version A4 may be used in damp rooms and outdoors.



Technical Data

Temperature in drill hole	+40°C	+30°C	+20°C	+10°C	+5°C	0°C	-5°C
Applicat. temp. min	1.4	4	6	12	20	45	90
Hardening time min Dry concrete	15	25	45	80	120	180	360

Article No.	Article Description	QTY
8180 345	INJECTION MORTAR VMZ 345	e 12

Instruction:



Create drilled hole

Clean drilled hole.

Fill the composite mortar starting from base of drilled hole.

Press in anchoring element up to bottom of drilled hole while turning slightly.

Comply with hardening time of composite mortar

Mount component.

Anchor Rod VMZ, Galvanized

- **Galvanized steel**
- Approved for the use with Injection Mortar VMZ
- Suitable for components in closed rooms with the exception of damp rooms



Article No.	Article Description	QTY
8180 8 65	ANCHOR ROD VMZ GALV.8-15/65	10
8180 8 80	ANCHOR ROD VMZ GALV.8-15/80	10
8180 8 95	ANCHOR ROD VMZ GALV.8-30/95	10
8180 8 110	ANCHOR ROD VMZ GALV.8-45/110	10
8180 10 85	ANCHOR ROD VMZ GALV.10-10/85	10
8180 10 95	ANCHOR ROD VMZ GALV.10-20/95	10
8180 10 105	ANCHOR ROD VMZ GALV.10-30/105	10
8180 10 135	ANCHOR ROD VMZ GALV.10-60/135	10
8180 10 175	ANCHOR ROD VMZ GALV.10-100/175	10
8180 10 110	ANCHOR ROD VMZ GALV.10-20/110	10
8180 12 115	ANCHOR ROD VMZ GALV.12-25/115	10
8180 12 110	ANCHOR ROD VMZ GALV.12-10/110	10
8180 12 125	ANCHOR ROD VMZ GALV.12-25/125	10
8180 12 150	ANCHOR ROD VMZ GALV.12-50/150	10
8180 12 200	ANCHOR ROD VMZ GALV.12-100/200	10
8180 12 225	ANCHOR ROD VMZ GALV.12-125/225	10
8180 12 265	ANCHOR ROD VMZ GALV.12-165/265	10
8180 12 140	ANCHOR ROD VMZ GALV.12-25/140	10
8180 12 145	ANCHOR ROD VMZ GALV.12-25/145	10
8180 12 180	ANCHOR ROD VMZ GALV.12-60/180	10
8180 12 220	ANCHOR ROD VMZ GALV.12-100/220	10
8180 12 155	ANCHOR ROD VMZ GALV.12-25/155	10
8180 12 170	ANCHOR ROD VMZ GALV.12-25/170	10
8180 16 145	ANCHOR ROD VMZ GALV.16-30/145	10
8180 16 160	ANCHOR ROD VMZ GALV.16-30/160	10
8180 16 180	ANCHOR ROD VMZ GALV.16-30/180	10
8180 16 210	ANCHOR ROD VMZ GALV.16-60/210	10
8180 16 250	ANCHOR ROD VMZ GALV.16-100/250	10
8180 16 315	ANCHOR ROD VMZ GALV.16-165/315	10
8180 16 200	ANCHOR ROD VMZ GALV.16-30/200	10
8180 20 175	ANCHOR ROD VMZ GALV.20-30/175	5
8180 20 225	ANCHOR ROD VMZ GALV.20-20/225LG	5
8180 20 230	ANCHOR ROD VMZ GALV.20-25/230	5
8180 20 255	ANCHOR ROD VMZ GALV.20-50/255	5
8180 20 305	ANCHOR ROD VMZ GALV.20-100/305	5
8180 20 275	ANCHOR ROD VMZ GALV.20-50/275	5

Technical Data				
Effective anchor depth mm	Drill nominal Ø mm	Hole Ø Connection construction	Tightening torque Nm	Tensile capacity of cracked concrete kN
40	10	9	10	4.3
50	10	9	10	6.1
50	10	9	10	6.1
50	10	9	10	6.1
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
75	12	12	15	11.1
70	14	14	25	10
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
95	14	14	25	15.9
100	14	14	30	17.1
100	14	14	30	17.1
100	14	14	30	17.1
110	14	14	30	19.8
125	14	14	30	24
90	18	18	50	14.6
105	18	18	50	18.4
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
145	18	18	50	30
115	22	22	80	21.1
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
190	24	24	80	44.9

(Dowel-Ø/ clamping strength in mm/ dowel length in mm)

Anchor Rod VMZ, Stainless Steel A4

- **Stainless steel A4**
- Approved for the use with Injection Mortar VMZ
- Suitable for damp rooms and outdoors, also in industrial atmosphere and areas close to the sea



Article No.	Article Description	QTY
8180 8 65 1	ANCHOR ROD VMZ A4 8-15/65	10
8180 8 80 1	ANCHOR ROD VMZ A4 8-15/80	10
8180 8 95 1	ANCHOR ROD VMZ A4 8-30/95	10
8180 8 110 1	ANCHOR ROD VMZ A4 8-45/110	10
8180 10 85 1	ANCHOR ROD VMZ A4 10-10/85	10
8180 10 95 1	ANCHOR ROD VMZ A4 10-20/95	10
8180 10 105 1	ANCHOR ROD VMZ A4 10-30/105	10
8180 10 135 1	ANCHOR ROD VMZ A4 10-60/135	10
8180 10 175 1	ANCHOR ROD VMZ A4 10-100/175	10
8180 10 110 1	ANCHOR ROD VMZ A4 10-20/110	10
8180 10 130 1	ANCHOR ROD VMZ A4 10-40/130	10
8180 12 115 1	ANCHOR ROD VMZ A4 12-25/115	10
8180 12 130 1	ANCHOR ROD VMZ A4 12-40/130	10
8180 12 110 1	ANCHOR ROD VMZ A4 12-10/110	10
8180 12 125 1	ANCHOR ROD VMZ A4 12-25/125	10
8180 12 150 1	ANCHOR ROD VMZ A4 12-50/150	10
8180 12 200 1	ANCHOR ROD VMZ A4 12-100/200	10
8180 12 225 1	ANCHOR ROD VMZ A4 12-125/225	10
8180 12 265 1	ANCHOR ROD VMZ A4 12-165/265	10
8180 12 140 1	ANCHOR ROD VMZ A4 12-25/140	10
8180 12 145 1	ANCHOR ROD VMZ A4 12-25/145	10
8180 12 180 1	ANCHOR ROD VMZ A4 12-60/180	10
8180 12 220 1	ANCHOR ROD VMZ A4 12-100/220	10
8180 12 155 1	ANCHOR ROD VMZ A4 12-25/155	10
8180 12 170 1	ANCHOR ROD VMZ A4 12-25/170	10
8180 16 145 1	ANCHOR ROD VMZ A4 16-30/145	10
8180 16 160 1	ANCHOR ROD VMZ A4 16-45/160	10
8180 16 175 1	ANCHOR ROD VMZ A4 16-60/175	10
8180 16 160 1 1	ANCHOR ROD VMZ A4 16-30/160	10
8180 16 180 1	ANCHOR ROD VMZ A4 16-30/180	10
8180 16 210 1	ANCHOR ROD VMZ A4 16-60/210	10
8180 16 250 1	ANCHOR ROD VMZ A4 16-100/250	10
8180 16 315 1	ANCHOR ROD VMZ A4 16-165/315	10
8180 16 200 1	ANCHOR ROD VMZ A4 16-30/200	10
8180 20 175 1	ANCHOR ROD VMZ A4 20-30/175	5
8180 20 225 1	ANCHOR ROD VMZ A4 20-20/225LG	5
8180 20 230 1	ANCHOR ROD VMZ A4 20-25/230	5
8180 20 255 1	ANCHOR ROD VMZ A4 20-50/255	5
8180 20 305 1	ANCHOR ROD VMZ A4 20-100/305	5
8180 20 275 1	ANCHOR ROD VMZ A4 20-50/275	5

Technical Data				
Effective anchor depth mm	Drill nominal Ø mm	Hole Ø Connection construction	Tightening torque Nm	Tensile capacity of cracked concrete kN
40	10	9	10	4.3
50	10	9	10	6.1
50	10	9	10	6.1
50	10	9	10	6.1
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
60	12	12	15	8
75	12	12	15	11.1
75	12	12	15	11.1
70	14	14	25	10
70	14	14	25	10
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
80	14	14	25	12.3
95	14	14	25	15.9
100	14	14	30	17.1
100	14	14	30	17.1
100	14	14	30	17.1
110	14	14	30	19.8
125	14	14	30	24
90	18	18	50	14.6
90	18	18	50	14.6
90	18	18	50	14.6
105	18	18	50	18.4
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
125	18	18	50	24
145	18	18	50	30
115	22	22	80	21.1
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
170	24	24	80	38
190	24	24	80	44.9

(Dowel-Ø/ clamping strength in mm/ dowel length in mm)

Measurements and Weights of Uninsulated and Thermally Insulated Piping

General information about piping					Pipe weight			Weight of pipe with insulation kg/m						Mounting distances in m	
Pipe norm	Nominal size		OD ¹	ID ²	Empty pipe kg/m	Water-filled l/m	Full pipe kg/m	Cold rubber		Heating rubber		Miner. wool jack.		acc. to DIN 1988 part 2	Recommendation
	DN	Inches	mm	mm				13 mm	19 mm	ENEV ³ 50 %	ENEV ³ 100 %	ENEV ³ 50 %	ENEV ³ 100 %		
Threaded pipes DIN EN 10255 (DIN 2440)	6	1/8	10,2	6,2	0,41	0,03	0,44	0,50	0,54	0,48	0,55	0,49	0,59	1,25	0,75
	8	1/4	13,5	8,8	0,65	0,06	0,71	0,77	0,83	0,75	0,84	0,77	0,88	1,50	0,75
	10	3/8	17,2	12,5	0,86	0,12	0,98	1,05	1,11	1,03	1,12	1,05	1,17	2,25	1,20
	15	1/2	21,3	16,0	1,22	0,20	1,42	1,50	1,56	1,48	1,58	1,50	1,63	2,75	1,50
	20	3/4	26,9	21,6	1,59	0,37	1,96	2,06	2,12	2,03	2,14	2,05	2,20	3,00	2,00
	25	1	33,7	27,2	2,45	0,58	3,03	3,14	3,22	3,17	3,39	3,21	3,51	3,50	2,50
	32	1 1/4	42,4	35,9	3,14	1,01	4,15	4,29	4,37	4,35	4,68	4,42	4,86	3,75	2,75
	40	1 1/2	48,3	41,8	3,62	1,37	4,99	5,14	5,23	5,26	5,70	5,36	5,94	4,25	3,25
	50	2	60,3	53,0	5,11	2,21	7,32	7,50	7,60	7,76	8,45	7,91	8,83	4,75	4,00
	65	2 1/2	76,1	68,8	6,53	3,72	10,25	10,47	10,59	10,98	12,14	11,23	12,77	5,50	4,50
	80	3	88,9	80,8	8,49	5,13	13,62	13,87	14,01	14,62	16,21	14,96	17,08	6,00	5,00
	100	4	114,3	105,3	12,21	8,71	20,92	21,23	21,40	22,47	24,96	22,98	26,31	6,00	5,50
	125	5	139,7	130,0	16,16	13,27	29,43	29,80	30,00	31,22	33,95	31,81	35,45	6,00	5,75
	150	6	165,1	155,4	19,20	18,97	38,17	38,61	38,83	40,20	43,17	40,87	44,83	6,00	6,00
Smoke pipe, seamless DIN EN 10220 (DIN 2448)	6	–	10,2	7,0	0,34	0,04	0,38	0,44	0,48	0,42	0,49	0,43	0,53	1,25	0,75
	8	–	13,5	9,9	0,52	0,08	0,60	0,66	0,72	0,64	0,73	0,66	0,77	1,50	0,75
	10	–	17,2	13,6	0,68	0,15	0,83	0,90	0,96	0,88	0,97	0,90	1,02	2,25	1,00
	15	–	21,3	17,3	0,95	0,24	1,19	1,27	1,33	1,25	1,35	1,27	1,40	2,75	1,25
	20	–	26,9	22,3	1,40	0,39	1,79	1,89	1,95	1,91	2,11	1,95	2,22	3,00	1,50
	25	–	33,7	28,5	2,00	0,64	2,64	2,75	2,83	2,78	3,00	2,82	3,12	3,50	1,75
	32	–	42,4	37,2	2,56	1,09	3,65	3,79	3,87	3,87	4,20	3,94	4,39	3,75	2,25
	40	–	48,3	43,1	2,94	1,46	4,40	4,55	4,64	4,69	5,14	4,79	5,39	4,25	2,50
	50	–	60,3	54,5	4,11	2,33	6,44	6,62	6,72	6,91	7,64	7,06	8,03	4,75	3,25
	65	–	76,1	70,3	5,25	3,88	9,13	9,35	9,47	9,86	11,06	10,11	11,70	5,50	3,50
	80	–	88,9	82,5	6,78	5,35	12,13	12,38	12,52	13,17	14,82	13,51	15,72	6,00	4,25
	100	–	114,3	107,1	9,85	9,01	18,86	19,17	19,34	20,41	22,90	20,92	24,25	6,00	4,50
	125	–	139,7	131,7	13,41	13,62	27,03	27,40	27,60	28,82	31,55	29,41	33,05	6,00	5,00
	150	–	168,3	159,3	18,21	19,93	38,14	38,58	38,81	40,20	43,20	40,88	44,88	6,00	5,75
	200	–	219,3	207,5	31,11	33,82	64,93	65,50	65,78	67,47	70,95	68,31	72,95	6,00	6,00
	250	–	273,0	260,4	41,52	53,26	94,78	95,48	95,83	97,82	101,81	98,84	104,15	6,00	6,00
	300	–	323,9	309,7	55,58	75,33	130,91	131,74	132,14	134,43	138,90	135,61	141,56	6,00	6,00
	350	–	355,6	339,6	68,71	90,58	159,29	160,19	160,63	163,11	167,88	164,39	170,74	6,00	6,00
	400	–	406,4	388,8	86,45	118,73	205,18	206,21	206,70	209,48	214,73	210,92	217,91	6,00	6,00
	500	–	508,0	486,0	135,08	185,51	320,59	321,87	322,48	325,85	332,05	327,60	335,87	6,00	6,00
Copper pipe DIN EN 1057	10	–	10,0	8,0	0,25	0,05	0,30	0,36	0,40	0,34	0,41	0,35	0,45	1,00	0,75
	12	–	12,0	10,0	0,31	0,08	0,39	0,45	0,50	0,43	0,51	0,45	0,55	1,25	1,00
	15	–	15,0	13,0	0,39	0,13	0,52	0,59	0,64	0,57	0,65	0,58	0,70	1,25	1,25
	18	–	18,0	16,0	0,48	0,20	0,68	0,76	0,81	0,73	0,82	0,75	0,87	1,50	1,50
	22	–	22,0	20,0	0,59	0,31	0,90	0,99	1,05	0,96	1,06	0,98	1,11	2,00	1,75
	28	–	28,0	25,0	1,12	0,49	1,61	1,71	1,78	1,73	1,94	1,77	2,05	2,25	2,00
	35	–	35,0	32,0	1,41	0,80	2,21	2,33	2,40	2,35	2,58	2,40	2,70	2,75	2,25
	42	–	42,0	39,0	1,71	1,19	2,90	3,03	3,12	3,13	3,50	3,21	3,69	3,00	2,50
	54	–	54,0	50,0	2,92	1,96	4,88	5,04	5,14	5,25	5,86	5,38	6,19	3,50	2,75
	64	–	64,0	60,0	3,49	2,83	6,32	6,51	6,62	6,85	7,72	7,03	8,19	4,00	3,00
	76	–	76,1	72,1	4,17	4,08	8,25	8,47	8,59	9,01	10,26	9,26	10,93	4,25	3,50
	89	–	88,9	84,9	4,89	5,66	10,55	10,80	10,94	11,62	13,34	11,98	14,26	4,75	4,00
	108	–	108,0	103,0	7,42	8,33	15,75	16,05	16,20	17,24	19,67	17,74	20,98	5,00	4,25
	133	–	133,0	127,0	10,97	12,67	23,64	24,00	24,18	25,36	28,03	25,94	29,50	5,00	4,50
	159	–	159,0	153,0	13,16	18,39	31,55	31,97	32,19	33,52	36,43	34,18	38,06	5,00	4,50

OD¹ = outside diameterID² = inside diameterENEV³ = (German) Energy Saving Regulation

Measurements and Weights of Uninsulated and Thermally Insulated Piping

General information about piping					Pipe weight			Weight of pipe with insulation kg/m						Mounting distances in m	
Pipe norm	Nominal size		OD ¹	ID ²	Empty pipe kg/m	Water-filled l/m	Full pipe kg/m	Cold rubber		Heating rubber.		Miner. wool jack.		acc. to DIN 1988 part 2	Recommendation
	DN	Inches	mm	mm				13 mm	19 mm	ENEV ³ 50 %	ENEV ³ 100 %	ENEV ³ 50 %	ENEV ³ 100 %		
Stainl. st. pipes DIN EN 1127 (DIN 2463)	15	–	15,0	13,0	0,35	0,13	0,48	0,55	0,60	0,53	0,61	0,54	0,66	1,25	1,25
	18	–	18,0	16,0	0,42	0,20	0,62	0,70	0,75	0,67	0,76	0,69	0,81	1,50	1,50
	22	–	22,0	19,6	0,62	0,30	0,92	1,01	1,07	0,98	1,08	1,00	1,13	2,00	1,75
	28	–	28,0	25,6	0,80	0,51	1,31	1,41	1,48	1,43	1,64	1,47	1,75	2,25	2,00
	35	–	35,0	32,0	1,24	0,80	2,04	2,16	2,23	2,18	2,41	2,23	2,53	2,75	2,25
	42	–	42,0	39,0	1,50	1,19	2,69	2,82	2,91	2,92	3,29	3,00	3,48	3,00	2,50
	54	–	54,0	51,0	1,95	2,04	3,99	4,15	4,25	4,38	5,00	4,51	5,34	3,50	2,75
	76	–	76,1	72,1	3,67	4,08	7,75	7,97	8,09	8,51	9,76	8,76	10,43	4,25	3,50
	89	–	88,9	84,9	4,30	5,66	9,96	10,21	10,35	11,03	12,75	11,39	13,67	4,75	4,00
	108	–	108,0	104,0	5,25	8,49	13,74	14,04	14,19	15,23	17,66	15,73	18,97	5,00	4,25
	133	–	133,0	127,0	9,65	12,67	22,32	22,68	22,86	24,04	26,71	24,62	28,18	5,00	4,50
	159	–	159,0	153,0	11,59	18,39	29,98	30,40	30,62	31,95	34,86	32,61	36,49	5,00	4,50
Mapress VA 1.4521	10	–	12,0	10,0	0,34	0,08	0,42	0,48	0,53	0,46	0,54	0,48	0,58	–	1,00
	12	–	15,0	13,0	0,44	0,13	0,57	0,64	0,69	0,62	0,70	0,63	0,75	–	1,00
	15	–	18,0	16,0	0,54	0,20	0,74	0,82	0,87	0,79	0,88	0,81	0,93	–	1,50
	20	–	22,0	19,6	0,83	0,30	1,13	1,22	1,28	1,19	1,29	1,21	1,34	–	1,50
	25	–	28,0	25,6	1,05	0,51	1,56	1,66	1,73	1,68	1,89	1,72	2,00	–	2,00
	32	–	35,0	32,0	1,32	0,80	2,21	2,24	2,31	2,26	2,49	2,31	2,61	–	2,50
	40	–	42,0	39,0	1,62	1,19	2,81	2,94	3,03	3,04	3,41	3,12	3,60	–	3,00
	50	–	54,0	51,0	2,10	2,04	4,14	4,30	4,40	4,53	5,15	4,66	5,49	–	3,00
JRG Sanipex MT	12	–	16,0	11,5	0,14	0,10	0,24	0,31	0,37	0,29	0,38	0,31	0,42	–	1,00
	15	–	20,0	15,0	0,19	0,18	0,37	0,45	0,51	0,43	0,52	0,45	0,57	–	1,00
	20	–	26,0	20,0	0,29	0,31	0,60	0,70	0,76	0,67	0,77	0,69	0,83	–	1,50
	25	–	32,0	26,0	0,40	0,53	0,93	1,04	1,11	1,06	1,28	1,11	1,40	–	1,50
	32	–	40,0	33,0	0,61	0,86	1,47	1,60	1,68	1,63	1,87	1,68	2,00	–	2,00
	40	–	50,0	42,0	0,86	1,39	2,25	2,40	2,50	2,53	2,98	2,62	3,22	–	2,00
Mepla composite pipes	50	–	63,0	54,0	1,27	2,29	3,56	3,75	3,85	4,02	4,75	4,17	5,15	–	2,50
	12	–	16,0	11,5	0,14	0,10	0,24	0,31	0,37	0,29	0,38	0,31	0,42	–	1,00
	15	–	20,0	15,0	0,19	0,18	0,37	0,45	0,51	0,43	0,52	0,45	0,57	–	1,00
	20	–	26,0	20,0	0,30	0,31	0,61	0,71	0,77	0,68	0,78	0,70	0,84	–	1,50
	25	–	32,0	26,0	0,42	0,53	0,95	1,06	1,13	1,08	1,30	1,13	1,42	–	1,50
	32	–	40,0	33,0	0,60	0,86	1,46	1,59	1,67	1,62	1,86	1,67	1,99	–	2,00
	40	–	50,0	42,0	0,84	1,39	2,23	2,38	2,48	2,51	2,96	2,60	3,20	–	2,00
	50	–	63,0	54,0	1,10	2,29	3,39	3,58	3,68	3,85	4,58	4,00	4,98	–	2,50
	65	–	75,0	65,8	1,36	3,40	4,76	4,98	5,10	5,43	6,51	5,66	7,10	–	2,50

OD¹ = outside diameterID² = inside diameterENEV³ = (German) Energy Saving Regulation

Drain Pipes Measurements and Weights

General information about piping				Pipe weight			Supporting
Pipe norm	Nom. size	AD ¹	ID ²	Empty pipe kg/m	Water-filled l/m	Full pipe kg/m	Widths in m
	DN	mm	mm				
CAST IRON/SML DIN 19522	40	48,0	42,0	3,07	1,39	4,46	1,5*
	50	58,0	51,0	4,34	2,04	6,38	1,5*
	70	78,0	71,0	5,94	3,96	9,90	1,5*
	80	83,0	76,0	6,34	4,54	10,88	1,5*
	100	110,0	103,0	8,49	8,33	16,82	1,5*
	125	135,0	127,0	11,93	12,67	24,60	1,5*
	150	160,0	152,0	14,21	18,15	32,36	1,5*
	200	210,0	200,0	23,35	31,42	54,77	1,5*
	250	274,0	263,0	33,64	54,33	87,97	1,5*
	300	326,0	314,0	43,73	77,44	121,17	1,5*
	400	429,0	412,8	77,65	133,83	211,48	1,5*
	500	532,0	514,0	107,21	207,50	314,71	1,5*
Geberit drain pipe PE	32	32,0	26,0	0,28	0,53	0,81	0,32
	40	40,0	34,0	0,36	0,91	1,27	0,40
	40	48,0	42,0	0,44	1,39	1,83	0,48
	50	50,0	44,0	0,46	1,52	1,98	0,50
	56	56,0	50,0	0,51	1,96	2,47	0,56
	60	63,0	57,0	0,58	2,55	3,13	0,63
	70	75,0	69,0	0,70	3,74	4,44	0,75
	80	90,0	83,0	0,98	5,41	6,39	0,90
	100	110,0	101,4	1,47	8,08	9,55	1,10
	125	125,0	115,2	1,90	10,42	12,32	1,25
	150	160,0	147,6	3,08	17,11	20,19	1,60
	200	200,0	187,6	3,88	27,64	31,52	2,00
	250	250,0	234,4	6,10	43,15	49,25	2,50
	300	315,0	295,4	9,66	68,53	78,19	3,00
Geberit Silent	56	56,0	49,6	0,90	1,93	2,83	0,55
	60	63,0	56,6	1,02	2,52	3,54	0,65
	70	75,0	67,8	1,37	3,61	4,98	0,75
	90	90,0	79,0	2,48	4,90	7,38	0,90
	100	110,0	98,0	3,33	7,54	10,87	1,10
	125	135,0	123,0	4,13	11,88	16,01	1,35
PVC hard	50	50,0	46,4	0,38	1,69	2,07	0,50
	60	63,0	59,2	0,51	2,75	3,26	0,60
	70	75,0	71,2	0,61	3,98	4,59	0,75
	100	110,0	104,6	1,27	8,59	9,86	1,10
	125	125,0	118,8	1,66	11,08	12,74	1,25
GA DIN 19500	150	160,0	152,2	2,68	18,19	20,87	1,60
	50	60,0	–	5,19	2,21	7,39	0,60
	70	80,0	–	7,02	4,19	11,21	0,80
	100	112,0	–	11,33	8,49	19,83	1,15
	125	137,0	–	13,96	13,07	27,03	1,35
	150	162,0	–	20,59	18,15	38,74	1,60
Loro-X steel drain pipe	200	212,0	–	32,42	31,42	63,84	2,00
	40	42,0	–	1,50	1,20	2,70	1,5*
	50	53,0	–	2,20	2,00	4,20	1,5*
	70	73,0	–	3,30	3,80	7,10	1,5*
	80	89,0	–	4,10	5,80	9,90	1,5*
	100	102,0	–	5,80	7,50	13,30	1,5*
	125	133,0	–	9,60	12,90	22,50	1,5*
	150	159,0	–	11,50	18,60	30,10	1,5*
	200	219,0	–	21,50	35,70	57,20	1,5*
	250	273,0	–	22,50	56,00	78,50	1,5*
	300	324,0	–	25,00	79,40	104,40	1,5*

AD¹ = outside diameterID² = inside diameter

Round DIN 24145 Spiral-seam Pipes Measurements and Weights

Nominal size DN	Outer pipe Ø in mm	Sheet metal thickn.in mm	Empty pipe weight kg/m
71	75	0,4	0,8
80	84	0,4	0,9
90	94	0,4	1,0
100	105	0,6	1,7
112	117	0,6	1,9
125	130	0,6	2,1
140	145	0,6	2,4
150	155	0,6	2,6
160	165	0,6	2,7
180	185	0,6	3,1
200	205	0,6	3,4
224	229	0,6	3,8
250	255	0,6	4,2
280	285	0,6	4,7
300	307	0,8	5,2
315	322	0,8	7,1
355	362	0,8	8,0
400	407	0,8	9,0
450	457	0,8	10,2
500	507	0,8	11,3
560	567	0,8	12,6
600	609	1,0	13,5
630	639	1,0	17,7
710	719	1,0	20,0
800	810	1,0	22,5
900	910	1,0	25,4
1.000	1.012	1,2	34,9
1.120	1.132	1,2	39,1
1.250	1.262	1,2	43,7

Ventilation Ducts Measurements and Weights

Air Duct Weights Without Insulation

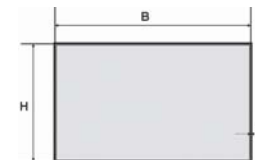
H*W	s = 0,75 mm			s = 0,88 mm						s = 1,0 mm						s = 1,13 mm						s = 1,25 mm			
mm	200	224	250	280	315	355	400	450	500	560	630	710	800	900	1.000	1.120	1.250	1.400	1.600	1.800	2.000	2.240	2.500	2.800	3.150
200	6,1	6,5	6,9	8,6	9,2	10,0	10,8	11,7	12,6	15,5	16,9	18,6	20,4	22,5	24,5	30,4	33,4	36,9	41,5	46,1	50,7	62,3	68,9	76,5	85,5
224	–	6,9	7,3	9,1	9,7	10,4	11,2	12,1	13,0	16,0	17,4	19,1	20,9	22,9	25,0	31,0	34,0	37,5	42,1	46,7	51,3	62,9	69,5	77,1	86,1
250	–	–	7,7	9,5	10,1	10,9	11,7	12,6	13,5	16,5	18,0	19,6	21,4	23,5	25,5	31,6	34,6	38,1	42,7	47,3	51,9	63,5	70,2	77,8	86,7
280	–	–	–	10,1	10,7	11,4	12,2	13,1	14,0	17,1	18,6	20,2	22,0	24,1	26,1	32,3	35,3	38,7	43,4	48,0	52,6	64,3	70,9	78,6	87,5
315	–	–	–	–	11,3	12,0	12,8	13,7	14,6	17,9	19,3	20,9	22,8	24,8	26,8	33,1	36,1	39,6	44,2	48,8	53,4	65,2	71,8	79,5	88,4
355	–	–	–	–	–	12,8	13,6	14,5	15,4	18,7	20,1	21,7	23,6	25,6	27,7	34,0	37,0	40,5	45,1	49,7	54,3	66,2	72,8	80,5	89,4
400	–	–	–	–	–	–	14,4	15,3	16,2	19,6	21,0	22,7	24,5	26,5	28,6	35,1	38,1	41,5	46,1	50,7	55,4	67,4	74,0	81,6	90,6
450	–	–	–	–	–	–	–	16,2	17,1	20,6	22,0	23,7	25,5	27,6	29,6	36,2	39,2	42,7	47,3	51,9	56,5	68,6	75,3	82,9	91,8
500	–	–	–	–	–	–	–	–	18,0	21,6	23,1	24,7	26,5	28,6	30,6	37,4	40,4	43,8	48,4	53,0	57,7	69,9	76,5	84,2	93,1
560	–	–	–	–	–	–	–	–	–	22,9	24,3	25,9	27,8	29,8	31,8	38,7	41,7	45,2	49,8	54,4	59,0	71,4	78,1	85,7	94,7
630	–	–	–	–	–	–	–	–	–	–	25,7	27,3	29,2	31,2	33,3	40,4	43,4	46,8	51,4	56,0	60,7	73,2	79,9	87,5	96,4
710	–	–	–	–	–	–	–	–	–	–	–	29,0	30,8	32,9	34,9	42,2	45,2	48,7	53,3	57,9	62,5	75,3	81,9	89,5	98,5
800	–	–	–	–	–	–	–	–	–	–	–	–	32,7	34,7	36,7	44,3	47,3	50,7	55,4	60,0	64,6	77,6	84,2	91,8	100,8
900	–	–	–	–	–	–	–	–	–	–	–	–	–	36,7	38,8	46,6	49,6	53,0	57,7	62,3	67,3	80,1	86,7	94,4	103,3
1.000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	40,8	48,9	51,9	55,4	60,0	64,6	69,2	82,7	89,3	96,9	105,9
1.120	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	51,7	54,7	58,1	62,7	67,3	72,0	85,7	92,4	100,0
1.250	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	57,7	61,1	65,7	70,3	75,0	89,0	95,7	103,3
1.400	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	64,4	69,2	73,8	78,4	92,9	99,5	107,2
1.600	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	73,8	78,4	83,0	98,0	104,6	112,3
1.800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	83,0	87,6	103,1	109,7	117,4	126,3
2.000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	92,3	108,2	114,8	122,5
2.240	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	114,3	120,9	128,6
2.500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	127,6	135,2
2.800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	142,9
3.150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Weight indications in kg/m

Basis for calculation:

Gross density of the air duct: steel sheet metal gal. = 7.850 kg/m³

Weights for flanges and duct reinforcements were calculated based on estimations.



Air Duct Weights With a 40 mm Mineral Fibre Insulation

H*B	s = 0,75 mm			s = 0,88 mm						s = 1,0 mm						s = 1,13 mm						s = 1,25 mm			
mm	200	224	250	280	315	355	400	450	500	560	630	710	800	900	1.000	1.120	1.250	1.400	1.600	1.800	2.000	2.240	2.500	2.800	3.150
200	9,2	9,9	10,3	12,2	13,1	14,0	15,1	16,3	17,6	20,9	22,8	24,9	27,3	30,0	32,7	39,4	43,2	47,7	53,5	59,4	65,3	78,4	86,7	96,2	107,4
224	–	10,4	10,8	12,8	13,6	14,6	15,7	16,9	18,2	21,5	23,4	25,6	28,0	30,6	33,3	40,1	43,9	48,4	54,3	60,1	66,0	79,1	87,4	97,0	108,2
250	–	–	11,4	13,4	14,3	15,3	16,3	17,6	18,8	22,2	24,1	26,2	28,7	31,3	34,0	40,9	44,7	49,1	55,0	60,9	66,8	80,0	88,3	97,8	109,0
280	–	–	–	14,2	15,0	16,0	17,1	18,3	19,5	23,0	24,9	27,1	29,5	32,1	34,8	41,8	45,6	50,0	55,9	61,8	67,7	80,9	89,2	98,8	110,0
315	–	–	–	–	15,9	16,8	17,9	19,1	20,4	24,0	25,8	28,0	30,4	33,1	35,8	42,8	46,6	51,0	56,9	62,8	68,7	82,0	90,3	99,9	111,1
355	–	–	–	–	–	17,8	18,9	20,1	21,3	25,0	26,9	29,1	31,4	34,2	36,8	44,0	47,8	52,2	58,1	64,0	69,9	83,3	91,6	101,2	112,4
400	–	–	–	–	–	–	20,0	21,2	22,4	26,2	28,1	30,3	32,7	35,4	38,0	45,3	49,1	53,5	59,4	65,3	71,2	84,8	93,1	102,6	113,8
450	–	–	–	–	–	–	–	22,4	23,7	27,6	29,5	31,6	34,0	36,7	39,4	46,8	50,6	55,0	60,9	66,8	72,7	86,4	94,7	104,2	115,4
500	–	–	–	–	–	–	–	–	24,9	28,9	30,8	33,0	35,4	38,0	40,7	48,2	52,1	56,5	62,4	68,3	74,2	88,0	96,2	105,8	117,0
560	–	–	–	–	–	–	–	–	–	30,5	32,4	34,6	37,0	39,7	42,3	50,0	53,8	58,3	64,2	70,0	75,9	89,9	98,2	107,7	118,9
630	–	–	–	–	–	–	–	–	–	–	34,3	36,4	38,9	41,5	44,2	52,1	55,9	60,3	66,2	72,1	78,0	92,1	101,4	110,0	121,1
710	–	–	–	–	–	–	–	–	–	–	–	38,6	41,0	43,7	46,4	54,4	58,3	62,7	68,6	74,5	80,4	94,7	103,0	112,5	123,7
800	–	–	–	–	–	–	–	–	–	–	–	–	43,4	46,1	48,8	57,1	60,9	65,3	71,2	77,1	83,0	97,5	105,8	115,4	126,6
900	–	–	–	–	–	–	–	–	–	–	–	–	–	48,8	51,5	60,0	63,9	68,3	74,2	80,1	86,0	100,7	109,0	118,6	129,8
1.000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	54,1	63,0	66,8	71,2	77,1	83,0	88,9	103,9	112,2	121,8	132,9
1.120	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	70,3	74,8	80,7	86,5	92,4	107,7	116,0	125,6	136,8
1.250	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	74,2	78,6	84,5	90,4	96,3	111,9	120,2	129,8
1.400	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	83,0	88,9	94,8	100,7	116,7	125,0	134,5
1.600	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	94,8	100,7	106,6	123,1	131,4	140,9
1.800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	106,6	112,5	129,4	137,7	147,3
2.000	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	118,4	135,8	144,1	153,7
2.240	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	143,5	151,8	161,4
2.500	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	160,1	169,6
2.800	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	179,2
3.150	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

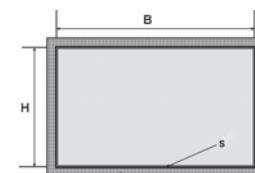
Weight indications in kg/m

Basis for calculation:

Gross density of the air duct: steel sheet metal gal. = 7.850 kg/m³

Gross density of the insulation: mineral wool = 80 kg/m³

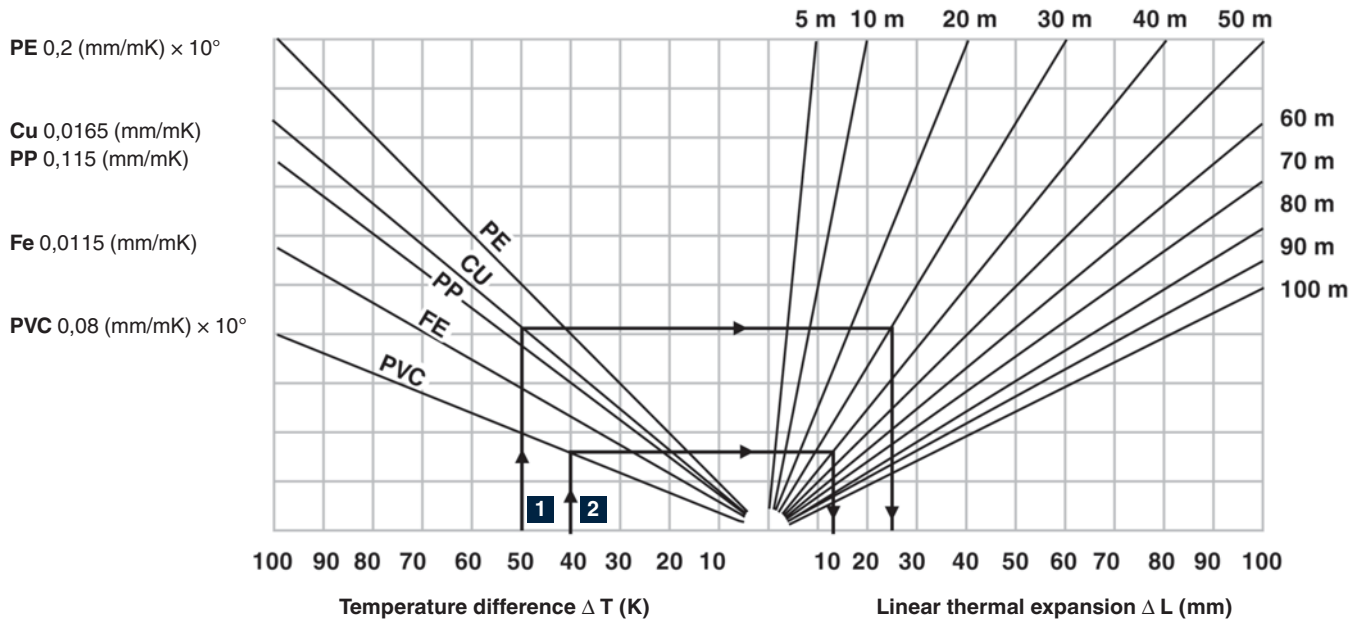
Weights for flanges and duct reinforcements were calculated based on estimations.



40 mm mineral fibre insulation

Strain Diagram for Different Types of Pipes

Metal and plastic materials contract at low temperatures and expand under heat. Such physical conditions need to be taken into consideration in particular for pipes of heating installations, which are subject to continuous temperature variations due to the thermostat control. Due to appropriate pipe fixtures, which are able to swing or shift, such stress forces are being avoided.



An example:

- 1 Copper pipe, Cu pipeline length 30 m
Temperature difference $\Delta T = 50^\circ \text{K}$
Linear thermal expansion $\Delta L = 24,75 \text{ mm}$
- 2 PVC pipe, pipeline length $L = 40 \text{ m}$
Temperature difference $\Delta T = 40^\circ \text{K}$
Linear thermal expansion $\Delta L = 128 \text{ mm}$

Attention!

For plastic pipes (PE, PP, PVC), the read-off linear thermal expansion from the diagram must be multiplied by factor 10.

Calculation formula for linear thermal expansion

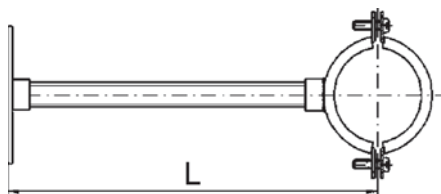
$$\Delta L = L \times \Delta T \times \alpha$$

(mm) (m) (mm/mK)

ΔL = linear thermal expansion
 L = pipeline/pipe section length
 ΔT = temperature difference
 α = linear thermal expansion coefficient

The Permissible Load in Newton (N) During Bending for:

Threaded Pipes

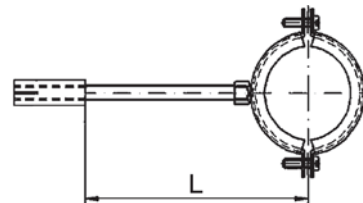


Threaded rod $\varnothing$	Distance L to pipe centre in mm							
	50	100	150	200	250	300	400	500
1/2"	1.222	611	407	305	239	166	93	59
3/4"	2.150	1.075	716	537	430	358	121	136
1"	4.277	2.138	1.425	169	855	712	231	340

Berechnungsgrundlage:

Maximum deflection: $f_{\max} = L/150$
Permissible steel stress: $\alpha = 160 \text{ N/mm}^2$

Threaded Pins (4.6)



Threaded rod $\varnothing$	Distance L to pipe centrum in mm					
	50	100	150	200	250	300
M6	34	10	–	–	–	–
M8	85	36	15	–	–	–
M10	170	85	40	22	14	10
M12	300	150	86	48	31	22
M16	780	390	260	173	111	77

Pipe Clamp Easy-Click plus M8 **ROMOS**

- Articulated pipe clamp, can be opened widely for building installation
- Locking screw clicks into place when pressed
- Captive locking screw with combi-cross slot
- Galvanized for high corrosion protection
- Special sound insulation insert made of EPDM (halogen and silicone-free) for sound insulation according to DIN 4109
- Heat-resistant from -50 °C to +100 °C
- Building material class: B2 according to DIN 4102
- Sound level improvement up to 19 db (A), measured at a 2"-pipe

Product benefits:

- Practise-oriented clamping ranges, thus compact assortment
- Locking screw is secured against falling out of the thread
- With strong double grooves for high stability
- Connecting nut 4-point welded for high shear-off values
- Optimised sliding properties of sound insulation insert
- Short locking screws for quick installation and optically appealing insulation works
- High M8-connecting nut for secure connection to the thread

Article No.	Article Description	QTY
8601 12 14	PIPE CLAMP 1/4" 12-14 M8	g 150
8601 15 19	PIPE CLAMP 3/8" 15-19 M8	g 200
8601 20 23	PIPE CLAMP 1/2" 20-23 M8	g 200
8601 25 28	PIPE CLAMP 3/4" 25-28 M8	g 150
8601 32 35	PIPE CLAMP 1" 32-35 M8	g 100
8601 40 44	PIPE CLAMP 1 1/4" 40-44 M8	g 100
8601 48 51	PIPE CLAMP 1 1/2" 48-51 M8	75
8601 53 58	PIPE CLAMP 53-58 M8	75
8601 60 65	PIPE CLAMP 2" 60-65 M8	50
8601 75 80	PIPE CLAMP 2 1/2" 75-80 M8	25



Technical Data

Steel	Steel	Copper VA	PP/HDPE HT	Cast/SML	Max. rec. loads in N*
inch	mm	mm	mm	DN DN	
1/4"	13,5	12	-	12	- - 550
3/8"	17,2	15 / 18	15 / 18	16	- - 550
1/2"	21,3	22	22	20	- - 550
3/4"	26,9	28	28	25	- - 550
1"	33,7	35	35	32	- - 550
1 1/4"	42,4	42	42	40	40 - 550
1 1/2"	48,3	-	-	50	50 40 550
-	-	54	54	-	- 50 550
2"	60,3	64	-	63	- - 800
2 1/2"	76,1	76,1	76,1	75	70 70 1.500

*in case of central tension

Pipe Clamp Easy-Click plus M8/M10 **ROMOS**

- Articulated pipe clamp, can be opened widely for building installation
- Locking screw clicks into place when pressed
- Captive locking screw with combi-cross slot
- Galvanized for high corrosion protection
- Special sound insulation insert made of EPDM (halogen and silicone-free) for sound insulation according to DIN 4109
- Heat-resistant from -50°C to +100°C
- Building material class: B2 according to DIN 4102
- Sound level improvement up to 19 db (A), measured at a 2"-pipe

Product benefits:

- Practise-oriented clamping ranges, thus compact assortment
- Locking screw is secured against falling out of the thread
- With strong double grooves for high stability
- Connecting nut 4-point welded for high shear-off values
- Optimised sliding properties of sound insulation insert
- Short locking screws for quick installation and optically appealing insulation works
- Combi-connection thread M8/M10 for variable threaded connection

Article No.	Article Description	QTY
8601 1 12 14	PIPE CLAMP 1/4"12-14M8/10	g 150
8601 1 15 19	PIPE CLAMP 3/8"15-19M8/10	g 200
8601 1 20 23	PIPE CLAMP 1/2"20-23M8/10	g 200
8601 1 25 28	PIPE CLAMP 3/4"25-28M8/10	g 150
8601 1 32 35	PIPE CLAMP 1" 32-35M8/10	g 100
8601 1 40 44	PIPE CLAMP 1 1/4"40-44M8/10	g 100
8601 1 48 51	PIPE CLAMP 1 1/2"48-51M8/10	75
8601 1 53 58	PIPE CLAMP 53-58M8/10	75
8601 1 60 65	PIPE CLAMP 2" 60-65M8/10	50
8601 1 75 80	PIPE CLAMP 2 1/2"75-80M8/10	25
8601 1 83 90	PIPE CLAMP 3" 83-90M8/10	25
8601 1 108 114	PIPE CLAMP 4"108-114M8/10	25



Technical Data

Steel inch	Steel mm	Copper mm	VA mm	PP/HDPE mm	HT DN	SML DN	Max. rec. loads in N*
1/4"	13,5	12	-	12	-	-	550
3/8"	17,2	15 / 18	15 / 18	16	-	-	550
1/2"	21,3	22	22	20	-	-	550
3/4"	26,9	28	28	25	-	-	550
1"	33,7	35	35	32	-	-	550
1 1/4"	42,4	42	42	40	40	-	550
1 1/2"	48,3	-	-	50	50	40	550
-	-	54	54	-	-	50	550
2"	60,3	64	-	63	-	-	800
2 1/2"	76,1	76,1	76,1	75	70	70	1.500
3"	88,9	88,9	88,9	90	-	80	1.500
4"	114,3	108	108	110	100	100	2.000

*in case of central tension

Articulated Pipe Clamp M8 **VAROBOXX**

- In assortment VAROBOXX 4
- Connection: M8

Contents:

Article No.	Article Description	Quantity
8601 15 19	PIPE CLAMP 3/8" 15-19 M8	100
8601 20 23	PIPE CLAMP 1/2" 20-23 M8	100
8601 25 28	PIPE CLAMP 3/4" 25-28 M8	75
8601 32 35	PIPE CLAMP 1" 32-35 M8	50
9003 4	VAROBOXX SIZE:4 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1
9004 1 8	DEEP DRAWN INS.8COMP.VAROBOXX1	1
9004 3 2	INS.BOX INS.W.BOX VAROBOXX3+4	1
9004 3 3	PART.PLATE FRAME VAROBOXX 3+4	1
9004 4 2	SLO.PART.PLATE SHORT VAROBOXX4	1
9004 4 5	PART.PLATE LONG VAROBOXX 4	2

Article No.	Article Description	QTY
9003 8601	VAROBOXX PIPE CLAMP 3/8"-1" M8	1



Pipe Clamp Box

- Robust case
- Ideal for transporting pipe clamps, fittings, etc.
- Dimension L x W x H: 58.0 x 40.5 x 12.5 cm

Article No.	Article Description	QTY
8611 580	PIPE CL. BOX	1



Two-Screw Pipe Clamp Easy-Lock **ROMOS**

- Two-screw pipe clamp with snapping quick-release fastener
- Locking screw with combi-cross slot against falling out
- Sound insulation insert made of high-quality EPDM (halogen and silicone-free) for sound insulation protection according to DIN 4109
- Heat-resistant from -50° C to +110° C
- Building material class: B2 according to DIN 4102
- Sound level improvement up to 20 db (A), measured at a 2"-pipe
- Galvanised for high corrosion protection

Product benefits:

- Audible snapping quick-release fastener
- Locking screw is secured due to deepening of securing clip
- Can be opened and closed with only one hand
- M8-connection for cost-optimized suspensions of small pipe diameters or M8/M10 for variable threaded connection

Fields of application:

- For pipelines in the entire Building Services



Article No.	Article Description	QTY
8602 2 12 14	TWO-SC.PIPE CL. 1/4"12-14 M8/10	100
8602 2 15 19	TWO-SC.PIPE CL. 3/8"15-19 M8/10	100
8602 2 20 23	TWO-SC.PIPE CL. 1/2"20-23 M8/10	g 100
8602 2 24 28	TWO-SC.PIPE CL. 3/4"24-28 M8/10	100
8602 2 31 35	TWO-SC.PIPE CL. 1" 31-35 M8/10	100
8602 2 38 43	TWO-SC.PIPE CL. 1" 38-43 M8/10	100
8602 2 48 51	TWO-SC.PIPE CL. 1 1/4" 48 M8/10	50
8602 2 52 56	TWO-SC.PIPE CL. 1 1/2" 52 M8/10	50

Article No.	Article Description	QTY
8602 2 57 61	TWO-SC.PIPE CL. 2" M8/10	50
8602 2 63 67	TWO-SC.PIPE CL. 63-67 M8/10	50
8602 2 74 80	TWO-SC.PIPE CL. 2 1/2" M8/10	25
8602 2 83 91	TWO-SC.PIPE CL. 3" 83-91 M8/10	25
8602 2 108 114	TWO-SC.PIPE CL. 108-114 M8/10	25
8602 2 123 128	TWO-SC.PIPE CL. 123-128 M8/10	25
8602 2 136 142	TWO-SC.PIPE CL. 5" M8/10	12
8602 2 159 163	TWO-SC.PIPE CL. 159-163 M8/10	12

Technical Data

Art. No.	Steel inch	Steel mm	Cobber mm	VA mm	HT pipe DN	Cast/SML DN	Max. rec. load in N*	Breaking load in N*
8602 2 12 14	1/4"	13,5	12/15	15	-	-	700	2,100
8602 2 15 19	3/8"	17,2	15/18	15/18	-	-	700	2,100
8602 2 20 23	1/2"	21,3	22	22	-	-	700	2,100
8602 2 24 28	3/4"	26,9	28	28	-	-	700	2,100
8602 2 31 35	1"	33,7	35	35	-	-	700	2,100
8602 2 38 43	1"	42,4	42	42	-	-	700	2,100
8602 2 48 51	1 1/4"	48,3	-	-	50	40	700	2,100
8602 2 52 56	1 1/2"	-	54	54	-	50	700	2,100
8602 2 57 61	2"	60,3	64	-	-	-	700	2,100
8602 2 63 67	-	-	68/70	-	-	-	1.200	3,500
8602 2 74 80	2 1/2"	76,1	76,1	76,1	70	70	1.200	3,500
8602 2 83 91	3"	88,9	88,9	88,9	-	-	1.200	3,500
8602 2 108 114	-	108	108	108	100	100	1.200	3,500
8602 2 123 128	4"	114,3	114	-	-	-	1.200	3,500
8602 2 136 142	5"	139,7	133	133	125	125	1.200	3,500
8602 2 159 163	-	-	-	-	150	150	1.200	3,500
8602 2 165 169	-	-	159	159	-	-	1.200	3,500

*for central tension



Sliding Pipe Clip M8

One-piece hinged pipe clip for the installation of coated and uncoated plastic pipes – Noise-insulated in accordance with DIN 4109

- Quick-release safety fastening
- Temperature resistance: -35°C to +70°C
- Galvanised

Product benefits:

- Quick, one-hand installation with just one screw
- Low-noise gliding of pipes
- Screw secured against loss

Areas of application:

- Pipe clip for dry indoor spaces
- For plastic and multi-layer composite pipes



Article No.	Article Description	QTY
8504 15	SLIDING PIPE CLIP M8 15 MM	g 100
8504 20	SLIDING PIPE CLIP M8 20 MM	g 100
8504 25	SLIDING PIPE CLIP M8 25 MM	g 80
8504 32	SLIDING PIPE CLIP M8 32 MM	g 75
8504 38	SLIDING PIPE CLIP M8 38 MM	g 40

Technical Data

Dimension mm	Connection Thread	Material cross section mm	Max. recom. Load in N*
15	M8	20 × 0.8	750
20	M8	20 × 1.0	750
25	M8	20 × 1.0	750
32	M8	20 × 1.0	750
38	M8	20 × 1.0	750

*With central tension

Fixed Point Pipe Clip

Two-piece, high-capacity pipe clip without noise-insulating insert

- Screw fastening
- Galvanised

Product benefits:

- Two fastening screws for specific adaptation to pipe tolerances
- Connecting thread adapts to the respective pipe diameter

Application areas:

- For installation of pipes in environments at fluctuating temperatures
- Securing of pipelines in areas of increased load



Article No.	Article Description	QTY
8520 21	FIX. POINT PIPE CLIP 1/2" 21MM	ü 10
8520 27	FIX. POINT PIPE CLIP 1/2" 27MM	ü 10
8520 34	FIX. POINT PIPE CLIP 1/2" 34MM	ü 10
8520 42	FIX. POINT PIPE CLIP 3/4" 42MM	ü 10
8520 48	FIX. POINT PIPE CLIP 3/4" 48MM	ü 10
8520 54	FIX. POINT PIPE CLIP 3/4" 54MM	ü 10
8520 60	FIX. POINT PIPE CLIP 3/4" 60MM	ü 10
8520 64	FIX. POINT PIPE CLIP 3/4" 64MM	ü 10
8520 70	FIX. POINT PIPE CLIP 3/4" 70MM	ü 10
8520 76	FIX. POINT PIPE CLIP 1" 76MM	ü 10
8520 89	FIX. POINT PIPE CLIP 1" 89MM	ü 10
8520 108	FIX. POINT PIPE CLIP 1" 108MM	ü 10
8520 140	FIX. POINT PIPE CLIP 1" 140MM	ü 10

Technical Data

Connector thread Imperial	Nominal size Imperial/mm	Material thickn. mm	Max. recom. Load in N*
1/2"	1/2"	50 × 5.0	6,000
1/2"	3/4"	50 × 5.0	6,000
1/2"	1"	50 × 5.0	6,000
3/4"	1 1/4"	50 × 5.0	6,000
3/4"	1 1/2"	50 × 5.0	6,000
3/4"	54 mm	50 × 5.0	6,000
3/4"	2"	50 × 5.0	6,000
3/4"	64 mm	50 × 5.0	6,000
3/4"	70 mm	50 × 5.0	6,000
1"	1"	50 × 5.0	6,000
1"	1"	50 × 5.0	6,000
1"	1"	50 × 5.0	6,000
1"	1"	50 × 5.0	6,000

*With central tension

Threaded Pipe

- Direct connection between base plate and pipe clip
- Thread in accordance with DIN ISO 228-1
- Material: Electrolytically galvanised steel
- Length: 2 m

Article No.	Article Description	QTY
8544 12 2	THREADED PIPE 1/2" 2M	1
8544 34 2	THREADED PIPE 3/4" 2M	1
8544 1 2	THREADED PIPE 1" 2M	1



Premium Double Screw Pipe Clip

Robust two-piece double screw pipe clip for high load requirements in building technology and pipeline construction – Noise-insulated in accordance with DIN 4109

- Snap lock
- Temperature resistance: -35°C to +100 °C
- Galvanised

Product benefits:

- Good adaption to pipe tolerances thanks to two fastening screws
- Combined thread enables variable thread connection

Application areas:

- Fastening of pipes in indoor areas
- Suitable for the securing of pipes in building technology



Technical Data

Art. No.	Clamp. range dA in mm	Steel pipe dA in mm	Steel pipe dA, inches	Copp. pipe dA in mm	VA pipe AD mm	HT pipe DN	HPDE pipe AD mm	Cast iron/ SML pipe DN
8502 12 15	12–15	13.5	1/4"	12.0/15.0	15.0	-	12	-
8502 15 20	15–20	17.2	3/8"	15.0/18.0	15.0/18.0	-	16	-
8502 20 25	20–25	21.3	1/2"	22.0	22.0	-	20	-
8502 25 30	25–30	26.9	3/4"	28.0	28.0	-	25	-
8502 32 37	32–37	33.7	1"	35.0	35.0	-	32	-
8502 42 46	42–46	42.4	1 1/4"	42.0	42.0	-	-	-
8502 47 52	47–52	48.3	1 1/2"	-	-	DN 50	50	DN 40
8502 53 58	53–58	54.0	-	54.0	54.0	-	-	DN 50
8502 59 65	59–65	60.3	2"	64.0	-	-	63	-
8502 70 73	70–73	70.0	-	-	-	-	-	-
8502 75 78	75–78	76.1	2 1/2"	76.1	76.1	DN 75	75	DN 70
8502 85 90	85–90	82.5	3"	88.9	88.9	-	90	-
8502 98 102	98–102	101.6	-	-	-	-	-	-
8502 108 114	108–114	108.0	4"	108.0	108.0	DN 110	110	DN 100
8502 121 125	121–125	127.0	-	-	-	DN 125	125	-
8502 132 136	132–136	133.0	-	133.0	133.0	-	-	DN 125
8502 137 141	137–141	139.7	5"	-	139.7	-	140	-
8502 159 163	159–163	159.0	-	159.0	159.0	DN 160	160	DN 150
8502 164 168	164–168	168.3	6"	-	168.3	-	-	-

Article No.	Article Description	QTY
8502 12 15	DS-PIPE C.PR.1/4" 12- 15M 8/10	g 100
8502 15 20	DS-PIPE C.PR.3/8" 15- 20M 8/10	g 200
8502 20 25	DS-PIPE C.PR.1/2" 20- 25M 8/10	g 200
8502 25 30	DS-PIPE C.PR.3/4" 25- 30M 8/10	g 150
8502 32 37	DS-PIPE C.PR.1" 32- 37M 8/10	g 125
8502 42 46	DS-PIPE C.PR.1 1/4" 42- 46M 8/10	g 75
8502 47 52	DS-PIPE C.PR.1 1/2" 47- 52M 8/10	g 75
8502 53 58	DS-PIPE C.PR. 53- 58M 8/10	50
8502 59 65	DS-PIPE C.PR.2" 59- 65M 8/10	50
8502 70 73	DS-PIPE C.PR. 70- 73M 8/10	40

Article No.	Article Description	QTY
8502 75 78	DS-PIPE C.PR.2 1/2" 75- 78M 8/10	30
8502 85 90	DS-PIPE C.PR. 85- 90M 8/10	30
8502 98 102	DS-PIPE C.PR. 98-102M 8/10	25
8502 108 114	DS-PIPE C.PR. 108-114M 8/10	25
8502 121 125	DS-PIPE C.PR. 121-125M10/12	25
8502 132 136	DS-PIPE C.PR. 132-136M10/12	20
8502 137 141	DS-PIPE C.PR.5" 137-141M10/12	12
8502 159 163	DS-PIPE C.PR. 159-163M10/12	12
8502 164 168	DS-PIPE C.PR.6" 164-168M10/12	10

Vent Pipe Clip M8/M10

Two-part, resilient vent pipe clip from DN 80 to DN 630 –
Soundproofing in accordance with DIN 4109

- Snap lock up to DN 200
- Temperature resistance: -35°C to +100 °C
- Galvanised

Product benefits:

- High quality galvanisation, thus also suitable for the visible areas
- Good adaption to pipe tolerances thanks to two fastening screws
- Continuous connecting thread M8 / M10
- The pipe can be easily inserted thanks to the large opening angle

Application areas:

- For fastening folded spiral-seam pipes in air conditioning, ventilation and process technology



Article No.	Article Description	QTY
8509 80	VENT. PIPE CLAMP M8/M10 80MM	25
8509 100	VENT. PIPE CLAMP M8/M10 100MM	25
8509 112	VENT. PIPE CLAMP M8/M10 112MM	25
8509 125	VENT. PIPE CLAMP M8/M10 125MM	25
8509 140	VENT. PIPE CLAMP M8/M10 140MM	25
8509 150	VENT. PIPE CLAMP M8/M10 150MM	25
8509 160	VENT. PIPE CLAMP M8/M10 160MM	25
8509 180	VENT. PIPE CLAMP M8/M10 180MM	25
8509 200	VENT. PIPE CLAMP M8/M10 200MM	15
8509 224	VENT. PIPE CLAMP M8/M10 224MM	15
8509 250	VENT. PIPE CLAMP M8/M10 250MM	10
8509 280	VENT. PIPE CLAMP M8/M10 280MM	10
8509 300	VENT. PIPE CLAMP M8/M10 300MM	10
8509 315	VENT. PIPE CLAMP M8/M10 315MM	10
8509 355	VENT. PIPE CLAMP M8/M10 355MM	10
8509 400	VENT. PIPE CLAMP M8/M10 400MM	10
8509 450	VENT. PIPE CLAMP M8/M10 450MM	5
8509 500	VENT. PIPE CLAMP M8/M10 500MM	5
8509 560	VENT. PIPE CLAMP M8/M10 560MM	5
8509 600	VENT. PIPE CLAMP M8/M10 600MM	5
8509 630	VENT. PIPE CLAMP M8/M10 630MM	5

Technical Data

Dimensions	Max. rec. Load in N*
DN	
80–200	610
224–450	1,320
500–630	1,970

*With central tension

Endless Clamp. Strap - Stainless St. 9mm **ROMOS**

- Perfect alternative for standard hose clamps
- The 30 m long stainless steel strap is flexible and can be used for various hose diameters
- The turnbuckles with its worm drive thread guarantees sealed and resistant hose-nozzle-connection
- Space and time saving solution

Art.-No. 8626 1:

- Stainless steel AISI 430/W3
- Dimension:
- Length: 30 m
- Width: 9 mm
- Thickness: 0.6 mm

Art.-No. 8626 2:

- Low carbon steel, nickel-faced
- Lock: stainless steel AISI 430/W3
- Screw: 7 mm cross recessed, galvanised steel

Art.-No. 8626 3:

- Stainless steel AISI 304/W4
- Screw: 7 mm cross recessed, stainless steel AISI 304/W4



Article No.	Article Description	QTY
8626 1	RO(30M)ENDLESS STRAP A2 9MM	1 z
8626 2	TURNBUCKLE GA FOR ENDL.STRAP	25
8626 3	TURNBUCKLE A2 FOR ENDL.STRAP	25

Assembly Guide:

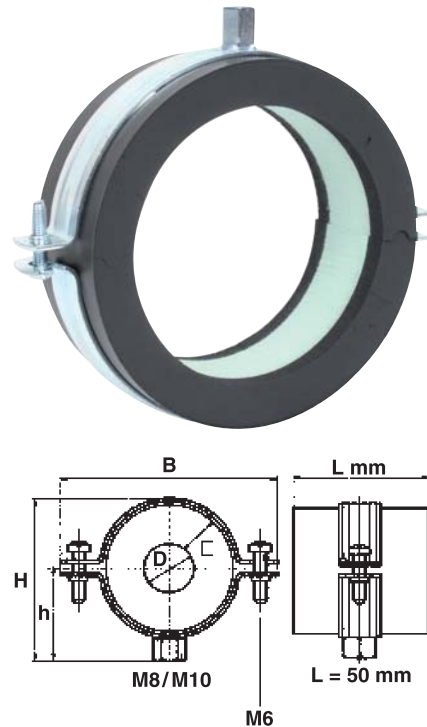
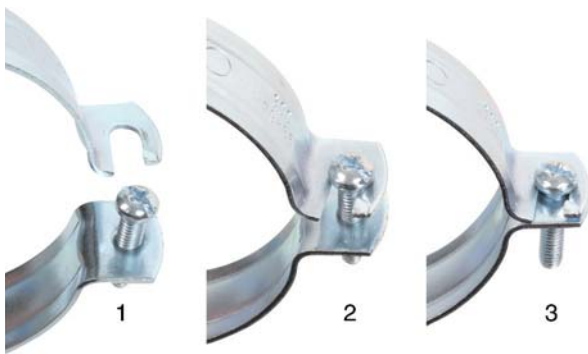


Refrigerant Pipe Clamps 13 mm

- Excellent insulating and mechanical properties
- Bead-reinforced double screw pipe clip with 4-fold welded connecting nut
- Single-sided, quick-release safety fastener for quick, practical installation
- Pipe support made of elastomer rubber with a PIR core (PIR = polyisocyanurate – better insulating properties and fire protection properties, as well as more pressure-resistant and dimensionally stable than polyurethane)
- For fastening thermally insulated pipes made of steel, copper, stainless steel or plastic.
- Can be used with elastomer rubber insulation – adheres to the pipe insulation, forming a vapour-tight seal
- Matched to the increasing insulation thicknesses of cold rubber shapes

Note on usage:

- The contact surfaces of the refrigerant pipe clamp must be aligned horizontally during assembly to prevent tensile and compressive forces.



Article No.	Article Description	QTY
8614 13 12	COLD PIPE CLA. 13X 12MM M8/M10	32
8614 13 15	COLD PIPE CLA. 13X 15MM M8/M10	24
8614 13 18	COLD PIPE CLA. 13X 18MM M8/M10	24
8614 13 22	COLD PIPE CLA. 13X 22MM M8/M10	24
8614 13 28	COLD PIPE CLA. 13X 28MM M8/M10	16
8614 13 35	COLD PIPE CLA. 13X 35MM M8/M10	12
8614 13 42	COLD PIPE CLA. 13X 42MM M8/M10	12
8614 13 48	COLD PIPE CLA. 13X 48MM M8/M10	12
8614 13 54	COLD PIPE CLA. 13X 54MM M8/M10	12
8614 13 60	COLD PIPE CLA. 13X 60MM M8/M10	10
8614 13 64	COLD PIPE CLA. 13X 64MM M8/M10	10
8614 13 70	COLD PIPE CLA. 13X 70MM M8/M10	16
8614 13 76	COLD PIPE CLA. 13X 76MM M8/M10	12
8614 13 89	COLD PIPE CLA. 13X 89MM M8/M10	8
8614 13 102	COLD PIPE CLA. 13X102MM M8/M10	10
8614 13 108	COLD PIPE CLA. 13X108MM M8/M10	10
8614 13 114	COLD PIPE CLA. 13X114MM M8/M10	10

Technical Data

External Ø	Impe. Ø	External C	Insula. Thckn.	B	H	h	Max.perm. Fa,z ²⁾
CU	FE	FE					Clamp Spacing ¹⁾
mm	mm	mm	mm	mm	mm	mm	N
12	-	-	13	75	60	38	40
15	1/4"	13.5	13	75	60	37	50
18	3/8"	17.2	13	75	69	40	60
22	1/2"	21.3	13	83	71	42	75
28	3/4"	26.9	13.5	92	77	46	75
35	1"	33.7	13.5	92	81	48	150
42	1 1/4"	42.4	14	102	93	55	200
-	1 1/2"	48.3	14	109	98	57	275
54	-	54.0	14	117	102	59	300
-	2"	60.3	15	117	108	62	475
64	-	63.5	15	123	112	63	475
70	-	70.0	15	138	116	62	600
76.1	2 1/2"	76.1	15	138	123	69	750
88.9	3"	88.9	15	153	140	76	1,100
-	3 1/2"	101.6	15.5	169	154	84	1,300
108	-	108.0	15.5	172	157	86	1,300
114	4"	114.3	15.5	178	163	89	1,700

¹⁾ according to DIN 1488 for steel pipe (the specifications of the pipe manufacturer must be taken into account)

²⁾ Load index (Fa,z) is restricted to the pipe support

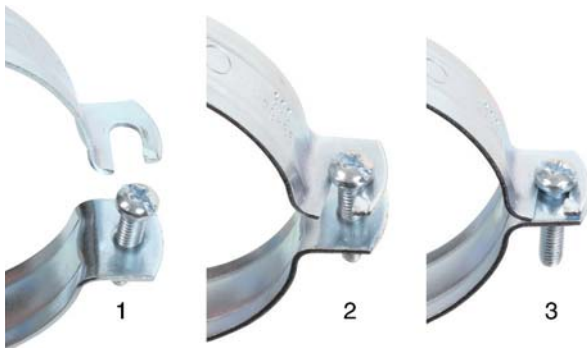
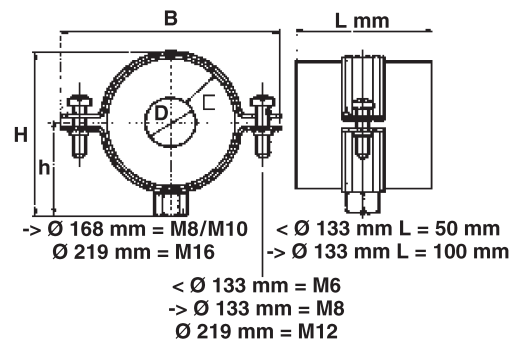
- Pipe clamp material: Electrolytically galvanised steel
- Pipe support material: Elastomer rubber with PIR core and encased in moisture barrier
- Thermal conductivity: 0.036 W/(m×K)
- Water vapour permeability in accordance with DIN EN 13469: > 8,000 μ
- Fire behaviour according to DIN 4102: B2
- Density of PIR core: 120 kg/m³
- Usable temperature range: from -50 °C to +105 °C
- Does not contain CFCs, HCFCs, formaldehyde or cadmium

Refrigerant Pipe Clamps 19 mm

- Excellent insulating and mechanical properties
- Bead-reinforced double screw pipe clip with 4-fold welded connecting nut
- Single-sided, quick-release safety fastener for quick, practical installation
- Pipe support made of elastomer rubber with a PIR core (PIR = polyisocyanurate – better insulating properties and fire protection properties, as well as more pressure-resistant and dimensionally stable than polyurethane)
- For fastening thermally insulated pipes made of steel, copper, stainless steel or plastic.
- Can be used with elastomer rubber insulation – adheres to the pipe insulation, forming a vapour-tight seal
- Matched to the increasing insulation thicknesses of cold rubber shapes

Note on usage:

- The contact surfaces of the refrigerant pipe clamp must be aligned horizontally during assembly to prevent tensile and compressive forces.



Article No.	Article Description	QTY
8614 19 12	COLD PIPE CLA. 19X 12MM M8/M10	26
8614 19 15	COLD PIPE CLA. 19X 15MM M8/M10	24
8614 19 18	COLD PIPE CLA. 19X 18MM M8/M10	24
8614 19 22	COLD PIPE CLA. 19X 22MM M8/M10	12
8614 19 28	COLD PIPE CLA. 19X 28MM M8/M10	12
8614 19 35	COLD PIPE CLA. 19X 35MM M8/M10	12
8614 19 42	COLD PIPE CLA. 19X 42MM M8/M10	12
8614 19 48	COLD PIPE CLA. 19X 48MM M8/M10	12
8614 19 54	COLD PIPE CLA. 19X 54MM M8/M10	16
8614 19 60	COLD PIPE CLA. 19X 60MM M8/M10	12
8614 19 64	COLD PIPE CLA. 19X 64MM M8/M10	12
8614 19 70	COLD PIPE CLA. 19X 70MM M8/M10	12
8614 19 76	COLD PIPE CLA. 19X 76MM M8/M10	18
8614 19 89	COLD PIPE CLA. 19X 89MM M8/M10	14
8614 19 102	COLD PIPE CLA. 19X102MM M8/M10	8
8614 19 108	COLD PIPE CLA. 19X108MM M8/M10	8
8614 19 114	COLD PIPE CLA. 19X114MM M8/M10	8
8614 19 133	COLD PIPE CLA. 19X133MM M8/M10	2
8614 19 139	COLD PIPE CLA. 19X139MM M8/M10	2
8614 19 159	COLD PIPE CLA. 19X159MM M8/M10	2
8614 19 168	COLD PIPE CLA. 19X168MM M8/M10	2
8614 19 219	COLD PIPE CLA. 19X219MM M16	2

Technical Data

Ext. Ø CU mm	FE inch	Ext. Ø FE mm	insul. thickn. mm	B mm	H mm	h mm	Max. perm. clamp spacing ¹⁾ m	Fa,z ²⁾ N
12	-	-	19	83	72	43	-	40
15	1/4"	13.5	19	92	76	46	2.00	50
18	3/8"	17.2	19.5	92	76	46	2.25	60
22	1/2"	21.3	19.5	92	76	49	2.75	75
28	3/4"	26.9	20	102	89	52	3.00	75
35	1"	33.7	20	109	94	55	3.50	150
42	1 1/4"	42.4	21.5	117	102	59	3.75	200
-	1 1/2"	48.3	21.5	123	111	63	4.25	275
54	-	54.0	21.5	129	119	64	-	300
-	2"	60.3	22	198	123	69	4.75	475
64	-	63.5	22	198	126	71	4.75	475
70	-	70.0	22	144	192	73	5.00	600
76.1	2 1/2"	76.1	22	153	198	77	5.50	750
88.9	3"	88.9	22	162	150	83	6.00	1,100
-	3 1/2"	101.6	22.5	178	163	89	6.00	1,300
108	-	108.0	22.5	187	172	94	6.00	1,300
114	4"	114.3	25.5	187	175	95	6.00	1,700
133	-	133.0	25.5	233	200	107	6.00	2,000
-	5"	139.7	26	233	204	110	6.00	2,000
159	-	160.0	26	255.5	223	120	6.00	2,200
-	-	168.3	26	256	229	122	6.00	2,200
-	-	219.1	26	345.3	290	158	6.00	5,000

¹⁾ according to DIN 1488 for steel pipe (The specifications of the pipe manufacturer must be taken into account)

²⁾ Load index (Fa,z) is restricted to the pipe support

- Pipe clamp material: Electrolytically galvanised steel
- Pipe support material: Elastomer rubber with PIR core and encased in moisture barrier
- Thermal conductivity: 0.036 W / (m*K)
- Water vapour permeability in acc. with DIN EN 13469: > 8,000 µ
- Fire behaviour according to DIN 4102: B2
- Density of PIR core: 120 kg/m³
- Usable temperature range: from -50 °C to +105 °C
- Does not contain CFCs, HCFCs, formaldehyde or cadmium

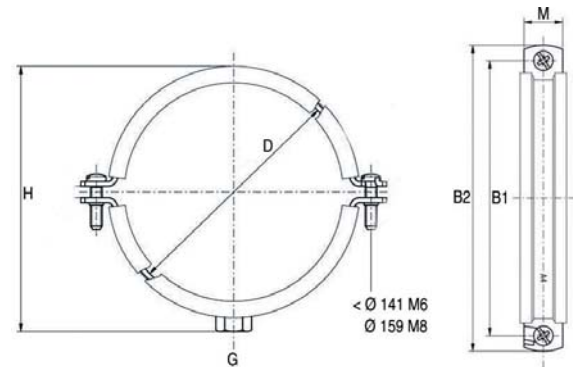
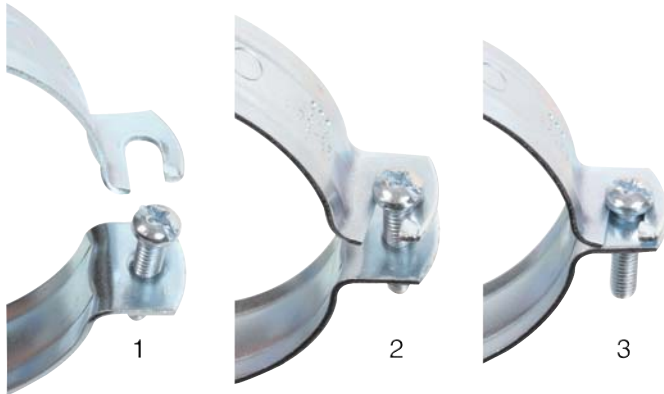
Double Bolt Pipe Clamp, Stainless Steel A4

Robust double bolt pipe clamp with a high degree of corrosion protection and a quick-release safety fastener

- Bead-reinforced double screw pipe clip with 4-fold welded connecting nut
- Single-sided, quick-release safety fastener for quick, practical installation
- Ageing-resistant black noise-insulating insert made of EPDM rubber
- Material: Stainless steel A4 1.4401 (AISI No. 316) – all-round high degree of corrosion protection
- Fulfills construction material class B2 in accordance with DIN 4102
- Noise-insulated according to DIN 4109
- Long-term temperature-resistant from -50°C to +110 °C

Application areas:

- In highly corrosive environments (tunnels, chemical plants, washing facilities)
- For pipes run outdoors



Article No.	Article Description	QTY
8607 14 18	TS. PIPE CLA.A4 14- 18MM M8	100
8607 19 23	TS. PIPE CLA.A4 20- 23MM M8	w 100
8607 25 29	TS. PIPE CLA.A4 25- 28MM M8	w 100
8607 31 35	TS. PIPE CLA.A4 31- 35MM M8	w 100
8607 41 45	TS. PIPE CLA.A4 40- 43MM M8	50
8607 48 54	TS. PIPE CLA.A4 47- 51MM M8	z 50
8607 57 63	TS. PIPE CLA.A4 57- 64MM M8	z 50
8607 64 67	TS. PIPE CLA.A4 64- 67MM M10	25
8607 70 76	TS. PIPE CLA.A4 70- 76MM M10	ü 25
8607 86 91	TS. PIPE CLA.A4 86- 91MM M10	ü 25
8607 108 116	TS. PIPE CLA.A4 108-116MM M10	ü 25
8607 124 132	TS. PIPE CLA.A4 124-132MM M10	ü 25
8607 133 141	TS. PIPE CLA.A4 133-141MM M10	25
8607 159 168	TS. PIPE CLA.A4 159-168MM M10	ü 15

Technical Data

D	D	DN	G	B1	B2	H	M	Fa,Z
mm	Impe.	mm						N
14 – 18	3/8"	10	M8	45.5	61.5	36.5	20 × 1.5	1,520
19 – 23	1/2"	15	M8	48.0	64.0	41.5	20 × 1.5	1,520
25 – 29	3/4"	20	M8	54.0	70.0	46.5	20 × 1.5	1,520
31 – 35	1"	25	M8	62.0	78.0	53.5	20 × 1.5	1,520
40 – 43	1 1/4"	32	M8	69.0	85.0	63.0	20 × 1.5	1,520
47 – 51	1 1/2"	40	M8	75.5	91.5	70.1	20 × 1.5	1,520
57 – 63	2"	50	M8	86.0	102.0	80.0	20 × 2.0	1,910
64 – 67	-	-	M10	93.0	109.0	89.0	20 × 2.0	1,910
70 – 76	2 1/2"	65	M10	102.0	118.0	98.0	20 × 2.0	1,910
86 – 91	3"	80	M10	113.5	129.5	109.0	20 × 2.0	1,910
108 – 116	4"	100	M10	142.0	158.0	137.0	20 × 2.5	2,300
124 – 132	-	-	M10	153.5	169.5	149.1	20 × 2.5	2,300
133 – 141	5"	125	M10	163.0	179.0	158.6	20 × 2.5	2,300
159 – 168	6"	150	M10	213.0	233.0	194.5	25 × 2.5	3,010

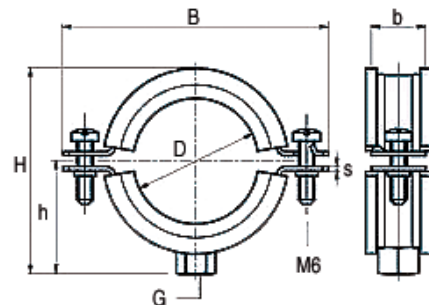
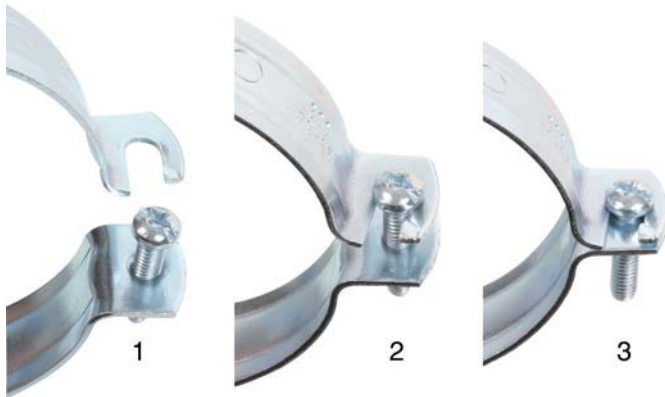
Double Screw Pipe Clip, Silicone

Robust double screw pipe clip with high-temperature-resistant silicone insert and quick-release safety fastener

- Bead-reinforced double screw pipe clip with 4-fold welded connecting nut
- Single-sided, quick-release safety fastener for quick, practical installation
- Age-resistant red-brown noise-insulating insert made of silicone rubber
- Material: Electrolytically galvanised steel
- Fulfills construction material class B2 in accordance with DIN 4102
- Noise-insulated according to DIN 4109
- Long-term temperature-resistant from -50°C to +200°C

Application areas:

- Steam pipes
- Hot water systems



Article No.	Article Description	QTY
8615 11 14	PIPE CLIP HT 11-14MM M8	g 50
8615 15 18	PIPE CLIP HT 15-18MM M8	g 50
8615 20 23	PIPE CLIP HT 20-23MM M8	g 50
8615 25 28	PIPE CLIP HT 25-28MM M8	g 50
8615 31 35	PIPE CLIP HT 31-35MM M8	g 50
8615 40 43	PIPE CLIP HT 40-43MM M8	g 50
8615 48 53	PIPE CLIP HT 48-53MM M8	g 50
8615 64 67	DS PIPE CLIP HT 64-67MM M8/10	10
8615 73 80	PIPE CLIP HT 73-80MM M8/10	g 50
8615 83 91	PIPE CLIP HT 83-91MM M8/10	25
8615 100 106	DS PIP.CLIP HT 100-106MM M8/10	10
8615 108 114	PIPE CLIP HT 108-114MM M8/10	25
8615 124 132	DS PIP.CLIP HT 124-132MM M8/10	5
8615 133 141	DS PIP.CLIP HT 133-141MM M8/10	5
8615 159 168	PIPE CLIP HT 159-168MM M8/10	10

Technical Data

D mm	D inch	DN mm	G	B	H	h	b x s	Fa,Z N
11 – 14	1/4"	8	M8	48	32	20	20 x 1.00	600
15 – 18	3/8"	10	M8	48	44.5	22	20 x 1.00	600
20 – 23	1/2"	15	M8	55	48.5	23	20 x 1.00	600
25 – 28	3/4"	20	M8	60	53.5	26	20 x 1.00	600
31 – 35	1"	25	M8	67	60.5	30	20 x 1.00	600
40 – 43	1 1/4"	32	M8	83	60.5	34	20 x 1.25	800
48 – 53	1 1/2"	40	M8	85	68.5	45	20 x 1.25	800
64 – 67	-	-	M8/10	109	95	55	20 x 2.00	800
73 – 80	2 1/2"	65	M8/10	126	109	61	23 x 2.00	930
83 – 91	3"	80	M8/10	137	121	67	25 x 2.50	930
100 – 106	-	-	M8/10	144	130	72	25 x 2.00	930
108 – 116	4"	100	M8/10	160	141	79	25 x 2.50	930
124 – 132	-	-	M8/10	169	155	84	23 x 2.00	930
133 – 141	5"	125	M8/10	189	170	92	25 x 2.50	930
159 – 168	6"	150	M8 / 10	233	198	99	25 x 3.00	1,500

The max. permitted load (Fa,Z) was determined from the breaking load using statistical methods while observing a max. permitted distortion of 1.5 mm or 2% of the max. pipe diameter that can be clamped

Premium BGP Double Screw Pipe Clip

Robust two-piece double screw pipe clip for high load requirements in building technology and pipeline construction – fire-tested in accordance with DIN 4102; noise-insulated in accordance with DIN 4109

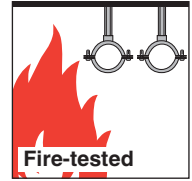
- Pivoting U-fastener
- Temperature resistance: -35°C to +100 °C
- Galvanised

Product benefits:

- Good adaption to pipe tolerances thanks to two fastening screws
- Combined thread enables variable thread connection

Areas of application:

- Fastening of pipes in indoor areas
- Suitable for securing pipes in industrial construction and in building technology



Technical Data

Art. No.	Clamp. range dA in mm	Steel pipe dA in mm	Steel pipe dA, inches	Copper pipe dA in mm	VA pipe da in mm	HT pipe DN	HPDE pipe dA in mm	Cast iron/SML pipe DN
8516 15 20	15–20	17.2	3/8"	15.0/18.0	15.0/18.0	-	-	-
8516 22 28	22–28	21.3	1/2"	22.0/28.0	22.0/26.9	-	25	-
8516 38 42	38–42	38.0	-	42.0	42.0	-	40	-
8516 44 48	44–48	44.5	1 1/4"	-	-	-	-	40
8516 50 54	50–54	54.0	-	54.0	54.0	50	50	-
8516 56 60	56–60	57.0	-	-	-	-	-	50
8516 63 64	63–64	63.5	-	64.0	-	-	63	-
8516 75 83	75–83	76.1	2 1/2"	76.1	76.1	75	75	-
8516 84 89	84–89	88.9	3"	88.9	88.9	-	-	80
8516 90 95	90–95	-	-	-	-	-	90	-
8516 100 105	100–105	101.6	-	-	-	-	-	-
8516 108 112	108–112	108.0	-	108.0	-	110	110	100
8516 114 116	114–116	114.3	-	-	114.3	-	125	-
8516 121 125	121–125	-	-	-	-	125	-	-
8516 132 136	132–136	133.0	-	133.0	-	-	-	125
8516 159 163	159–163	159.0	-	159.0	159.0	160	160	-

Article No.	Article Description	QTY
8516 15 20	PIPE C.BGP M 8/10 3/8" 15- 20	25
8516 22 28	PIPE C.BGP M 8/10 1/2" 22- 28	25
8516 38 42	PIPE C.BGP M8/10 38- 42	25
8516 44 48	PIPE C.BGP M8/10 1 1/4" 44- 48	25
8516 50 54	PIPE C.BGP M8/10 1 1/2" 50- 54	25
8516 56 60	PIPE C.BGP M8/10 56- 60	25
8516 63 64	PIPE C.BGP M8/10 2" 63- 64	25
8516 75 83	PIPE C.BGP M8/10 2 1/2" 75- 83	10

Article No.	Article Description	QTY
8516 84 89	PIPE C.BGP M8/10 84- 89	10
8516 90 95	PIPE C.BGP M8/10 3" 90- 95	10
8516 100 105	PIPE C.BGP M8/10 100-105	10
8516 108 112	PIPE C.BGP M8/10 4" 108-112	10
8516 114 116	PIPE C.BGP M8/10 114-116	10
8516 121 125	PIPE C.BGP M8/10 121-125	10
8516 132 136	PIPE C.BGP M10/12 132-136	10
8516 159 163	PIPE C.BGP M10/12 5" 159-163	10

Heavy-duty Pipe Clip

Heavy-duty, two-piece double screw pipe clip for high load requirements in building technology and pipeline construction – Noise-insulated in accordance with DIN 4109

- Pendulum plug-in nut
- Temperature resistance: -35°C to +100 °C
- Galvanised

Product benefits:

- Combined thread adapted to the load range
- Good adaption to pipe tolerances thanks to two fastening screws

Areas of application:

- For high loads in sanitary installations, heating and system construction, as well as pipeline and machine construction



Article No.	Article Description	QTY
8510 20 25	H.DUTY PIPE C. M 8/10 20- 25	g 50
8510 26 30	H.DUTY PIPE C. M 8/10 26- 30	g 50
8510 31 36	H.DUTY PIPE C. M 8/10 31- 36	g 50
8510 38 45	H.DUTY PIPE C. M 8/10 38- 45	g 50
8510 47 51	H.DUTY PIPE C. M 8/10 47- 51	g 50
8510 53 57	H.DUTY PIPE C. M 8/10 53- 57	g 50
8510 58 64	H.DUTY PIPE C. M 8/10 58- 64	g 50
8510 65 70	H.DUTY PIPE C. M10/12 65- 70	g 50
8510 72 78	H.DUTY PIPE C. M10/12 72- 78	g 50
8510 78 83	H.DUTY PIPE C. M10/12 78- 83	g 50
8510 84 90	H.DUTY PIPE C. M10/12 84- 90	g 50
8510 102 106	H.DUTY PIPE C. M10/12 102-106	g 50
8510 108 112	H.DUTY PIPE C. M10/12 108-112	g 50
8510 120 125	H.DUTY PIPE C. M12/16 120-125	g 50
8510 133 136	H.DUTY PIPE C. M12/16 133-136	25
8510 137 142	H.DUTY PIPE C. M12/16 137-142	25
8510 145 150	H.DUTY PIPE C. M12/16 145-150	25
8510 158 163	H.DUTY PIPE C. M12/16 158-163	25
8510 164 168	H.DUTY PIPE C. M12/16 164-168	25
8510 190 194	H.DUTY PIPE C. M12/16 190-194	10
8510 198 203	H.DUTY PIPE C. M12/16 198-203	10
8510 207 213	H.DUTY PIPE C. M12/16 207-213	10
8510 219 223	H.DUTY PIPE C. M12/16 219-223	10
8510 242 246	H.DUTY PIPE C. M12/16 242-246	1
8510 270 275	H.DUTY PIPE C. M12/16 270-275	1
8510 285 292	H.DUTY PIPE C. M12/16 285-292	1
8510 300 305	H.DUTY PIPE C. M12/16 300-305	1
8510 311 316	H.DUTY PIPE C. M12/16 311-316	1
8510 321 326	H.DUTY PIPE C. M12/16 321-326	1

Technical Data

Clamp. range dA in mm	Clamp. range dA in inches	Material thickn. mm	Max. recom. capacity in N*
20–25	1/2"	25×3.0	1,500
26–30	3/4"	25×3.0	1,500
31–36	1"	25×3.0	1,500
38–45	1 1/4"	25×3.0	1,500
47–51	1 1/2"	25×3.0	1,500
53–57	-	25×3.0	1,500
58–64	2"	25×3.0	1,850
65–70	-	30×3.0	1,850
72–78	2 1/2"	30×3.0	1,850
84–90	3"	30×3.0	1,850
102–106	-	30×3.0	1,850
108–112	-	30×3.0	1,850
120–125	-	35×4.0	5,000
133–136	-	35×4.0	5,000
137–142	5"	35×4.0	5,000
145–150	-	35×4.0	5,000
158–163	-	35×4.0	5,000
164–168	6"	35×4.0	5,000
190–194	-	35×4.0	5,000
198–203	-	35×4.0	5,000
207–213	-	35×4.0	5,000
219–223	8"	35×4.0	5,000
242–246	-	35×4.0	5,000
270–275	10"	35×4.0	5,000
285–292	-	35×4.0	5,000
300–305	-	35×4.0	5,000
311–316	-	35×4.0	5,000
321–326	-	35×4.0	5,000

*with central tension

Downpipe Clamps, Hot-dip Galvanised, M10

- Riveted
- Captive V2A ring bolt
- Strong triple lead thread
- Galvanised M10 connecting nut
- Clamp body hot-dip galvanised (galvanised all round)

Article No.	Article Description	QTY
8613 1 60	RAIN PIPE CLAMP 60MM M10	25
8613 1 76	RAIN PIPE CLAMP 76MM M10	25
8613 1 80	RAIN PIPE CLAMP 80MM M10	25
8613 1 87	RAIN PIPE CLAMP 87MM M10	25
8613 1 100	RAIN PIPE CLAMP 100MM M10	25
8613 1 120	RAIN PIPE CLAMP 120MM M10	25



ISO Spiral Dowel with Threaded Pin

- Special threaded pin made of A2 stainless steel or with zinc flake coating for good corrosion protection
- Perfect solution for fixing downpipe clamps to the ETIC system: simple, flexible, fast and adjustable!
- Direct thermal-bridge-free attachment to the insulating material
- Pre-assembled special threaded pin: ideal distance of 30 mm between the downpipe and the wall; adjustment by up to a further 25 mm possible by hand
- Pre-assembled sealing ring made of weather-resistant cellular rubber
- Robust, self-drilling (ETICS plaster ≤ 7 mm) nylon dowel, weather resistant

Suitable building materials:

- Heat insulation composite systems (ETICS), polystyrene panels (EPS, XPS), wood fibre insulation boards (pre-drilling: 13 mm), hard foam boards, polystyrene boards and Heraklith boards

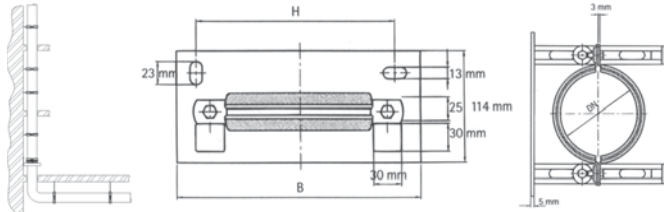


Article No.	Article Description	QTY
8137 10 95	ISO SPIR.DOWEL W.THR.PIN M10GV	z 50
8137 10 95 1	ISO SPIR.DOWEL W.THR.PIN M10A2	z 50

Technical Data					
Dowel length mm	Drive Dowel Ø	Drive threaded pin	Ø int. thread / connector thread	Recom. loads in kN polystyrene	
95	Size 17	TX 25 / SW 13	M 10	0.10	
95	Size 17	TX 25 / SW 13	M 10	0.10	

Downpipe Support

- one-piece wall bracket with adjustable wall distance
- rapid assembly (only 2 bore holes)
- high load capacity (e.g. 3000 N at a distance of 130 mm from the wall to the center of the pipe)
- non-aging EPDM rubber inlay
- stainless assembly due to optimum adjustability
- optimum sound insulation profile according to DIN 4109
- steel 1.0332 electrolytically galvanized
- Console CO² welded



Article No.	Article Description	QTY
8627 70	DOWNPIPE SUPP. ID 70	1
8627 80	DOWNPIPE SUPP. ID 80	1
8627 100	DOWNPIPE SUPP. ID100	1
8627 125	DOWNPIPE SUPP. ID125	1
8627 150	DOWNPIPE SUPP. ID150	1
8627 200	DOWNPIPE SUPP. ID200	1

Technical Data

ID	Height mm	Length mm	Width mm	Admissible load Fy (N)
70	167	210	212	3000
80	167	210	212	3000
100	199	210	244	3000
125	224	210	269	3000
150	248	210	293	3000
200	298	250	343	3000

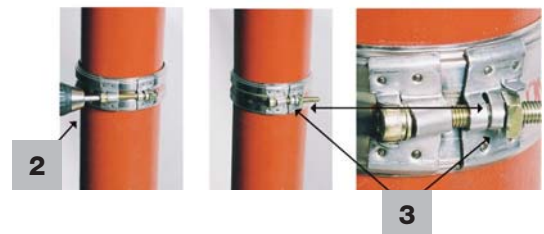
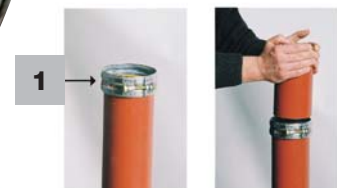
SML Couplings

- Approval No Z-42.5-255
- Professional clamp made of stabilized chromium steel material number 1.4510/11 according to EN 10088-1
- Closure parts with only one screw
- Cylinder screw with internal hexagon 8.8, galv., yellow chromated
- Grip holders made of material number 1.4301
- Complete with inserted sealing collar made of EPDM, non-aging and resistant to hot water

Assembly instruction:

- Shift the complete coupling (1) up to the center distance ring of the sealing onto the pipe end or fitting
- Shift the following pipe end or fitting from the other side onto the connection
- Firmly tighten the hexagon socket screw (2) using an impact screw driver until the chucking slot (3) is closed. The tightening torque is achieved.

Article No.	Article Description	QTY
8608 9 50	SML COUPLING ID 50	e 100
8608 9 70	SML COUPLING ID 70	e 100
8608 9 80	SML COUPLING ID 80	e 50
8608 9 100	SML COUPLING ID100	e 50
8608 9 125	SML COUPLING ID125	e 20
8608 9 150	SML COUPLING ID150	e 20
8608 9 200	SML COUPLING ID 200	1



Securing Grip Collar for SML Coupling

- Approval No Z-42.5-255
- Galvanized securing clamp for SML pipe systems according to DIN 19 522/EN 877 and for twin-screw couplings
- For pipe systems with an pressure charge of up to 10 bar (ID50 - ID100), 5 bar (ID125 and ID150)

Article No.	Article Description	QTY
8608 1 50	COMB. SEC. GRIP COLL. ID 50	e 10
8608 1 70	COMB. SEC. GRIP COLL. ID 70	e 10
8608 1 80	COMB. SEC. GRIP COLL. ID 80	e 10
8608 1 100	COMB. SEC. GRIP COLL. ID 100	e 10
8608 1 125	COMB. SEC. GRIP COLL. ID 125	e 10
8608 1 150	COMB. SEC. GRIP COLL. ID 150	5
8608 1 200	COMB. SEC. GRIP COLL. ID 200	1



Fix Coupling

- Approval number Z-42.5-255
- Transition coupling including two sealing lips
- For SML pipe system according to DIN 19 522/ EN877 with other pipe systems
- Rubber cuff made of EPDM, tightening strap made of chrome nickel steel material number 1.450/11
- **Advantage:** No cutting required = saving time when assembling!
- **Assembly instruction:**
 - Put the complete Fix coupling included in the delivery on the pipe end or fitting up to the distance ring of the sealing and fix it using the tension ring (1)
 - Pull the opening plug using tongs (2) and remove the rubber membrane
 - Label the connection pipe at the required installation depth, provide it with lubricant and insert it

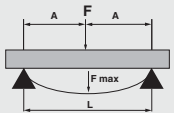
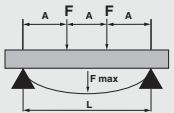


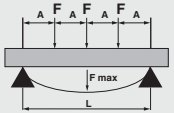
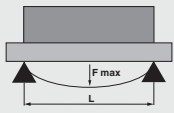
Article No.	Article Description	QTY
8608 2 50	FIX COUPLING ID 50	e 20
8608 2 70	FIX COUPLING ID 70	e 20
8608 2 80	FIX COUPLING ID 80	e 10
8608 2 100	FIX COUPLING ID 100	e 20
8608 2 125	FIX COUPLING ID 125	e 10

Technical Data

SML pipe ID	SML pipe outer Ø in mm	Outer Ø in in mm	Tightening torques in Nm
50	40 - 56	42	ca. 2
70	56 - 75	55	ca. 2
80	83 - 90	60	ca. 2
100	104 - 110	65	ca. 2
125	125	75	ca. 2

Technical Data for Mounting Rails

Clamping width L mm	Deflection F max mm	Maximum permissible load values in Newton									
		 F = single load A = 1/2 × L					 F = single load A = 1/3 × L				
		TYPE 27	TYPE 28	TYPE 30 stainl. steel		TYPE 38	TYPE 27	TYPE 28	TYPE 30 stainl. steel		TYPE 38
		27/18	28/30	30/15	30/30	38/40	27/18	28/30	30/15	30/30	38/40
250	1,7	873	2.825	899	3.238	6.384	653	2.112	674	2.428	4.774
500	3,3	418	1.354	449	1.619	3.061	313	1.013	303	1.214	2.291
750	5,0	279	904	263	1.156	2.045	203	678	155	867	1.534
1.000	6,7	198	672	129	780	1.523	116	505	76	458	1.143
1.250	8,3	125	536	90	542	1.216	73	391	53	318	912
1.500	10,0	84	443	50	305	1.007	49	272	30	179	755
1.750	11,7	59	336	40	241	859	34	179	23	141	625
2.000	13,3	43	251	32	195	746	25	148	19	114	472
2.250	15,0	31	194	25	154	629	18	113	15	90	369
2.500	16,7	23	151	21	125	500	13	89	12	73	294
2.750	18,3	16	119	17	103	405	9	72	10	61	238
3.000	20,0	11	95	14	87	331	6	56		51	195
3.250	21,7			12	74	274				43	161
3.500	23,3			11	64	227				37	133
3.750	25,0				55	189				33	111
4.000	26,7				49	158				29	92
4.250	28,3				43	131				25	77
4.500	30,0				39	108				23	63
4.750	31,7				35	88				20	52
5.000	33,3				31	70				18	41
5.250	35,0				28	54				17	32
5.500	36,7				26	41				15	24
5.750	38,3				24	29				14	17
6.000	40,0				22	17				13	10

Clamping width L mm	Deflection F max mm	Maximum permissible load values in Newton									
		 F = single load A = 1/4 × L					 Distributed load				
		TYPE 27	TYPE 28	TYPE 30 stainl. steel		TYPE 38	TYPE 27	TYPE 28	TYPE 30 stainl. steel		TYPE 38
		27/18	28/30	30/15	30/30	38/40	27/18	28/30	30/15	30/30	38/40
250	1,7	437	1.412	449	1.619	3.192	7.570	24.485	1.797	6.475	55.331
500	3,3	209	677	217	809	1.530	1.672	5.415	826	3.238	12.242
750	5,0	140	452	111	578	1.022	738	2.431	421	2.313	5.503
1.000	6,7	84	336	54	328	761	317	1.344	206	1.248	3.046
1.250	8,3	52	268	38	228	608	161	848	143	867	1.951
1.500	10,0	35	195	21	128	503	90	494	81	488	1.342
1.750	11,7	25	141	17	101	429	54	308	64	385	966
2.000	13,3	18	106	14	82	339	34	201	52	312	644
2.250	15,0	13	82	11	65	265	22	138	41	247	448
2.500	16,7	9	64		53	211	14	97	33	200	320
2.750	18,3	7	50		43	171	9	70	27	165	236
3.000	20,0	5	40		36	140	6	51	23	139	177
3.250	21,7				31	116			20	118	135
3.500	23,3				27	96			17	102	104
3.750	25,0				23	80			15	89	81
4.000	26,7				21	66			13	78	63
4.250	28,3				18	55			11	69	50
4.500	30,0				16	45			10	62	38
4.750	31,7				15	37				55	30
5.000	33,3				13	30				50	23
5.250	35,0				12	23				45	17
5.500	36,7				11	17				41	12
5.750	38,3					12				38	8
6.000	40,0					7				35	5

Technical Data for Mounting Rails

Material characteristics			27 / 18	28 / 30	38 / 40	30 / 15 stainl. st.	30 / 30 stainl. st.
Material thickness	mm		1,20	1,75	2,0	2,0	2,0
Delivery length	m		2 / 3	2 / 3	2 / 3 / 6	2	2
Weight	kg/m		0,59	1,14	1,84	0,87	1,34
Holes							
Slot width	mm		15	15	15	15	15
Oblong hole Ø	mm		18,5 × 6,5 / 10,5 10,5 × 6,5	26,0 × 10,5 8,5 × 10,5	28,0 × 15,0 8,5 × 15,0	26,5 × 10,5 8,5 × 10,5	26,5 × 10,5 8,5 × 10,5
Grid dimension	mm		100 / 35,5	50 / 100	50 / 100	50 / 100	50 / 100
Cross-section values							
y-axis							
Profile cross-section	A	cm ²	0,68	1,38	2,24	1,02	1,62
Moment of inertia	I _y	cm ⁴	0,29	1,43	4,40	0,28	1,71
Moment of resistance	W _y	cm ³	0,29	0,91	2,13	0,35	1,08
z-axis							
Moment of inertia	I _z	cm ⁴	0,91	2,03	5,96	1,47	2,65
Moment of resistance	W _z	cm ³	0,67	1,45	3,14	0,98	1,76

Material Constants:

Modulus of elasticity E	Shear modulus G	Poisson's ratio μ	Coefficient of thermal expansion $\alpha \cdot T$
210.000 N/m ²	81.000 N/m ²	0,3	0,000012 1/K

Calculation method:

The load-bearing capacity values for the bending load (primarily static load) are calculated according to the theory of elasticity, taking their own weight into account. To name but a couple of examples, these calculations use the material and cross-section constants. When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded. **The deflection indicated must be assessed for visual acceptability on a case-by-case basis!**

Load:

If **several different** individual loads in **variable distances** affect a single-span beam (crossbar), they can be added and considered an estimated **individual load positioned centrally**.

For enhanced safety, it is advisable to use U-shaped brackets!

In case of high loads, "push-through installation" is recommended!

Mounting on the ceiling and the wall:

The necessary fixing elements (screws and dowels) must be calculated individually and must be suitable for the load with mounting rails!

Mounting Rail TYPE 27/18

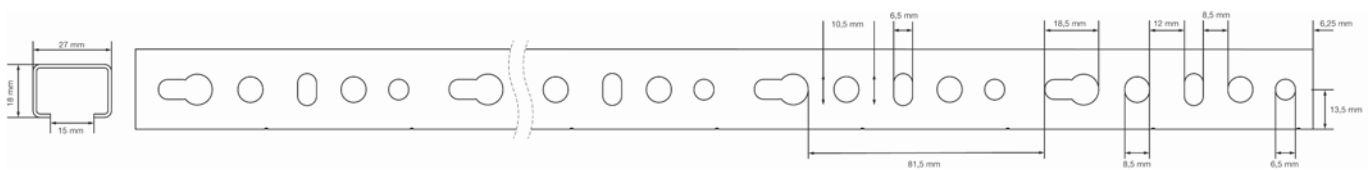
- Perforated mounting rails made of galvanised steel – improved corrosion protection and highest stability
- For manufacturing traverses, wall brackets and support frames for fastening pipe runs and pipe sections in the sanitary, heating, air-conditioning, ventilation and electrical trades

Product benefits:

- Various fixing options due to different hole geometries
- Neat, visually pleasing assembly compared to single fixtures
- High resistance to bending and ultimate strength due to optimized profile cross sections
- The rails are matched to all the connecting parts of the FÖRCH fixing system and enable a variety of different constructions and connections without drilling or welding

Areas of application:

- In house building
- Fastening standpipes
- Substructures



Article No.	Article Description	QTY
8540 27 18	MTR MOUNT. RAIL 2M GAL.27/18	i 50
8540 27 18 3	MTR MOUNT. RAIL 3M GAL.27/18	r 30

Mounting Rail TYPE 28/30

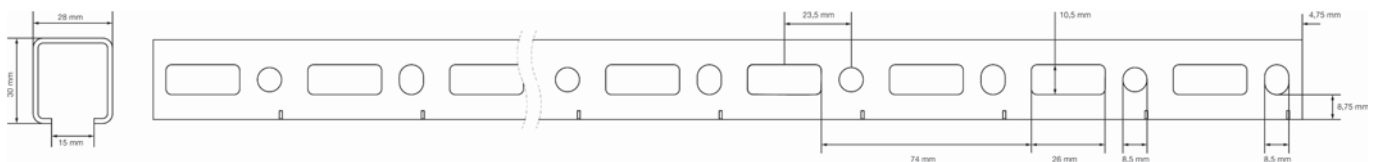
- Perforated mounting rails made of galvanised steel – improved corrosion protection and highest stability
- For manufacturing traverses, wall brackets and support frames for fastening pipe runs and pipe sections in the sanitary, heating, air-conditioning, ventilation and electrical trades

Product benefits:

- Various fixing options due to different hole geometries
- Neat, visually pleasing assembly compared to single fixtures
- High resistance to bending and ultimate strength due to optimized profile cross sections
- The rails are matched to all the connecting parts of the FÖRCH fixing system and enable a variety of different constructions and connections without drilling or welding

Areas of application:

- In house building
- Fixing lengths of pipe in supply ducts
- Fastening standpipes
- Substructures
- Supporting structure for ventilation ducts



Article No.	Article Description	QTY
8540 28 30	MTR MOUNT. RAIL 2M GAL.28/30	i 20
8540 28 30 3	MTR MOUNT. RAIL 3M GAL.28/30	r 24

Mounting Rail TYPE 38/40

- Perforated mounting rails made of galvanised steel – improved corrosion protection and highest stability
- For manufacturing traverses, wall brackets and support frames for fastening pipe runs and pipe sections in the sanitary, heating, air-conditioning, ventilation and electrical trades

Product benefits:

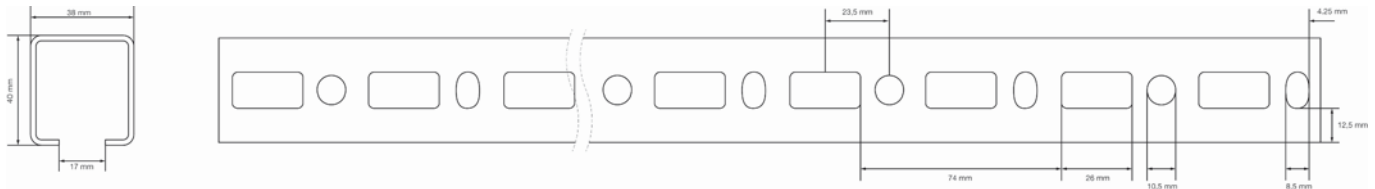
- Various fixing options due to different hole geometries
- Neat, visually pleasing assembly compared to single fixtures
- High resistance to bending and ultimate strength due to optimized profile cross sections
- The rails are matched to all the connecting parts of the FÖRCH fixing system and enable a variety of different constructions and connections without drilling or welding

Areas of application:

- Supporting structure for ventilation ducts
- Fixing lengths of pipe in supply ducts
- Substructures
- Platform construction

Ordering information:

- The minimum order quantity for 6 m mounting rails is 24 m



Article No.	Article Description	QTY
8540 38 40	MTR MOUNT. RAIL 2M GAL. 38/40	i 10
8540 38 40 3	MTR MOUNT. RAIL 3M GAL. 38/40	r 24
8540 38 40 6	MTR MOUNT. RAIL 6M GAL. 38/40	s 24

Mounting Rail TYPE 30 Stainless Steel

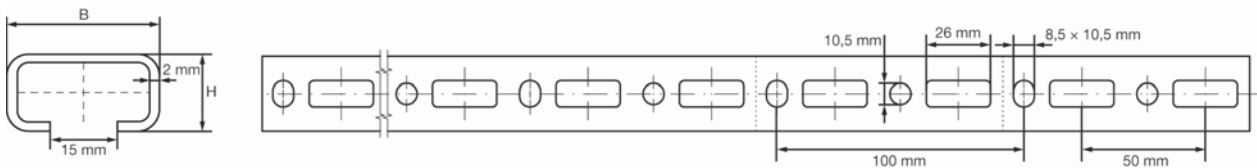
- Perforated mounting rail made from stainless steel A4 (1.4404) – highly corrosion resistant
- For manufacturing traverses, wall brackets and support frames in conjunction with a comprehensive range of system components
- In the workshop as a sub-assembly for fastening pipe runs and pipe sections in the sanitary, heating, ventilation, air-conditioning and electrical trades

Advantages:

- The hole geometry offers numerous fixing options for neat and visually appealing assembly
- High resistance to bending and ultimate strength due to optimized profile cross sections

Areas of application:

- Outdoors
- Mounting frames for solar installations
- In the food industry
- In the photochemical and pharmaceuticals industries
- In nuclear power stations



Article No.	Article Description	QTY
8539 30 15 2	MTR MOUNT. RAIL 2M A4 30/15	i 10
8539 30 30 2	MTR MOUNT. RAIL 2M A4 30/30	i 10

Technical Data

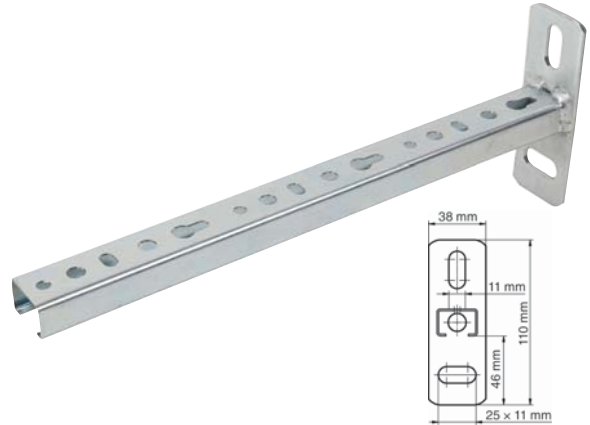
B	H
mm	mm
30	15
30	30

Console TYPE 27/18

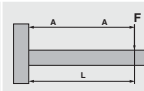
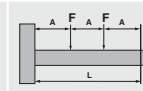
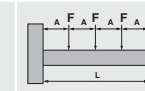
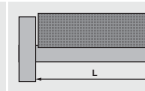
- Galvanised, assembly-ready cantilever bracket
- Robot-controlled precision welding – highest safety and stability
- Good adaptation to structural requirements thanks to graduated lengths
- The mounting holes in the base plate are punched slots at 90° to each other, to improve ease of installation
- Also suitable for fixing to ceilings

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units



Article No.	Article Description	QTY
8545 200	CONSOLE GAL.TYPE 27/18 200MM	e 25
8545 300	CONSOLE GAL.TYPE 27/18 300MM	e 25

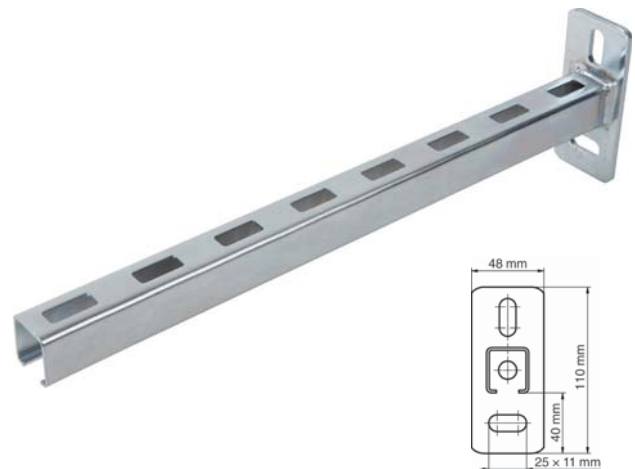
Length projection mm	Total length mm	Load values in Newton (N) for console TYPE 27/18				
		 F = single load A = 1/2 × L	 F = single load A = L	 F = single load A = 1/3 × L	 F = single load A = 1/4 × L	 Distributed load
200	204	530	265	265	177	2.650
300	304	352	140	176	117	1.174

Console TYPE 28/30

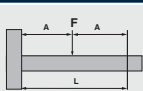
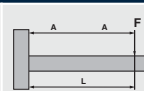
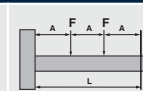
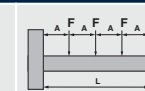
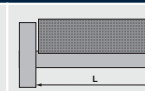
- Galvanised, assembly-ready cantilever bracket
- Robot-controlled precision welding – highest safety and stability
- Good adaptation to structural requirements thanks to graduated lengths
- The mounting holes in the base plate are punched slots at 90° to each other, to improve ease of installation
- Also suitable for fixing to ceilings

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units



Article No.	Article Description	QTY
8546 250	CONSOLE GAL.TYPE 28/30 250MM	e 25
8546 350	CONSOLE GAL.TYPE 28/30 350MM	e 25
8546 400	CONSOLE GAL.TYPE 28/30 400MM	e 25
8546 550	CONSOLE GAL.TYPE 28/30 550MM	e 10

Length projection mm	Total length mm	Load values in Newton (N) for console TYPE 28/30				
		 F = single load A = 1/2 × L	 F = single load A = L	 F = single load A = 1/3 × L	 F = single load A = 1/4 × L	 Distributed load
250	254	1.354	677	677	450	1.354
350	354	965	482	482	322	964
400	404	843	421	421	281	842
550	554	610	305	305	203	610

When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded.

The loads indicated only apply to the console.

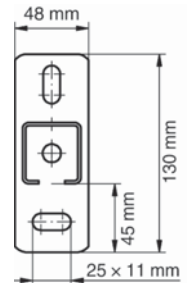
The other design parts must be tested for their permissible maximum load too.

Console TYPE 38/40

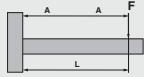
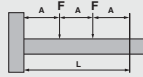
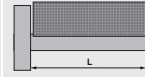
- Galvanised, assembly-ready cantilever bracket
- Robot-controlled precision welding – highest safety and stability
- Good adaptation to structural requirements thanks to graduated lengths
- The mounting holes in the base plate are punched slots at 90° to each other, to improve ease of installation
- Also suitable for fixing to ceilings

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units



Article No.	Article Description	QTY
8547 200	CONSOLE GAL.TYPE 38/40 200MM	e 10
8547 350	CONSOLE GAL.TYPE 38/40 350MM	e 20
8547 450	CONSOLE GAL.TYPE 38/40 450MM	e 10
8547 600	CONSOLE GAL.TYPE 38/40 600MM	e 5
8547 700	CONSOLE GAL.TYPE 38/40 700MM	e 5
8547 1000	CONSOLE GAL.TYPE 38/40 1000MM	1 ü

Length projection mm	Total length mm	Load values in Newton (N) for console TYPE 38/40				
						
		F = single load A = 1/2 × L	F = single load A = L	F = single load A = 1/3 × L	F = single load A = 1/4 × L	Distributed load
200	206	3.828	1.914	1.914	1.276	3.828
350	356	2.128	1.064	1.064	710	2.128
450	456	1.655	868	868	578	1.736
600	606	1.265	572	633	422	1.144
700	706	1.081	418	540	360	836
1.000	1.006	640	200	300	194	398

When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded.

The loads indicated only apply to the console.

The other design parts must be tested for their permissible maximum load too.

Console TYPE 30 Stainless Steel

- Assembly-ready cantilever bracket
- Robot-controlled precision welding – highest safety and stability
- Good adaptation to structural requirements thanks to graduated lengths and oblong holes in the base plate
- Stainless steel A4 (1.4404) – highly corrosion resistant



Areas of application:

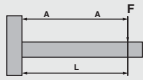
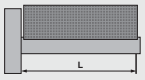
- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units
- In corrosive environments and in the food industry

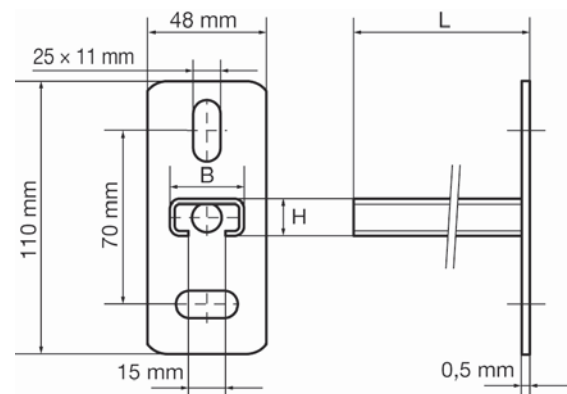


Technical Data

Art. No.	Type	Base plate mm	L mm	B mm	H mm
8539 30 15 200	30/15	48×5	200	30	15
8539 30 30 300	30/30	48×5	300	30	30

Article No.	Article Description	QTY
8539 3015 200	CONSOLE A4 TYPE 30/15 200MM	e 5
8539 30 30 300	CONSOLE A4 TYPE 30/30 300MM	e 10

Length projection mm	Total length mm	Load values in Newton (N) for console TYPE 30	
		 F = single load A = L	 Distributed load
200	204	202	538
300	304	542	1.349



When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded.

The loads indicated only apply to the console.

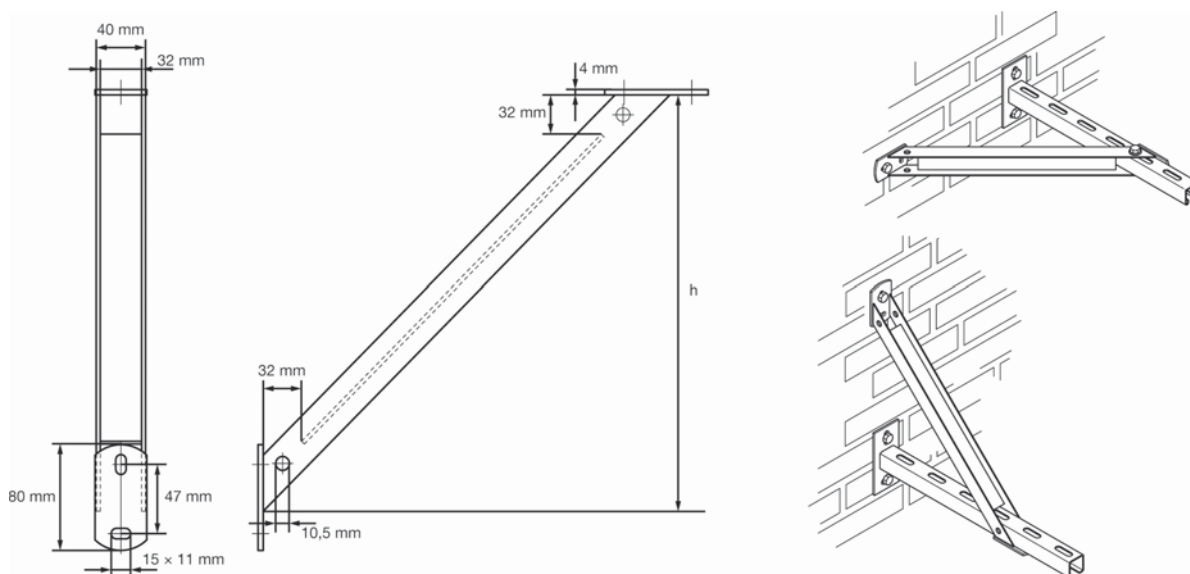
The other design parts must be tested for their permissible maximum load too.

Console Supporting Beam

- For attaching as a support element above, below or next to a wall console
- Used to increase the load-bearing capability of rail structures
- Electrolytically galvanised
- Vertical attachment of the console supporting beam for consoles:
Type 27/18; Type 28/30
- Horizontal attachment of the console supporting beam for consoles:
Type 27/18



Article No.	Article Description	QTY
8548 250	CONSOLE SUPP. BEAM GAL.250MM	1
8548 350	CONSOLE SUPP. BEAM GAL.350MM	1

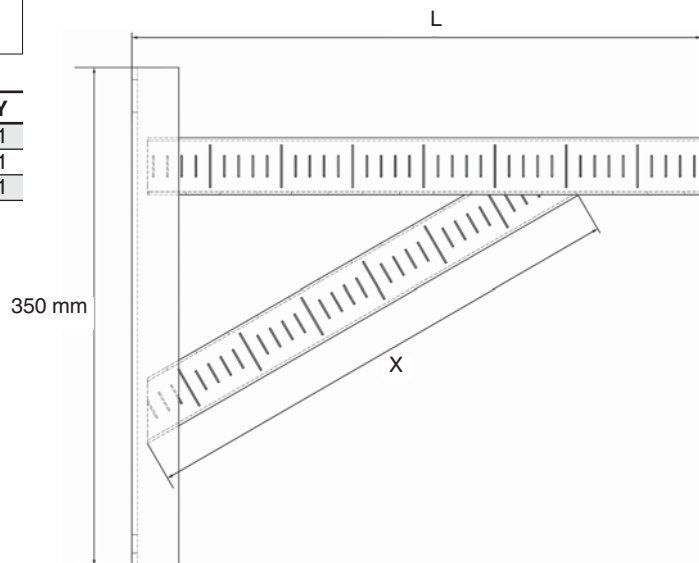


Heavy Duty Console TYPE 38/40

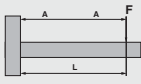
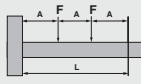
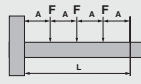
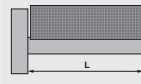
- Hot-dip galvanised console with welded support for fixing heavy pipes
- Suitable for outdoor applications (except for highly corrosive environments)
- Fixing heavy units, pumps and air conditioning equipment
- Profile thickness: 2 mm
- Slot width: 17 mm

Technical Data

Art. No.	L mm	X mm
8547 2 400	400	350
8547 2 600	600	450
8547 2 800	800	450



Article No.	Article Description	QTY
8547 2 400	CONS.HEAVY 38/40 H-D.GAL.400MM	1
8547 2 600	CONS.HEAVY 38/40 H-D.GAL.600MM	1
8547 2 800	CONS.HEAVY 38/40 H-D.GAL.800MM	1

Length projection mm	Total length mm	Load values in Newton (N) for console TYPE 38/40				
		 F = single load A = 1/2 × L	 F = single load A = L	 F = single load A = 1/3 × L	 F = single load A = 1/4 × L	 Distributed load
400	406	2.128	1.064	1.064	710	2.128
600	606	1.265	572	633	422	1.144
800	806	1.081	418	540	360	836

When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded.

The loads indicated only apply to the console.

The other design parts must be tested for their permissible maximum load too.

Console Set TYPE 38/40 SD

- Completely pre-assembled fastening kit for immediate efficient assembly
- Wall rail for extra height adjustment and / or simplification of fixing on an uneven substrate
- Vibration damper with pre-fitted sliding nut, washer and hexagonal locknut
- Soundproofing by means of vibration damper (supports made of vulcanised rubber)
- Various projections (depending on unit size)

Article No.	Article Description	QTY
8547 1 500	CONSOLE SET 38/40 M.SD 500MM	1
8547 1 550	CONSOLE SET 38/40 M.SD 550MM	1
8547 1 650	CONSOLE SET 38/40 M.SD 650MM	1



Sound-deadening Profile Strip

- High degree of soundproofing due to small contact area
- Quick assembly
- Suitable for profiles Type 27/18, Type 28/30, Type 38/40 and Type 30

Areas of application:

- To prevent acoustic bridges during the construction of traverses and consoles in ventilation systems

Usage instructions:

- Push into the mounting rail profile
- Push over the threaded rod

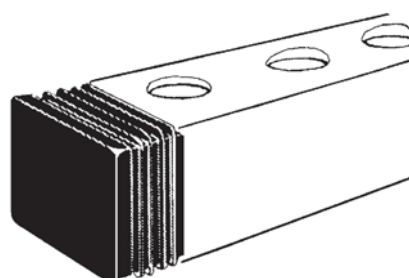
Article No.	Article Description	QTY
8558 273038	RO(30)RAIL DEAD. PROFILE	1



Rail End Cap

- For safe and visually attractive finishing of the ends of mounting rails and consoles
- Made from high quality polyethylene
- Simply press or tap in

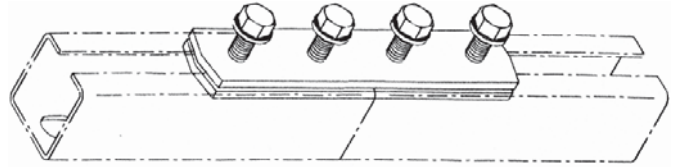
Article No.	Article Description	QTY
8561 27 18	RAIL END CAPS TYPE 27/18	f 100
8561 28 30	RAIL END CAPS TYPE 28/30	f 100
8561 38 40	RAIL END CAPS TYPE 38/40	50



Rail Couplings

- Mounting rails can be joined on site simply by bolting together without drilling or welding
- Galvanised – corrosion-protected
- Pre-assembled and ready for fitting – time-saving and efficient
- Bolted into the oblong holes on the rear of the rail, thus increasing the tensile strength in ascending pipe assemblies

Article No.	Article Description	QTY
8554 27	RAIL COUPLING GAL. TYPE 27	e 25
8554 38	RAIL COUPLING GAL. TYPE 38	e 25



Rail Bracket

- Pre-assembled rail bracket
- Easy to assemble, flexible connecting element for building correctly designed structures with mounting rails (rotationally stable attachment to the building structure)
- The perforations on the bracket permit the alignment of the rail slot in 4 directions
- Due to the clamping spring, the product can be easily and flexibly moved and positioned until it is finally fixed in the rail
- For cross connections in front wall installations and shelves made from mounting rails

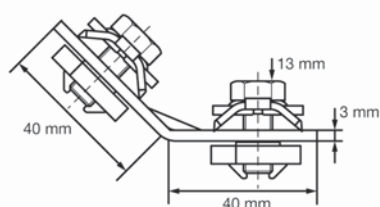
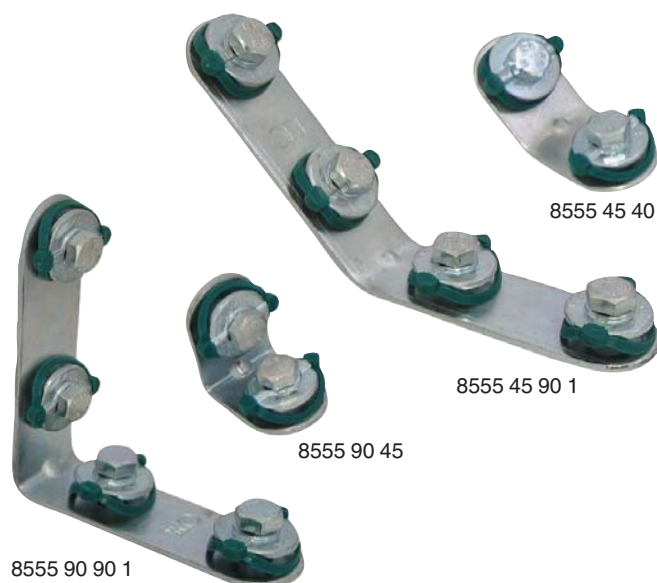
Article No.	Article Description	QTY
8554 28 30 1	RAIL BRACKET GAL. 28/30	25
8554 38 40	RAIL BRACKET GAL. 38/40	e 25



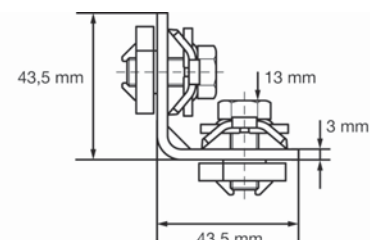
Mounting Bracket TYPE 27

- Pre-assembled mounting bracket for manufacturing and bracing support systems without drilling or welding
- Electrolytically galvanised
- For quick, sturdy fastening
- Suitable for mounting rails Type 27/18 and 28/30
- Suitable for consoles Type 27/18 and Type 28/30

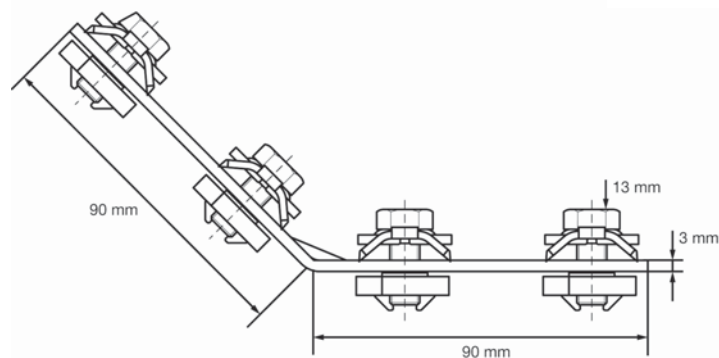
Article No.	Article Description	QTY
8555 45 40	MOUNT.BRACK.45°S TYPE27	e 25
8555 45 90 1	MOUNT.BRACK.45°L TYPE27	e 25
8555 90 45	MOUNT.BRACK.90°S TYPE27	e 25
8555 90 90 1	MOUNT.BRACK.90°L TYPE27	e 25



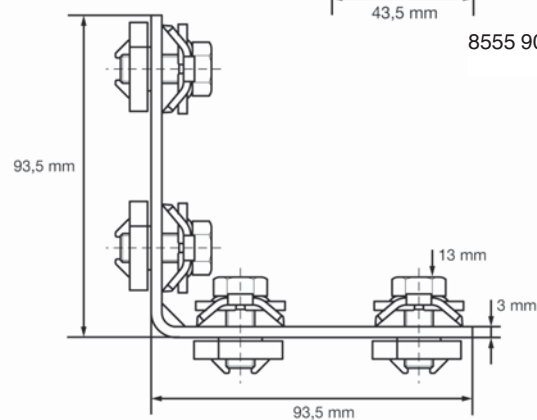
8555 45 40



8555 90 45



8555 90 90 1



8555 45 90 1

Mounting Bracket TYPE 38

- Mounting bracket for manufacturing and bracing support systems without drilling or welding
- For quick, sturdy fastening
- Suitable for mounting rails Type 38/40
- Suitable for consoles Type 38/40

Art. No. 8556 45 38 1 / 8556 90 38 1:

- Electrolytically galvanised
- Pre-assembled

Art. No. 8556 90 38 91:

- High quality galvanisation 8 – 10 μ
- 4-hole bracket not pre-fitted

Article No.	Article Description	QTY
8556 45 38 1	MOU.BRACK.45°GAL.PRE-AS.TYPE38	25
8556 90 38 1	MOU.BRACK.90°GAL.PRE-AS.TYPE38	25
8556 90 38 91	MOUNT.BRACK.90°SUPP. TYPE38	1

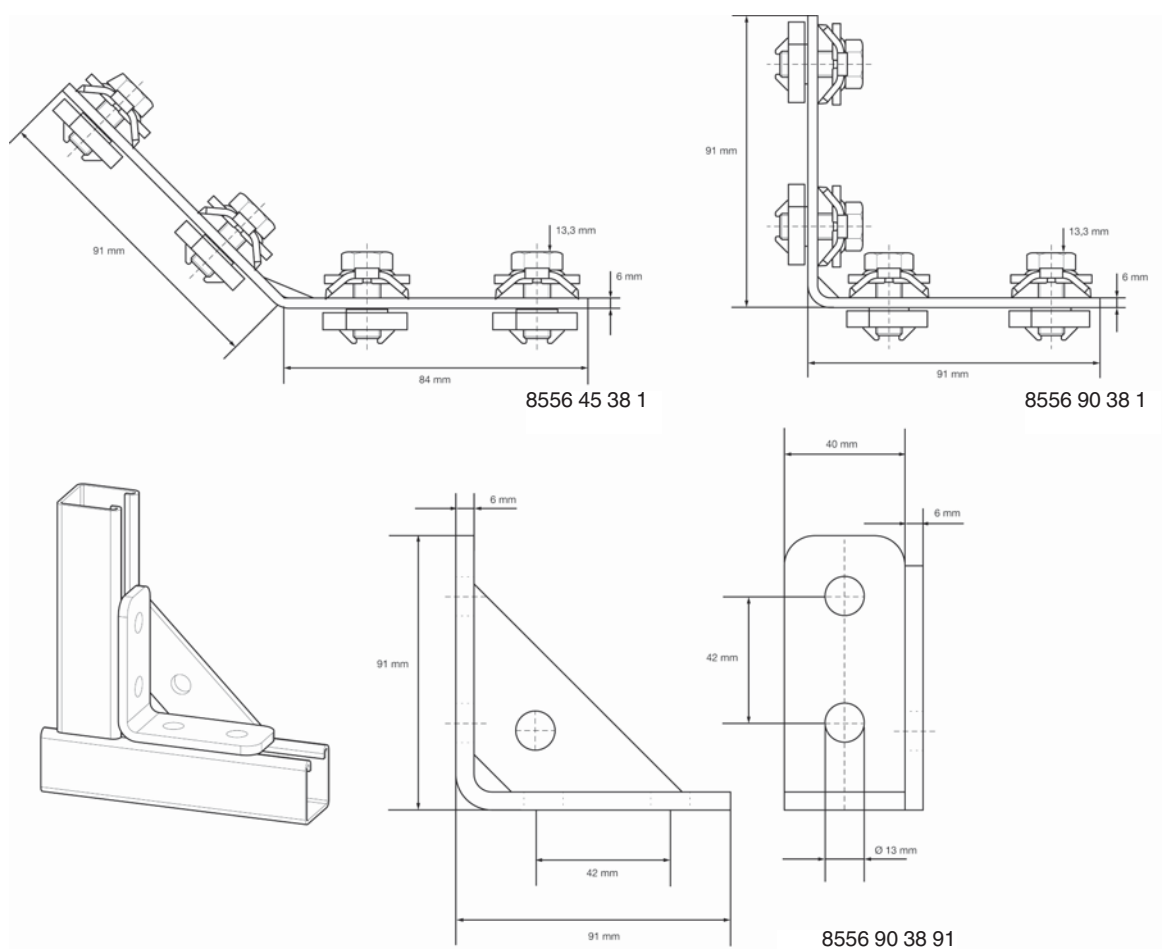


8556 45 38 1

8556 90 38 1



8556 90 38 91



8556 45 38 1

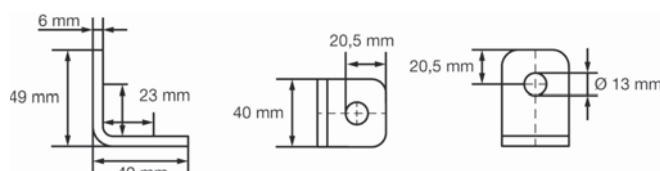
8556 90 38 1

8556 90 38 91

Mounting Bracket TYPE 38 short

- For manufacturing and bracing support systems without drilling or welding
- Hot-dip galvanised
- Easy to fit due to rounded corners
- Suitable for mounting rails Type: 38/40
- Suitable for consoles Type: 38/40

Article No.	Article Description	QTY
8556 90 38	MOUNT.BRACK.90°SHO.GAL. TYPE38	25



Mounting Bracket TYPE 38 VARIO

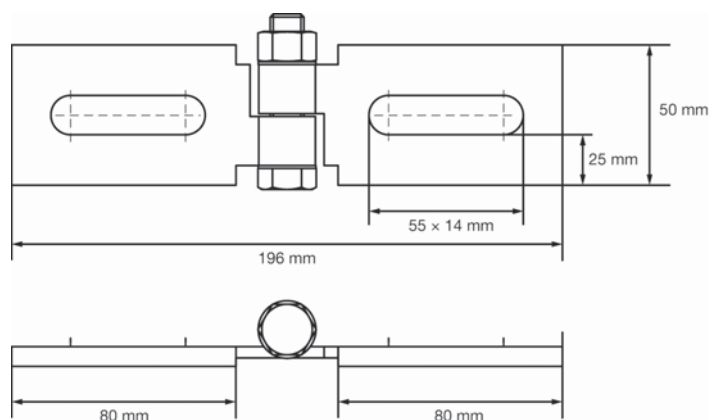
- Freely adjustable angle of inclination permits diverse structures
- Suitable for both galvanised and stainless steel mounting rails
- High quality galvanisation 8 – 10 μ
- Suitable for mounting rails Type 38/40

Areas of application:

- In corrosive environments and outdoors
- Mounting frames for solar installations
- Construction of racks and frameworks



Article No.	Article Description	QTY
8556 80 80 50	MOUNT.BRACK.VARIO 80X50	20



Angle Bracket TYPE 38/40

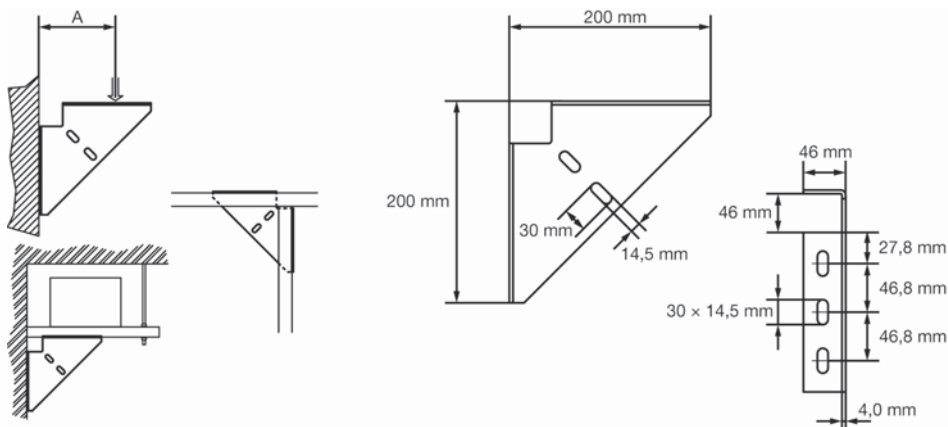
- High quality galvanisation 8 – 10 μ
- One-piece support for attaching as a support element above, below or next to a wall console
- Attaching the support increases the load-bearing capability of the rail structure
- Suitable for installations indoors and outdoors

Areas of application:

- Basic support or connecting element
- Fixing point for crossbars
- Support console for holding water meters, pumps, etc.



Article No.	Article Description	QTY
8547 1 04	ANGLE BRACKET 38/40 200X200X04	1



Rail Holder Upright

- For manufacturing customised support structures in conjunction with mounting rails
- Pre-assembled and ready for fitting, with M10 hexagonal bolt and washer
- Galvanised – corrosion-protected
- Dimensions of base plate: 120 × 40 × 4 mm
- 2 Oblong holes: 11 × 24 mm
- Matching mounting rails
 - Art. No. 8549 27: Type: 27/18, 28/30
 - Art. No. 8549 38: Type: 38/40

Article No.	Article Description	QTY
8549 27	UPR.RAIL SUPP.FL. GAL. TYPE 27	ü 25
8549 38	UPR.RAIL SUPP.FL. GAL. TYPE 38	ü 25



Rail Holder Transverse

- For manufacturing customised support structures in conjunction with mounting rails
- Pre-assembled and ready for fitting, with M10 hexagonal bolt and washer
- Galvanised – corrosion-protected
- Dimensions of base plate: 120 × 40 × 4 mm
- 2 Oblong holes: 11 × 24 mm
- Matching mounting rails
 - Art. No. 8549 27: Type: 27/18, 28/30
 - Art. No. 8549 38: Type: 38/40

Article No.	Article Description	QTY
8550 27	TR. RAIL SUPP.FL. GAL. TYPE 27	ü 25
8550 38	TR. RAIL SUPP.FL. GAL. TYPE 38	ü 25



Rail Runner Upright

- Diverse options for use of mounting rails to create customised brackets and load-bearing systems for wall, floor and ceiling mounting
- System module for assembling sturdy crossbars
- Galvanised – corrosion-protected
- Pre-assembled design for large time savings
- Matching mounting rails
 - Art. No. 8552 27 (1): Type: 27/18, 28/30
 - Art. No. 8552 38 (1): Type: 38/40

Technical Data

Type	Dimensions of base plate	Oblong hole
27	114 × 50 × 4 mm	19 × 11 mm
38	144 × 70 × 6 mm	19 × 11 mm



8552 27
8552 38



8552 27 1
8552 38 1

Article No.	Article Description	QTY
8552 27	UPR.RAIL SUPP.SADDLE GAL. T 27	ü 25
8552 27 1	UPR.RAIL SUPP.SAD.MOUNT T 27	ü 25
8552 38	UPR.RAIL SUPP.SADDLE GAL. T 38	ü 25
8552 38 1	UPR.RAIL SUPP.SAD.MOUNT T 38	ü 25

Rail Runner Transverse

- Diverse options for use of mounting rails to create customised brackets and load-bearing systems for wall, floor and ceiling mounting
- System module for assembling sturdy crossbars
- Galvanised – corrosion-protected
- Pre-assembled design for large time savings
- Matching mounting rails
 - Art. No. 8553 27 (1): Type: 27/18, 28/30
 - Art. No. 8553 38 (1): Type: 38/40

Technical Data

Type	Dimensions of base plate	Oblong hole
27	125 × 40 × 5 mm	19 × 11 mm
38	136 × 50 × 6 mm	19 × 11 mm



8553 27
8553 38



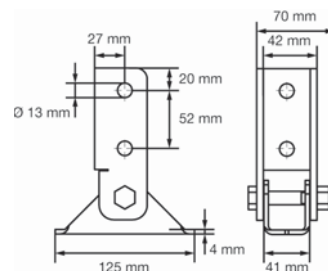
8553 27 1
8553 38 1

Article No.	Article Description	QTY
8553 27	TR. RAIL SUPP.SADDLE GAL. T 27	ü 25
8553 27 1	TR. RAIL SUPP.SAD.MOUNT T 27	ü 25
8553 38	TR. RAIL SUPP.SADDLE GAL. T 38	ü 25
8553 38 1	TR. RAIL SUPP.SAD.MOUNT T 38	5 g

Rail Support Saddle TYPE 38 VARIO

Variable connecting element for mounting rails on inclined surfaces

- High quality galvanisation 8 – 10 µ
- Ideal for connecting mounting rails in shafts, arches and on inclined surfaces
- The angle of inclination is adjustable and can be adapted to the on-site circumstances
- Rails can be fitted with the slot facing down or to the side
- For long console booms with struts
- Survives at least 1,000 hours salt spray test in accordance with DIN ISO 9227

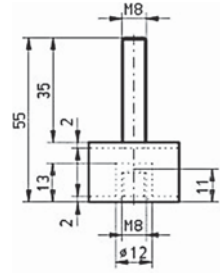


Article No.	Article Description	QTY
8552 38 2	VARIO RAIL SUPP.SAD.MOUNT T 38	5

Sound Insulation Buffer M8

- Sound-insulated one-point fixture
- Sound insulation according to DIN 4109
- Appropriate for sound decoupling of appliances (pumps, fans, air condition systems, etc.)

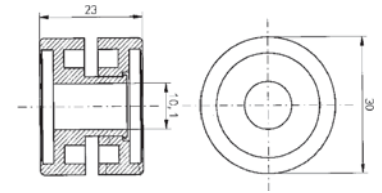
Article No.	Article Description	QTY
8659 2 8	SOUND INSULATION BUFFER M8	50



Sound Insulation Element M10

- Noiseless and vibration-reducing assembly option
- Complete including washer and counterpart

Article No.	Article Description	QTY
8659 1 10	SOUND INSULATION ELEMENT M10	50



Washers for Mounting Rails

- Specially thick type
- exactly adapted to the mounting rails
- Electrogalvanized – corrosion-resistant

Technical Data			
Type	For profile	Washer Ø mm	Material thickness mm
27	27/18, 28/30	24	2
38	38/24, 38/40, 40/60	36	2



Article No.	Article Description	QTY
8658 27 64	WASHER GAL. 6.5MM TYPE27	200
8658 27 84	WASHER GAL. 8.5MM TYPE27	200
8658 27 105	WASHER GAL. 10.5MM TYPE27	200
8658 38 84	WASHER GAL. 8.5MM TYPE38	150
8658 38 105	WASHER GAL. 10.5MM TYPE38	150
8658 38 125	WASHER GAL. 12.5MM TYPE38	100

(Ø hole mm)

Hexagon Socket Screws Similar to DIN 912 Metric

- Drive:
 - M8 = wrench size 6
 - M10 = wrench size 6
- With very flat cylinder head
 - Perfect for mounting rail fixtures
 - Guarantee sufficiently useable mounting rail height for suspensions directly below the fixing point
- Electrogalvanized – corrosion-resistant



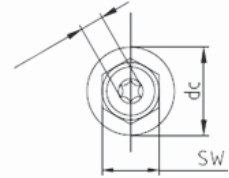
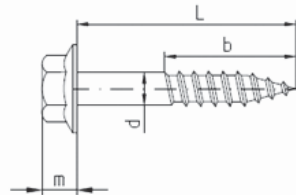
Article No.	Article Description	QTY
8641 8 16	HEX.SOCK.SCR. F.RAIL G. M 8X16	200
8641 10 20	HEX.SOCK.SCR. F.RAIL G.M10X25	100

Washer Screws SHK

- Quick and secure solution for fastening mounting rails
- Washer diameter matched to the rail slot for direct fixing with a TX bit
- Savings in assembly time and cost, since additional washers are not required
- Galvanised – corrosion-protected

Note on usage:

- Ideal for wall, floor and ceiling fastening of mounting rails, consoles, rail support saddles and rail support flanges



Article No.	Article Description	QTY
8641 1 6 60	HEX/TX30 WASHER SCREW.GAL.6X60	100
8641 1 6 80	HEX/TX30 WASHER SCREW.GAL.6X80	100
8641 1 8 60	HEX/TX30 WASHER SCREW.GAL.6X60	100
8641 1 8 80	HEX/TX30 WASHER SCREW.GAL.8X80	100

Technical Data

Ø × length	TX drive	SW	dc in mm	d in mm	b in mm	L in mm	M in mm	Suitable for Mounting rail
6 × 60	25	10	13.8	6	36	60	6.0	27/18, 28/30
6 × 80	25	10	13.8	6	48	80	6.0	27/18, 28/30
8 × 60	30	13	16.2	8	36	60	8.0	38/24 – 40/60
8 × 80	30	13	16.2	8	48	80	8.0	38/24 – 40/60

Fixing Kit for Rails Type BS-S

- Assembly kits to fix mounting rails, consoles, rail support saddles and rail fasteners

Article No.	Article Description	QTY
8641 8	FIX.KIT TYPE BS -S 8	25
8641 10	FIX.KIT TYPE BS -S 10	25

Contents item No 8641 8:

- 2x washers DIN 125 for M 8
- 2x hexagon socket screws DIN 933 galvanized M 8 x 16 mm
- 2x concrete anchor EA M 8

Contents Item No 8641 10:

- 2x washers DIN 125 for M 10
- 2x hexagon socket screws DIN 933 galvanized M10 x 20 mm
- 2x concrete anchor EA M 10



Fixing Kit for Rails Type BSS-S

- Assembly kits to fix mounting rails, consoles, rail support saddles and rail fasteners
- Kit including hexagon socket screw similar to DIN 912 with flat head – no chopping in hammer-head screws or sliding nuts at the fixing point on the whole length of the mounting rails

Article No.	Article Description	QTY
8641 10 1	FIX.KIT TYPE BSS-S 10	25

Contents:

- 2x washers DIN 125 for M 10
- 2x hexagon socket screws similar to DIN 912 (flat head) M 10 x 20 mm
- 2x concrete anchor EA M 10



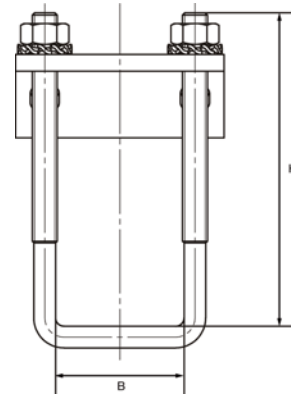
Support Clamping Claw

- For fastening mounting rails to steel beam structures
 - Assembly without drilling or welding
 - Allows subsequent shifting and aligning
- Ideal fixing of row fasteners and air ducts
- **Completely pre-assembled** – no time-consuming assembly of parts; simply push onto the steel beam and tighten
- Completely galvanised – corrosion-protected
- Special clamping claw design – suitable for all steel beams
- Suitable for mounting rails Type 27/18, Type 28/30 and Type 38/40
- Maximum recommended **static load** with central tension: **2,500 N** (when arranged in pairs)

Technical Data

Art. No.	Width (W) mm	Height (H) mm
8542 27	30.8	75.0
8542 38	44.0	100.0
8542 41	80.0	90.0

Article No.	Article Description	QTY
8542 27	SUPP. CLAMP. CLAW TYPE 27 M6	50
8542 38	SUPP. CLAMP. CLAW TYPE 38 M8	20
8542 41	SUPP. CLAMP. CLAW TYPE 41 M10	25



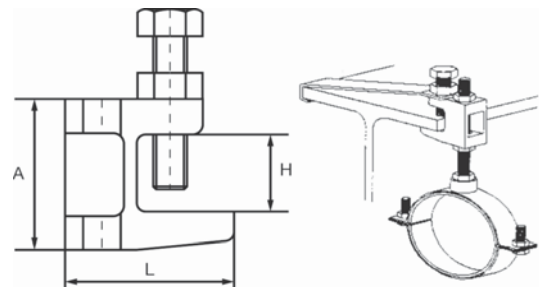
Beam Clamp

- For fast, simple fastening to steel structures and profiles without welding or drilling
- Galvanised
- The beam clamp can be continuously adjusted to various clamping thicknesses by means of the clamping screw
- VdS and FM approved from size M10

Technical Data

Art. No.	Thread	Bore mm	L mm	A mm	H mm	Max. recom. load in N
8582 9	For M8	9	38	35	18	1,200
8582 11	For M10	11	44	42	20	2,500
8582 13	For M12	13	58	54	26	3,500
8582 8	M8	-	32	37	18	1,200
8582 10	M10	-	44	42	20	2,500

Article No.	Article Description	QTY
8582 9	PROFILE CLAMP 9MM	75
8582 11	PROFILE CLAMP 11MM	75
8582 13	PROFILE CLAMP 13MM	50
8582 8	PROFILE CLAMP WITH THREAD M8	50
8582 10	PROFILE CLAMP WITH THREAD M10	75



HakoFix Quick Fastener

Insert, turn, fix

- Considerable time savings due to pre-assembled elements
- Large selection of pre-manufactured thread lengths
- Customised suspension length possible with threaded rods and threaded pins when mounting plates are used
- Simple height adjustment in the installed state – thus an up/down slope can be quickly adjusted
- Very good gripping force in the respective profile, yet easy to move in order to ensure optimum positioning in the rail slot

Areas of application:

- Direct connection of pipe clamps to mounting rails

Article No.	Article Description	QTY
8668 1 6	HAKOFIX QUICK FAST.T 27 M6	120
8668 1 8	HAKOFIX QUICK FAST.T 27 M8	120
8668 1 8 30	HAKOFIX QUICK FAST.T 27 M8X 30	90
8668 1 8 40	HAKOFIX QUICK FAST.T 27 M8X 40	80
8668 1 8 60	HAKOFIX QUICK FAST.T 27 M8X 60	60
8668 1 8 80	HAKOFIX QUICK FAST.T 27 M8X 80	50
8668 1 8 100	HAKOFIX QUICK FAST.T 27 M8X100	40
8668 1 8 120	HAKOFIX QUICK FAST.T 27 M8X120	30
8668 1 10	HAKOFIX QUICK FAST.T 27 M10	120
8668 1 10 40	HAKOFIX QUICK FAST.T 27 M10X40	70
8668 2 6	HAKOFIX QUICK FAST.T 38 M6	100
8668 2 8	HAKOFIX QUICK FAST.T 38 M8	100
8668 2 8 30	HAKOFIX QUICK FAST.T 38 M8X 30	70
8668 2 8 40	HAKOFIX QUICK FAST.T 38 M8X 40	60
8668 2 8 60	HAKOFIX QUICK FAST.T 38 M8X 60	50
8668 2 8 80	HAKOFIX QUICK FAST.T 38 M8X 80	45
8668 2 8 100	HAKOFIX QUICK FAST.T 38 M8X100	40
8668 2 10	HAKOFIX QUICK FAST.T 38 M10	100
8668 2 10 40	HAKOFIX QUICK FAST.T 38 M10X40	50
8668 2 10 60	HAKOFIX QUICK FAST.T 38 M10X60	40
8668 2 10 80	HAKOFIX QUICK FAST.T 38 M10X80	35



TYPE 27



TYPE 38



TYPE 27



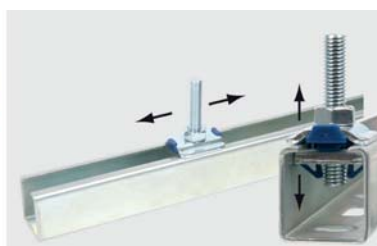
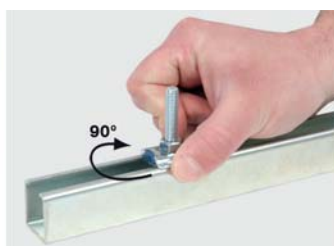
TYPE 38

Technical Data

Art. No.	Suitable FÖRCH mounting rail	Usable thread length in mm	Tightening torque in N ¹)	Max. perm. tensile load in N	Skid point/ transver. thrust load in N ²)
8668 1 6	27/18 – 28/30	-	-	2,700	231
8668 1 8	27/18 – 28/30	-	-	2,700	231
8668 1 8 30	27/18 – 28/30	23	12	2,700	231
8668 1 8 40	27/18 – 28/30	33	12	2,700	231
8668 1 8 60	27/18 – 28/30	53	12	2,700	231
8668 1 8 80	27/18 – 28/30	73	12	2,700	231
8668 1 8 100	27/18 – 28/30	93	12	2,700	231
8668 1 8 120	27/18 – 28/30	113	12	2,700	231
8668 1 10	27/18 – 28/30	-	-	2,900	299
8668 1 10 40	27/18 – 28/30	31	12	2,900	299
8668 2 6	38/24, 38/40, 40/60	-	-	3,500	278
8668 2 8	38/24, 38/40, 40/60	-	-	3,500	278
8668 2 8 30	38/24, 38/40, 40/60	23	13	3,500	278
8668 2 8 40	38/24, 38/40, 40/60	33	13	3,500	278
8668 2 8 60	38/24, 38/40, 40/60	53	13	3,500	278
8668 2 8 80	38/24, 38/40, 40/60	73	13	3,500	278
8668 2 8 100	38/24, 38/40, 40/60	93	13	3,500	278
8668 2 10	38/24, 38/40, 40/60	-	-	3,500	332
8668 2 10 40	38/24, 38/40, 40/60	31	17	3,500	332
8668 2 10 60	38/24, 38/40, 40/60	51	17	3,500	332
8668 2 10 80	38/24, 38/40, 40/60	71	17	3,500	332

1) Tightening torque should not be exceeded

2) Following the requirements of the Gütegemeinschaft Rohrbefestigung (Quality Assurance Association for Pipe Supports) (RAL-GZ 655) with a safety factor of 2.0



Quick Fastener HakoFix Type 27 **VAROBOXX**

- In assortment VAROBOXX 1
- Stud bolt DIN 976 shape A
- Galvanised steel

Contents:

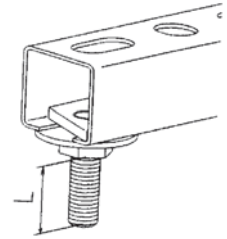
Article No.	Article Description	Quantity
1828 8 40	STUD BOLT DIN 976 4.6 GA 8X 40	100
1828 8 50	STUD BOLT DIN 976 4.6 GA 8X 50	50
1828 8 60	STUD BOLT DIN 976 4.6 GA 8X 60	50
1828 8 70	STUD BOLT DIN 976 4.6 GA 8X 70	50
1828 8 80	STUD BOLT DIN 976 4.6 GA 8X 80	50
1828 8 100	STUD BOLT DIN 976 4.6 GA 8X100	25
1828 10 50	STUD BOLT DIN976 4.6 GA 10X 50	40
1828 10 60	STUD BOLT DIN976 4.6 GA 10X 60	25
1828 10 80	STUD BOLT DIN976 4.6 GA 10X 80	25
2001 8	HEX NUT 934-8 GA 8	200
2001 10	HEX NUT 934-8 GA 10	100
8668 1 8	HAKOFIX QUICK FASTEN.TYPE27 M8	80
8668 1 10	HAKOFIX QUICK FASTEN.TYPE27M10	60
9003 1	VAROBOXX SIZE:1 EMPTY	1
9004 0 1	COVER INLAY VAROBOXX	1
9004 1 0	INSET BOX GREY SIDE.VAROBOXX 1	2
9004 1 5 10	INS.BOX YELL.5X10CM VAROBOXX 1	9
9004 1 10 10	INS.BOX BLUE10X10CM VAROBOXX 1	3



Article No.	Article Description	QTY
9003 8668 27	VAROBOXX HAKOFIX TYPE 27	1

Hammer-Head Bolt Type 27

- For free turning in mounting rails
- Completely preassembled with nut and washer – no loss in assembly time
- Electrogalvanized – corrosion-resistant
- Appropriate for mounting rails type 27/18 and type 28/30
- Appropriate for consoles type 27/18 and type 28/30
- Thickness base plate: 4 mm
- Washer Ø: 28 mm, washer thickness: 2 mm



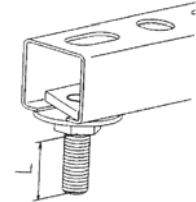
Article No.	Article Description	QTY
8666 8 20	HAM.-HEAD BOLT GAL. 8X20 T.27	100
8666 8 30	HAM.-HEAD BOLT GAL. 8X30 T.27	100
8666 8 40	HAM.-HEAD BOLT GAL. 8X40 T.27	100
8539 8 40	HAM.-HEAD BOLT A4 8X40 T.27	25
8666 8 50	HAM.-HEAD BOLT GAL. 8X50 T.27	100
8666 8 60	HAM.-HEAD BOLT GAL. 8X60 T.27	100
8666 8 80	HAM.-HEAD BOLT GAL. 8X80 T.27	100
8666 8 100	HAM.-HEAD BOLT GAL. 8X100 T.27	50

Technical Data

Material	For profile	Useable thread length L in mm
galvanised	27/18 – 28/30	7
galvanised	27/18 – 28/30	15
galvanised	27/18 – 28/30	25
stainless steel	27/18 – 28/30	25
galvanised	27/18 – 28/30	35
galvanised	27/18 – 28/30	45
galvanised	27/18 – 28/30	65
galvanised	27/18 – 28/30	85

Hammer-Head Bolt Type 38

- Completely preassembled with nut and washer – no loss in assembly time
- Electrogalvanized – corrosion-resistant
- Appropriate for mounting rails type 38/40 and type 40/60
- Appropriate for consoles type 38/40 and type 40/60
- Thickness base plate: 6 mm
- Washer Ø: 35 mm, washer thickness: 3 mm



Article No.	Article Description	QTY
8667 8 25	HAM.-HEAD BOLT GAL. 8X25 T.38	100
8667 8 35	HAM.-HEAD BOLT GAL. 8X35 T.38	100
8667 8 40	HAM.-HEAD BOLT GAL. 8X40 T.38	100
8667 8 50	HAM.-HEAD BOLT GAL. 8X50 T.38	100
8667 8 80	HAM.-HEAD BOLT GAL. 8X80 T.38	100
8667 10 35	HAM.-HEAD BOLT GAL. 10X35 T.38	50
8539 10 40	HAM.-HEAD BOLT A4 10X40 T.38	25
8667 10 55	HAM.-HEAD BOLT GAL. 10X55 T.38	50
8667 10 80	HAM.-HEAD BOLT GAL. 10X80 T.38	50
8667 10 100	HAM.-HEAD BOLT GAL. 10X100 T.38	50

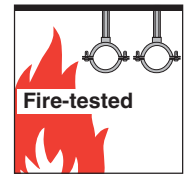
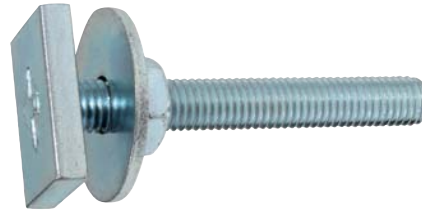
Technical Data

Material	For profile	Useable thread length L in mm
galvanised	38/24 – 40/60	7
galvanised	38/24 – 40/60	20
galvanised	38/24 – 40/60	25
galvanised	38/24 – 40/60	34
galvanised	38/24 – 40/60	64
galvanised	38/24 – 40/60	18
stainless steel	38/24 – 40/60	18
galvanised	38/24 – 40/60	35
galvanised	38/24 – 40/60	60
galvanised	38/24 – 40/60	80

Hammerhead Fastener TYPE 38 Robust

Fire-tested as per DIN 4102, test report no. 210006413-2

- Robust hammerhead fastener for affixing pipe clips directly to TYPE 38 mounting rails and brackets
- Completely pre-assembled with washer and nut
- Galvanised for maximum corrosion protection
- Square threaded plate, twist-proof
- Threaded plate dimensions: 32.8 × 23 × 6 mm
- Washer dimensions: 36 × 2.5 mm



Article No.	Article Description	QTY
8667 1 10 100	HAM.HEAD FAST.GV 10X100 TYPE38	50

Technical Data

For profile	Usable thread length L in mm
38/24 – 40/60	80

Hammer-Head Screws Type 38

- For time-saving, efficient fixing on mounting rails
- For assembly of rail constructions and connecting elements
- Appropriate for mounting rails type 38/40 and type 40/60
- It is possible to directly insert into the rail slot – also between fixing screws



Article No.	Article Description	QTY
8672 8 30	HAM.-HE.SCR.GAL. TYPE38 M 8/30	50
8672 10 30	HAM.-HE.SCR.GAL. TYPE38 M10/30	50

Technical Data

For profile	Useable thread length L in mm
38/40 - 40/60	20
38/40 - 40/60	19

HakoFix Mounting Plate TYPE 38, M10

- Mounting plate for connecting system components to mounting rails TYPE 38/24 and 38/40
- As a result of fixing in the rail slot, locating and bolting on the system components (such as, e.g., brackets) is very simple and practice-oriented
- Optimum assembly convenience due to fixing in the rail slot, consequently no time-consuming pre-assembly of brackets, sliding nuts and bolts is necessary
- Place the mounting plate on the rail slot and position it in the slot with a 45° turn
- Mounting plate can be moved in the rail slot and repositioned as desired
- Required thread length of the bolts: 25 mm, e.g., Art. No. 1011 10 25



Article No.	Article Description	QTY
8668 4 10	HAKOFIX MOUNT.PLATE TYPE38 M10	50

Sliding Nuts Type 27

- To fix on mounting rails and consoles
- Electrogalvanized – corrosion-resistant
- Appropriate for mounting rails type 27/18 and type 28/30
- Appropriate for consoles type 27/18 and type 28/30
- Material thickness: 4 mm
- Type: single or double

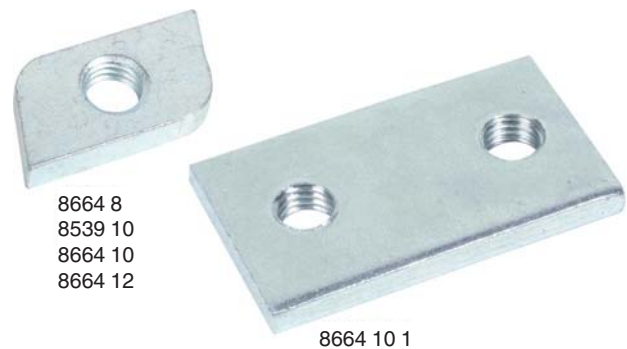
Article No.	Article Description	QTY
8663 8	SLIDING NUT GAL. M8 TYPE27	200
8539 8	SLIDING NUT A4 M8 TYPE27	25
8663 8 1	DOUBLE SLID.NUT GAL. M8 TYPE27	50
8663 10	SLIDING NUT GAL. M10 TYPE27	100



Sliding Nuts Type 38

- To fix on mounting rails and consoles
- Electrogalvanized – corrosion-resistant
- Appropriate for mounting rails type 38/40 and type 40/60
- Appropriate for consoles type 38/40 and type 40/60
- Material thickness: 6 mm
- Type: single or double
- **Art. No. 8539 10: of stainless steel**

Article No.	Article Description	QTY
8664 8	SLIDING NUT GAL. M8 TYPE38	125
8539 10	SLIDING NUT A4 M10 TYPE38	25
8664 10	SLIDING NUT GAL. M10 TYPE38	125
8664 10 1	DOUBLE SLID.NUT GAL.M10 TYPE38	50
8664 12	SLIDING NUT GAL. M12 TYPE38	100



Retaining Bracket

- Prevents the mounting rail or console from spreading out under heavy loads
- Galvanised – corrosion-protected
- Bracket thickness: 2 mm



Article No.	Article Description	QTY
8557 27 8	CLAMP. PL. GAL. TYPE27 M 8	f 100
8557 27 10	CLAMP. PL. GAL. TYPE27 M 10	f 100
8557 38 8	CLAMP. PL. GAL. TYPE38 M 8	f 100
8557 38 10	CLAMP. PL. GAL. TYPE38 M 10	f 100

Technical Data

Art. No.	For profile	Hole diameter mm
8557 27 8	27/18 – 28/30	8
8557 27 10	27/18 – 28/30	10
8557 38 8	38/40	8
8557 38 10	38/40	10

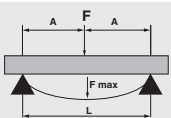
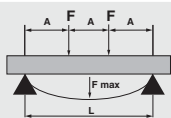
Hanger

- For height adjustment of already suspended pipe and air conditioning pipelines
- For threaded rods from M8 to M12

Article No.	Article Description	QTY
8671 8 12	HANGER GAL. M8 - M12	25



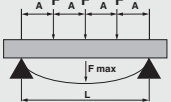
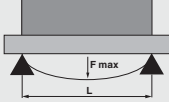
Technical Data for Mounting Rails STRUT

Clamping width L mm	Maximum permissible load values in Newton (N)																	
	 F = single load A = 1/2 × L									 F = single load A = 1/3 × L								
	Single rail					Double rail				Single rail					Double rail			
	41/21	41/21	41/41	41/41	41/62	41/21D	41/41D	41/62D	41/82D	41/21	41/21	41/41	41/41	41/62	41/21D	41/41D	41/62D	41/82D
	1,5	2,0	2,0	2,5	2,5	2,5	2,5	2,5	2,5	1,5	2,0	2,0	2,5	2,5	2,5	2,5	2,5	2,5
250	1.848	2.114	6.556	7.611	14.730	7.081	22.804	32.686	42.030	1.386	1.586	4.917	5.708	11.048	5.311	17.103	24.515	31.523
300	1.540	1.762	5.463	6.342	12.275	5.901	19.004	27.238	35.025	1.155	1.320	4.098	4.757	9.206	4.426	14.253	20.429	26.269
350	1.320	1.560	4.683	5.436	10.522	5.058	16.289	23.347	30.021	990	1.130	3.512	4.077	7.891	3.793	12.217	17.510	22.516
400	1.155	1.320	4.098	4.757	9.206	4.426	14.253	20.429	26.269	866	991	3.073	3.568	6.905	3.319	10.690	15.322	19.702
450	1.027	1.177	3.642	4.228	8.183	3.934	12.669	18.159	23.350	770	881	2.732	3.717	6.138	2.950	9.502	13.619	17.513
500	924	1.057	3.278	3.805	7.365	3.540	11.402	16.343	21.015	693	793	2.459	2.854	5.524	2.655	8.552	12.257	15.761
600	770	881	2.732	3.171	6.138	2.950	9.502	13.619	17.513	578	676	2.049	2.378	4.603	2.213	7.126	10.214	13.134
700	660	755	2.341	2.718	5.261	2.529	8.144	11.674	15.011	427	390	1.756	2.039	3.946	1.897	6.108	8.755	11.258
800	557	638	2.049	2.378	4.603	2.213	7.126	10.214	13.134	327	374	1.537	1.784	3.452	1.660	5.345	7.661	9.851
900	440	504	1.821	2.114	4.092	1.967	6.335	9.079	11.675	258	296	1.366	1.586	3.069	1.475	4.751	6.810	8.756
1.000	356	408	1.639	1.903	3.683	1.770	5.701	8.172	10.508	209	240	1.229	1.427	2.762	1.328	4.276	6.129	7.881
1.200	247	283	1.366	1.586	3.069	1.475	4.751	6.810	8.756	145	166	993	1.163	2.302	1.059	3.563	5.107	6.567
1.400	182	218	1.171	1.359	2.630	1.264	4.072	5.837	7.505	107	123	730	854	1.973	778	3.054	4.378	5.629
1.600	139	160	952	1.114	2.302	1.015	3.563	5.107	6.567	82	94	559	654	1.726	596	2.672	3.830	4.925
1.800	110	126	752	881	2.046	802	3.167	4.540	5.838	65	74	442	517	1.489	471	2.375	3.405	4.378
2.000	89	102	609	713	1.841	650	2.851	-	-	52	60	358	419	1.206	381	2.138	-	-
2.250	70	80	481	564	1.624	513	2.534	-	-	41	47	283	331	953	301	1.900	-	-
2.500	57	66	390	456	1.315	416	2.280	-	-	33	38	229	268	772	244	1.576	-	-
2.750	47	54	322	377	1.087	344	2.073	-	-	28	32	189	221	638	202	1.302	-	-
3.000	40	45	271	317	913	289	1.864	-	-	23	26	159	186	536	169	1.094	-	-
3.250	34	39	231	270	778	246	1.588	-	-	20	23	135	159	457	144	932	-	-
3.500	29	34	199	233	671	212	1.370	-	-	17	19	117	137	394	124	804	-	-
3.750	25	29	173	203	584	185	1.193	-	-	15	17	102	119	343	108	700	-	-
4.000	22	26	152	178	514	162	1.049	-	-	13	15	89	105	302	95	615	-	-
4.250	20	22	135	158	455	144	929	-	-	12	13	79	93	267	84	545	-	-
4.500	18	21	120	141	406	128	828	-	-	10	12	71	83	238	75	486	-	-
4.750	16	18	108	126	364	115	744	-	-	-	-	63	74	214	68	436	-	-
5.000	14	16	97	114	329	104	671	-	-	-	-	57	67	193	61	394	-	-
5.250	13	15	88	104	298	94	609	-	-	-	-	52	61	175	55	357	-	-
5.500	12	13	81	94	272	86	555	-	-	-	-	47	55	159	50	326	-	-
5.750	11	12	74	86	249	79	507	-	-	-	-	43	51	146	46	298	-	-
6.000	-	-	68	79	228	72	466	-	-	-	-	40	47	134	42	274	-	-

The loads indicated only apply to the rail.

The other design parts must be tested for their permissible maximum load too.

Technical Data for Mounting Rails STRUT

Clamping width L mm	Maximum permissible load values in Newton (N)																	
																		
	Single rail					Double rail				Single rail					Double rail			
	41/21	41/21	41/41	41/41	41/62	41/21D	41/41D	41/62D	41/82D	41/21	41/21	41/41	41/41	41/62	41/21D	41/41D	41/62D	41/82D
	1,5	2,0	2,0	2,5	2,5	2,5	2,5	2,5	2,5	1,5	2,0	2,0	2,5	2,5	2,5	2,5	2,5	2,5
250	924	1.057	3.278	3.805	7.365	3.540	11.402	16.343	21.015	3.697	4.230	13.112	15.222	29.460	14.162	45.609	65.372	84.060
300	770	881	2.732	3.171	6.138	2.950	9.502	13.619	17.513	3.081	3.524	10.927	12.685	24.550	11.802	38.007	54.477	70.050
350	660	755	2.341	2.718	5.261	2.529	8.144	11.674	15.011	2.640	3.020	9.366	10.873	21.043	10.116	32.578	46.694	60.043
400	578	561	2.049	2.378	4.603	2.213	7.126	10.214	13.134	2.310	2.643	8.195	9.514	18.413	8.851	28.506	40.858	52.538
450	513	587	1.821	2.114	4.092	1.957	6.335	9.079	11.675	2.054	2.345	7.285	8.457	16.367	7.868	25.338	36.318	46.700
500	462	529	1.639	1.903	3.683	1.770	5.701	8.172	10.508	1.848	2.115	6.556	7.611	14.730	7.081	22.804	32.686	42.030
600	385	440	1.366	1.586	3.069	1.475	4.751	6.810	8.756	1.540	1.762	5.463	6.342	12.275	5.901	19.004	27.238	35.025
700	306	351	1.171	1.359	2.630	1.264	4.072	5.837	7.505	1.163	1.333	4.683	5.436	10.522	5.058	16.289	23.347	30.021
800	234	269	1.024	1.189	2.302	1.106	3.563	5.107	6.567	891	1.021	4.098	4.757	9.206	4.426	14.253	20.429	26.269
900	185	212	911	1.057	2.046	983	3.167	4.540	5.838	704	806	3.642	4.228	8.183	3.934	12.669	18.159	23.350
1.000	150	172	820	951	1.841	885	2.851	4.086	5.254	570	654	3.278	3.805	7.365	3.540	11.402	16.343	21.015
1.200	104	119	683	793	1.534	738	2.375	3.405	4.378	396	454	2.708	3.170	6.138	2.887	9.502	13.619	17.513
1.400	77	88	524	613	1.315	558	2.036	2.918	3.753	291	332	1.989	2.329	5.261	2.121	8.144	11.674	15.011
1.600	59	68	401	469	1.151	427	1.782	2.554	3.284	223	255	1.523	1.783	4.603	1.624	7.126	10.214	13.134
1.800	46	53	317	371	1.023	338	1.584	2.270	2.919	176	201	1.204	1.409	4.059	1.283	6.335	9.079	11.675
2.000	38	43	257	300	865	274	1.425	-	-	143	164	975	1.141	3.288	1.039	5.701	-	-
2.250	30	34	203	237	684	216	1.267	-	-	113	140	770	902	2.598	821	5.068	-	-
2.500	24	27	164	192	554	175	1.130	-	-	91	105	624	730	2.104	665	4.295	-	-
2.750	20	23	136	159	458	145	934	-	-	75	86	516	604	1.739	550	3.549	-	-
3.000	17	19	114	133	385	122	785	-	-	63	72	433	507	1.461	462	2.983	-	-
3.250	14	16	97	114	328	104	669	-	-	54	62	369	432	1.245	394	2.541	-	-
3.500	12	14	84	98	283	89	577	-	-	47	53	318	373	1.074	339	2.191	-	-
3.750	11	12	73	85	246	78	502	-	-	41	46	277	325	935	296	1.909	-	-
4.000	-	-	64	75	216	68	441	-	-	36	41	244	285	822	260	1.678	-	-
4.250	-	-	57	67	192	61	391	-	-	32	36	216	253	728	230	1.486	-	-
4.500	-	-	51	59	171	54	349	-	-	28	32	193	225	649	205	1.326	-	-
4.750	-	-	45	53	153	48	313	-	-	25	29	173	202	583	184	1.190	-	-
5.000	-	-	41	48	138	44	283	-	-	23	26	156	183	526	166	1.074	-	-
5.250	-	-	37	44	126	40	256	-	-	21	24	141	166	477	151	974	-	-
5.500	-	-	34	40	114	36	234	-	-	19	21	129	151	435	137	887	-	-
5.750	-	-	31	36	105	33	214	-	-	17	19	118	138	398	126	812	-	-
6.000	-	-	29	33	96	30	196	-	-	16	18	108	127	365	115	746	-	-

The loads indicated only apply to the rail.

The other design parts must be tested for their permissible maximum load too.

Technical Data for STRUT Mounting Rails

Material characteristics			TYPE 41/21 1,5	TYPE 41/21 2,0	TYPE 41/41 2,0	TYPE 41/41 2,5	TYPE 41/62 2,5
Material thickness	mm		1,5	2,0	2,0	2,5	2,5
Delivery length	m		2 / 3	2 / 3 / 6	2 / 3 / 6	2 / 3 / 6	3
Weight	kg/m		1,15	1,44	2,35	2,45	3,33
Holes							
Slot width	mm		22	22	22	22	22
Oblong hole Ø	mm		30 × 14	30 × 14	30 × 14	30 × 14	30 × 14
Grid dimension	mm		50	50	50	50	50
Cross-section values							
y-axis							
Profile cross-section	A	cm ²	1,34	1,72	2,52	3,0	4,05
Moment of inertia	I _y	cm ⁴	0,78	0,97	5,34	6,26	18,03
Moment of resistance	W _y	cm ³	0,72	0,89	2,56	2,97	5,75
z-axis							
Moment of inertia	I _z	cm ⁴	3,70	4,66	7,79	9,30	13,20
Moment of resistance	W _z	cm ³	1,80	2,27	3,77	4,50	6,39

Technical Data STRUT Double Mounting Rails

Material characteristics			TYPE 41/21 2,5	TYPE 41/41 2,5	TYPE 41/62 2,5	TYPE 41/82 2,5
Material thickness	mm		2,5	2,5	2,5	2,5
Delivery length	m		6	6	6	6
Weight	kg/m		3,68	5,24	6,90	8,46
Holes						
Slot width	mm		22	22	22	22
Oblong hole Ø	mm		30 × 14	30 × 14	30 × 14	30 × 14
Grid dimension	mm		50	50	50	50
Cross-section values						
y-axis						
Profile cross-section	A	cm ²	3,98	6,00	8,09	10,08
Moment of inertia	I _y	cm ⁴	5,70	36,79	111,21	240,93
Moment of resistance	W _y	cm ³	2,77	8,91	17,94	29,38
z-axis						
Moment of inertia	I _z	cm ⁴	10,76	18,56	26,37	33,90
Moment of resistance	W _z	cm ³	5,21	8,99	12,77	16,42

Material Constants STRUT:

Modulus of elasticity E	Shear modulus G	Poisson's ratio μ	Coefficient of thermal expansion αT
210.000 N/m ²	81.000 N/m ²	0,3	0,000012 1/K

Calculation method:

The load-bearing capacity values for the bending load (primarily static load) are calculated according to the theory of elasticity, taking their own weight into account. To name but a couple of examples, these calculations use the material and cross-section constants. When calculating the load-bearing capacity values, the permissible steel stress of 160 N/mm² and the maximum deflection of L/150 are not exceeded.

The deflection indicated must be assessed for visual acceptability on a case-by-case basis!

Load:

If **several different** individual loads in **variable distances** affect a single-span beam (crossbar), they can be added and considered an estimated **individual load positioned centrally**.

For enhanced safety, it is advisable to use U-shaped brackets!

In case of high loads, "push-through installation" is recommended!

Mounting on the ceiling and the wall:

The necessary fixing elements (screws and dowels) must be calculated individually and must be suitable for the load with mounting rails!

Mounting Rail Type 41/21 STRUT

Mounting rail for quick fastening of pipes and complex pipe structures

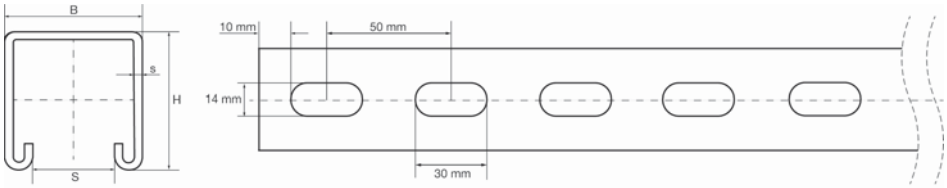
- Sendzimir galvanised
- For medium weight and heavy rail fastenings

Product benefits:

- Compatible with all STRUT accessories
- The distance between the end of the rail and the first perforation is always the same
- With cm scale stamped into the side
- Sides bent inwards with teeth for extra hold
- Different material thicknesses (s) depending on application

Areas of application:

- Supporting structure for ventilation ducts
- Fixing lengths of pipe in supply ducts
- Substructures



Article No.	Article Description	QTY
8541 4121 15 2	MTR-MO.RAIL-STRUT.2M 41/21 1.5	i 20
8541 4121 15 3	MTR-MO.RAIL-STRUT.3M 41/21 1.5	r 30
8541 4121 20 2	MTR-MO.RAIL-STRUT.2M 41/21 2.0	i 20
8541 4121 20 3	MTR-MO.RAIL-STRUT.3M 41/21 2.0	r 30
8541 4121 20 6	MTR-MO.RAIL-STRUT.6M 41/21 2.0	s 60

Technical Data

Length m	B mm	H mm	S mm	s mm
2	41	21	22	1.5
3	41	21	22	1.5
2	41	21	22	2.0
3	41	21	22	2.0
6	41	21	22	2.0

Mounting Rail Type 41/41 STRUT

Mounting rail for quick fastening of pipes and complex pipe structures

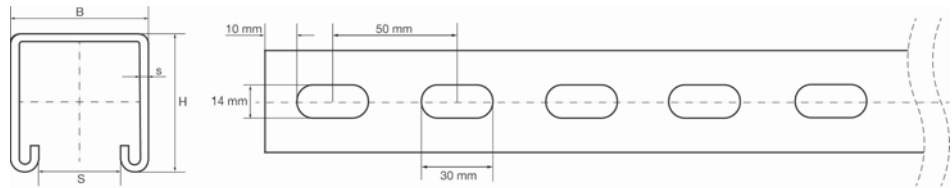
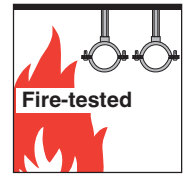
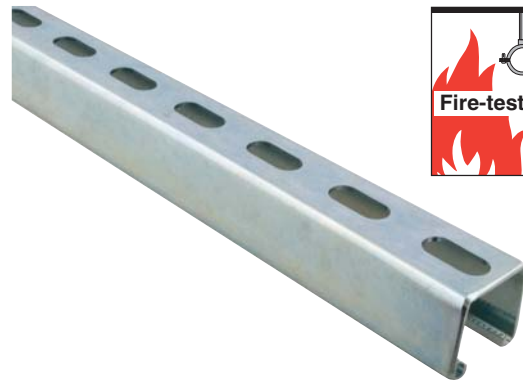
- Sendzimir galvanised
- Fire-tested from material thickness (s) 2.5
- For medium weight and heavy rail fastenings

Product benefits:

- Compatible with all STRUT accessories
- The distance between the end of the rail and the first perforation is always the same
- With cm scale stamped into the side
- Sides bent inwards with teeth for extra hold
- Different material thicknesses (s) depending on application

Areas of application:

- Supporting structure for ventilation ducts
- Fixing lengths of pipe in supply ducts
- Substructures



Article No.	Article Description	QTY
8541 4141 20 2	MTR-MO.RAIL-STRUT.2M 41/41 2.0	i 20
8541 4141 20 3	MTR-MO.RAIL-STRUT.3M 41/41 2.0	r 30
8541 4141 20 6	MTR-MO.RAIL-STRUT.6M 41/41 2.0	s 60
8541 4141 25 2	MTR-MO.RAIL-STRUT.2M 41/41 2.5	i 20
8541 4141 25 3	MTR-MO.RAIL-STRUT.3M 41/41 2.5	r 30
8541 4141 25 6	MTR-MO.RAIL-STRUT.6M 41/41 2.5	s 60

Technical Data

Length m	B mm	H mm	S mm	s mm
2	41	41	22	2.0
3	41	41	22	2.0
6	41	41	22	2.0
2	41	41	22	2.5
3	41	41	22	2.5
6	41	41	22	2.5

Mounting Rail Type 41/62 STRUT

Mounting rail for quick fastening of pipes and complex pipe structures

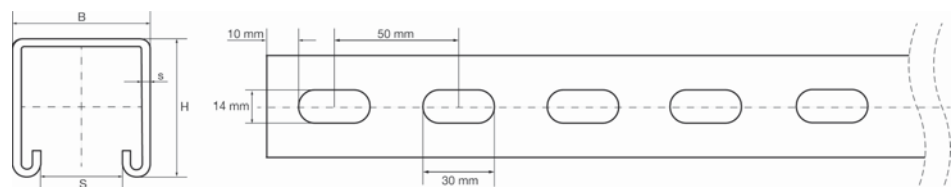
- Sendzimir galvanised
- Fire tested
- For medium weight and heavy rail fastenings

Product benefits:

- Compatible with all STRUT accessories
- The distance between the end of the rail and the first perforation is always the same
- With cm scale stamped into the side
- Sides bent inwards with teeth for extra hold
- Different material thicknesses (s) depending on application

Areas of application:

- Supporting structure for ventilation ducts
- Fixing lengths of pipe in supply ducts
- Substructures



Article No.	Article Description	QTY
8541 4162 25 3	MTR-MO.RAIL-STRUT.3M 41/62 2.5	r 30

Technical Data

Length m	B mm	H mm	S mm	s mm
3	41	62	22	2.5

Mounting Rail Doubled STRUT

Doubled mounting rail for quick fastening of pipes and complex pipe structures

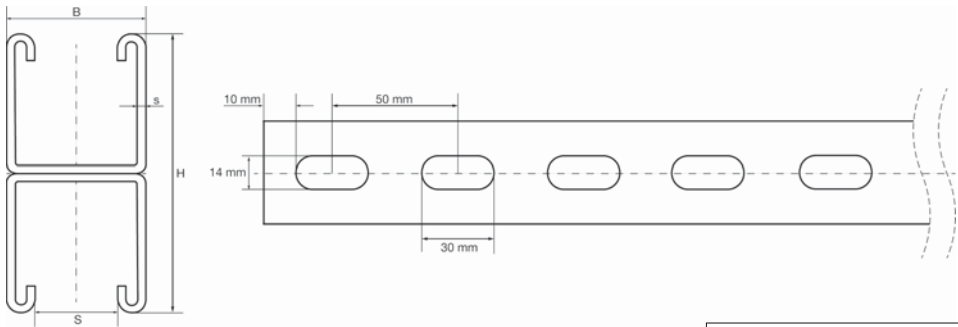
- Sendzimir galvanised
- Fire tested Type 41/41; Type 41/62; Type 41/82
- For heavy rail fastenings

Product benefits:

- Compatible with all STRUT accessories
- Uniform hole pattern matches current trapezoidal profiles
- The distance between the end of the rail and the first perforation is always the same
- With cm scale stamped into the side

Areas of application:

- Mounting pipework, ventilation pipes and cable runs
- Construction of varied steel support structures with a high degree of flexibility for adaptation
- Installation of several pipework levels



Article No.	Article Description	QTY
8551 4121 25 6	MTR-MO.RA.D-STRUT.6M 41/21 2.5	s 30
8551 4141 25 6	MTR-MO.RA.D-STRUT.6M 41/41 2.5	s 30
8551 4162 25 6	MTR-MO.RA.D-STRUT.6M 41/62 2.5	s 30
8551 4182 25 6	MTR-MO.RA.D-STRUT.6M 41/82 2.5	s 30

Technical Data

B mm	H mm	S mm	s mm
41	42	22	2.5
41	82	22	2.5
41	124	22	2.5
41	164	22	2.5

Console Type 41/21 STRUT

Cantilever bracket for fixing to walls

- High quality galvanisation 8 – 10 μ

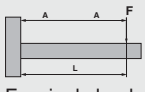
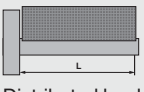
Product benefits:

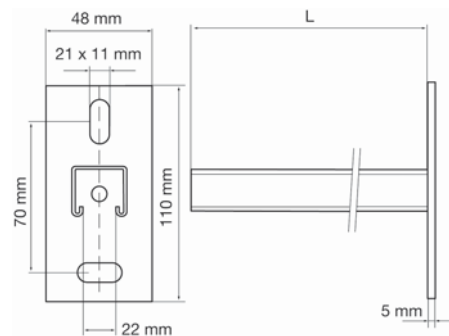
- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Sides bent inwards with teeth for extra hold

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units

Article No.	Article Description	QTY
8571 4121 200	CONSO.STRUT GAL.41/21 200MM	e 10
8571 4121 300	CONSO.STRUT GAL.41/21 300MM	e 10
8571 4121 450	CONSO.STRUT GAL.41/21 450MM	e 10
8571 4121 600	CONSO.STRUT GAL.41/21 600MM	e 10

Length Console mm	Load values in Newton (N) for console TYPE 41/21		
	 F = single load A = L	 Distributed load	
200	638	1.321	
300	283	756	
450	126	336	
600	71	225	



Console Type 41/41 STRUT

Cantilever bracket for fixing to walls

- Galvanised
- Fire tested

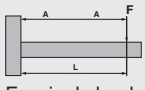
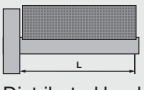
Product benefits:

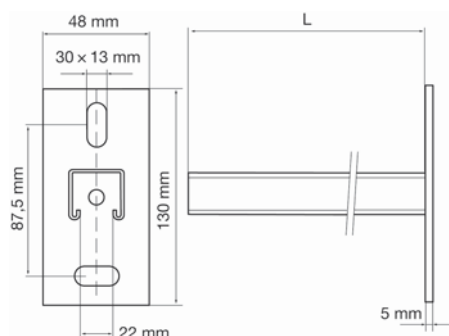
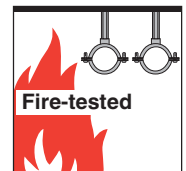
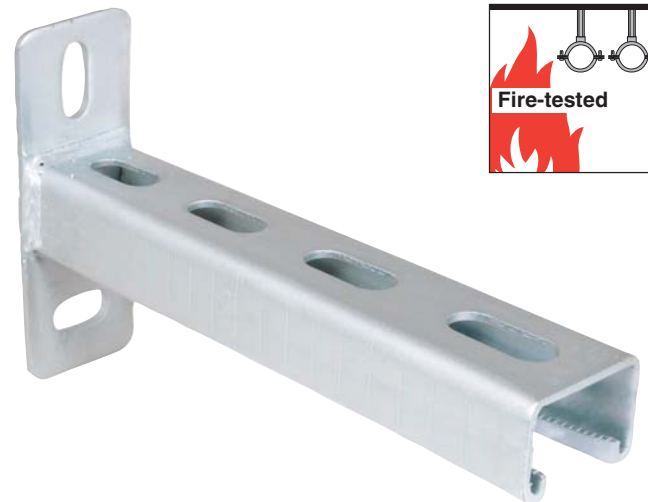
- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Sides bent inwards with teeth for extra hold

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units

Article No.	Article Description	QTY
8572 4141 300	CONSO.STRUT GAL.41/41 300MM	e 10
8572 4141 450	CONSO.STRUT GAL.41/41 450MM	e 10
8572 4141 600	CONSO.STRUT GAL.41/41 600MM	e 8
8572 4141 750	CONSO.STRUT GAL.41/41 750MM	e 8
8572 4141 1000	CONSO.STRUT GAL.41/41 1000MM	1

Length Console mm	Load values in Newton (N) for console TYPE 41/41		
	 F = single load A = L	 Distributed load	
300	1.586	3.171	
450	881	2.114	
600	495	1.321	
750	321	856	
1.000	178	476	



The loads indicated only apply to the console.

The other design parts must be tested for their permissible maximum load too.

Console with Support Type 41/41 STRUT

Cantilever bracket with support for fixing to walls

- Hot-dip galvanised

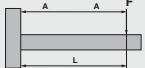
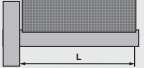
Product benefits:

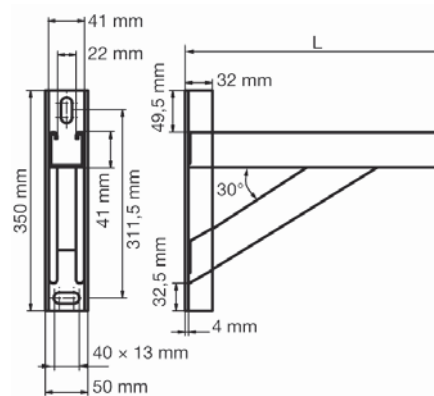
- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Sides bent inwards with teeth for extra hold

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units

Article No.	Article Description	QTY
8572 4141 600 1	CONSO.STRUT HD-GAL.41/41 600MM	1

Length Console mm	Load values in Newton (N) for console TYPE 41/41	
	 F = single load A = L	 Distributed load
600	1.400	3.700



Console Doubled STRUT

Doubled cantilever bracket for fixing to walls

- High quality galvanisation 8 – 10 μ
- Fire tested

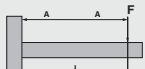
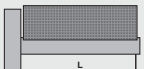
Product benefits:

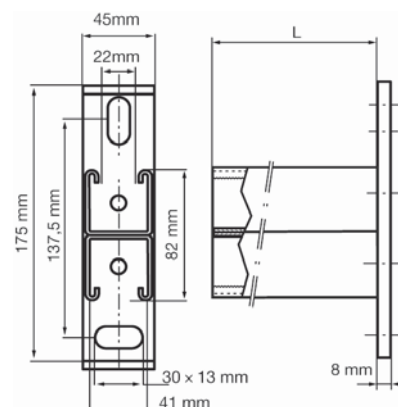
- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Sides bent inwards with teeth for extra hold

Areas of application:

- Projecting support structures for pipe sections, fittings, cable racks, pumps, ventilation ducts, ventilation units and air-conditioning units

Article No.	Article Description	QTY
8573 4141 450	CONSO.STRUTD GAL.41/41 450MM	e 8
8573 4141 600	CONSO.STRUTD GAL.41/41 600MM	1 v
8573 4141 750	CONSO.STRUTD GAL.41/41 750MM	1 v
8573 4141 1000	CONSO.STRUTD GAL.41/41 1000MM	1

Length Console mm	Load values in Newton (N) for console TYPE 41/21	
	 F = single load A = L	 Distributed load
450	3.167	6.335
600	2.375	4.751
750	2.036	4.072
1.000	1.049	2.796



The loads indicated only apply to the console.

The other design parts must be tested for their permissible maximum load too.

Mounting Bracket 45° STRUT

Mounting bracket for connecting STRUT rail structures

- Hot-dip galvanised

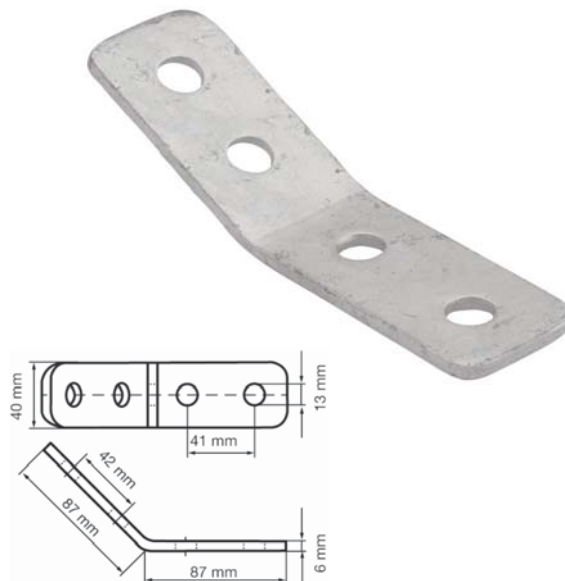
Product benefits:

- Easy to fit due to rounded corners

Areas of application:

- Construction of assembly elements
- Production of corner connections

Article No.	Article Description	QTY
8577 41 135 87	MOUNT.BRACKET STRUT 45° 87MM	25



Mounting Bracket 90° STRUT

Mounting bracket for connecting STRUT rail structures

- Hot-dip galvanised

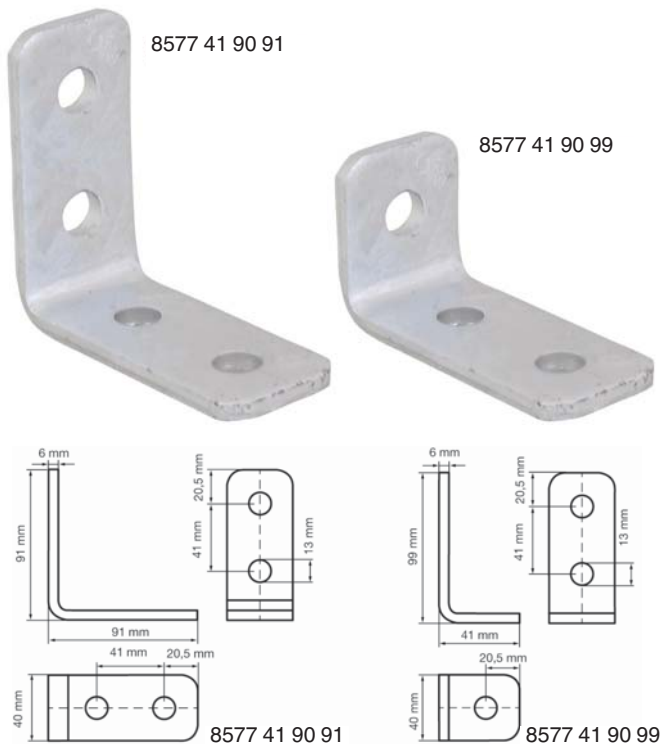
Product benefits:

- Easy to fit due to rounded corners
- 3-hole version (Art. No. 8577 41 90 99)
- 4-hole version (Art. No. 8577 41 90 91)

Areas of application:

- Construction of assembly elements
- Production of corner connections

Article No.	Article Description	QTY
8577 41 90 91	MOUNT.BRACKET STRUT 90° 91MM	25
8577 41 90 99	MOUNT.BRACKET STRUT 90° 99MM	25



Rail Couplings STRUT

U-shaped rail couplings for connecting STRUT rail structures

- High quality galvanisation 8 – 10 μ
- Survives at least 1,000 hours salt spray test in accordance with DIN ISO 9227

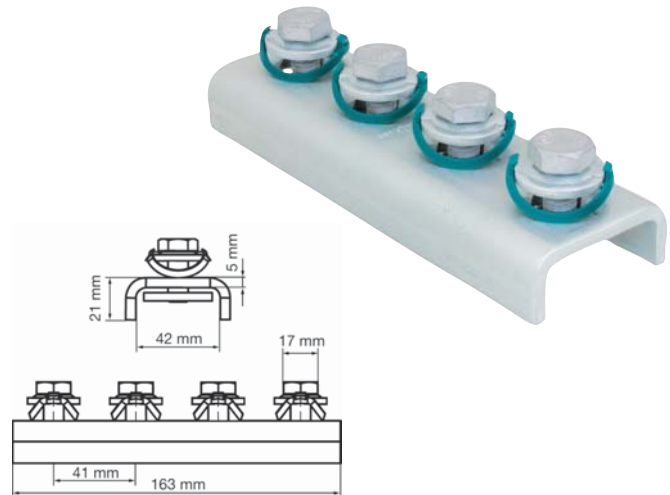
Product benefits:

- Connector is already pre-assembled
- Due to the clamping spring, the product can be easily and flexibly moved and positioned until it is finally fixed in the rail

Areas of application:

- To produce structures with STRUT rails
- Extensions to rails and consoles

Article No.	Article Description	QTY
8574 163	RAIL CONNECTOR STRUT 163MM	e 20



Support Bracket STRUT

Support bracket as a connecting element for manufacturing rail cross-bracings

- Hot-dip galvanised

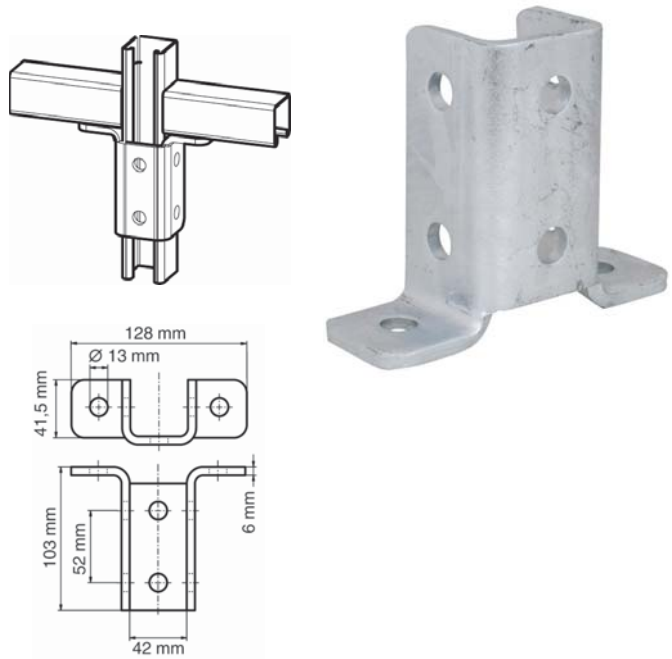
Product benefits:

- Easy to fit due to rounded corners
- High degree of flexibility on the building site
- Enables simple structures without welding

Areas of application:

- To produce structures with STRUT rails

Article No.	Article Description	QTY
8574 2 90	SUPPORT BRACKET STRUT 90	e 10



Rail Bracket STRUT

Rail bracket for manufacturing crossover connections

- Hot-dip galvanised
- Art. No. 8579 41 21; suitable for Type 41/21
- Art. No. 8579 41 41; suitable for Type 41/41

Product benefits:

- Easy to fit due to rounded corners
- The perforations on the rail bracket permit the alignment of the rail slot in four directions

Areas of application:

- For cross connections in front wall installations and shelves made from mounting rails

Article No.	Article Description	QTY
8579 41 21	RAIL BRACKET STRUT FVZ 41/21	25
8579 41 41	RAIL BRACKET STRUT FVZ 41/41	25



Connecting Piece X and T-Form STRUT

Robust connecting piece for STRUT rail structures

- Hot-dip galvanised

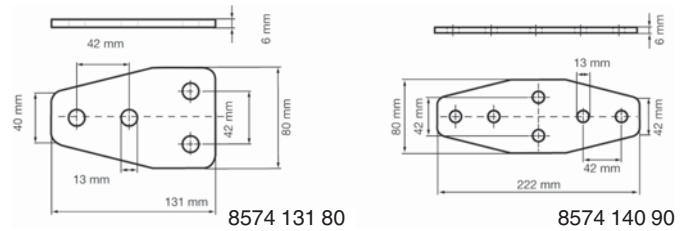
Product benefits:

- Easy to fit due to rounded corners
- T and X-form for optimum adaptation to circumstances

Areas of application:

- For fitted assembly of rail corner connections

Article No.	Article Description	QTY
8574 131 80	CONNECTION PLATE STRUT X 131MM	e 25
8574 140 90	CONNECTION PLATE STRUT T 140MM	e 25



Universal Joint STRUT

Connecting element for fastening to walls

- High quality galvanisation 8 – 10 µ
- Survives at least 1,000 hours salt spray test in accordance with DIN ISO 9227

Product benefits:

- Joint flexibly adjustable up to 90°
- Two Ø 13 mm through holes

Application areas:

- Especially suitable for inclined installations with struts and braces
- For connecting to building structures and mounting rails

Article No.	Article Description	QTY
8574 1 100	UNIVERSAL JOINT STRUT	e 10



Clamping Plate STRUT

U-shaped washer to prevent STRUT mounting rails from bending open

- High quality galvanisation 8 – 10 µ
- Ø 10 mm and Ø 11 mm fire tested

Product benefits:

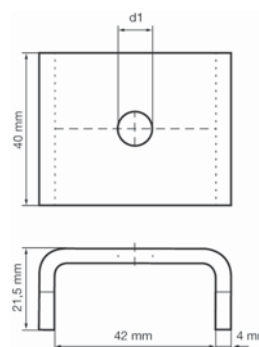
- U-shape ensures greater stability
- Various hole diameters

Application areas:

- Stabilisation of STRUT mounting rails

Technical Data	
Art. No.	d1 mm
8576 9	9
8576 11	11
8576 13	13

Article No.	Article Description	QTY
8576 9	CLAMPING PLATE STRUT 9MM	f 100
8576 11	CLAMPING PLATE STRUT 11MM	f 100
8576 13	CLAMPING PLATE STRUT 13MM	f 100



Support Saddle STRUT

For fastening STRUT mounting rails to walls

- Hot-dip galvanised
- Heavy duty version (Art. No. 8581 41 41), fire tested

Product benefits:

- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Pre-fitted sliding nuts

Areas of application:

- System module for assembling sturdy crossbars
- Manufacture of customised consoles from rails



Technical Data		
Art. No.	Dimensions of base plate mm	Dimensions of holes mm
8581 41 21	60 × 133	25 × 11
8581 41 41	70 × 163	34 × 14

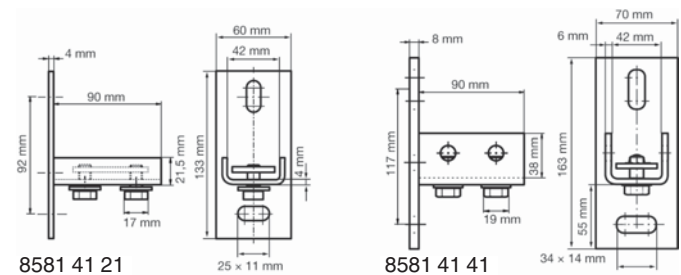
Article No.	Article Description	QTY
8581 41 21	UPR.SUPPORT SADDLE STRUT 41	ü 30
8581 41 41	UPR.SUPPORT SADDLE STRUT S 41	ü 10



8581 41 21



8581 41 41



Rail Support Flange STRUT

For fastening STRUT mounting rails to walls

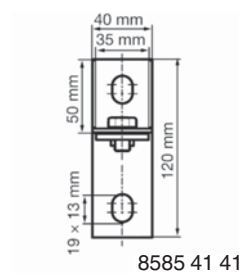
- Hot-dip galvanised
- Pre-fitted sliding nuts

- Transverse and upright base plates for optimum adaptation to local conditions

Areas of application:

- For manufacturing customised support structures in conjunction with STRUT mounting rails

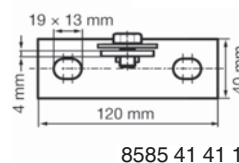
Article No.	Article Description	QTY
8585 41 41	UPR. RAIL SUPPORT FLANGE STRUT	ü 25
8585 41 41 1	TR. RAIL SUPPORT FLANGE STRUT	ü 25



8585 41 41



8585 41 41 1



8585 41 41 1

Rail Foot Solid STRUT

Heavy duty version for fastening STRUT mounting rails to walls

- Hot-dip galvanised
- Art. No. 8580 41 82 suitable for double mounting rail STRUT Type 41/41 (Art. No. 8551 4141 25 6)

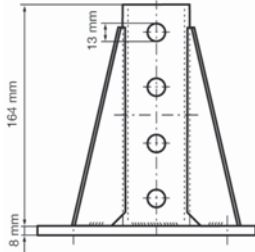
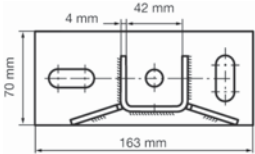
Product benefits:

- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Support Saddle is braced by the base plate

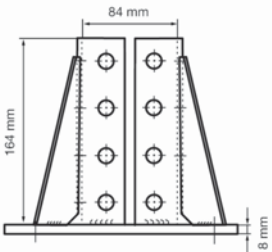
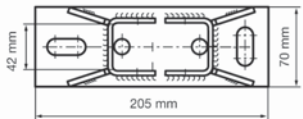
Areas of application:

- System module for assembling sturdy crossbars
- Manufacture of customised consoles from rails

Article No.	Article Description	QTY
8580 41 41	RAIL FOOT STRUT HD-GAL.41/41	ü 10
8580 41 82	RAIL FOOT STRUT HD-GAL.41/82	ü 10



8580 41 41



8580 41 82

Console Support STRUT

Support for wall consoles and rail structures

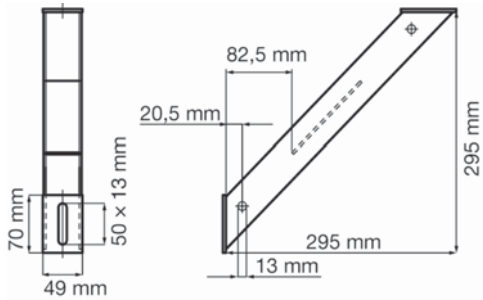
- High quality galvanisation 8 – 10µ

Product benefits:

- Suitable for both indoors and outdoors

Areas of application:

- For attaching as a support element above, below or next to a wall console
- Used to increase the load-bearing capability of rail structures
- Vertical attachment of the console supporting beam for consoles:
Type 41/21; Type 41/41
- Horizontal attachment of the console supporting beam for consoles:
Type 41/21; Type 41/41



Article No.	Article Description	QTY
8574 3840 295	CONSOLE SUPPORT STRUT 295MM	e 10



Quick Fastener Hammerfix STRUT

Quick fastener for fitting pipe clamps to mounting rails

- High quality galvanisation 8 – 10 µ
- Insert, turn, fix
- Art. No. 8584 10 60 1 fire-tested version

Product benefits:

- Time saving due to pre-assembled sliding nut with set screw, washer and spring washer
- Due to the clamping spring, the fastener can be easily moved and positioned until it is finally fixed in the rail
- Survives at least 1,000 hours salt spray test in accordance with DIN ISO 9227
- Suitable for mounting rails Type 41 STRUT

Areas of application:

- Direct connection of pipe clamps to mounting rails
- One system for installation indoors and outdoors

Art. No. 8584 10 60 1:

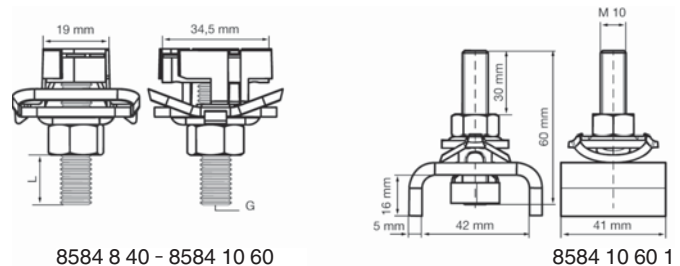
- U-shape for greater stability
- Safety-PLUS: Closure checking by means of assembly marking



8584 8 40 - 8584 10 60



8584 10 60 1



8584 8 40 - 8584 10 60

8584 10 60 1

Article No.	Article Description	QTY
8584 8 40	STRUT QUICK FAST. M 8X40MM	h 60
8584 8 50	STRUT QUICK FAST. M 8X50MM	h 60
8584 10 40	STRUT QUICK FAST. M10X40MM	h 60
8584 10 60	STRUT QUICK FAST. M10X60MM	g 50
8584 10 60 1	STRUT QUICK FAST.U-S.M10X60MM	g 50

Technical Data

Usable thread Length L in mm	Tightening torque In Nm ¹	Max. recommended Tensile load in N
16	15	6,000
26	15	6,000
12	15	9,500
32	15	9,500
30	15	10,000

Wing Nut STRUT

For secure connection of system components to rails

- Sliding nut with securing aid
- Fire protection tested from size M10
- Electrolytically galvanised

Product benefits:

- As a result of fixing in the rail slot, locating and bolting on the system components is very simple and practice-oriented
- Compatible with all mounting rails Type 41 STRUT
- Optimum assembly convenience, hence no time-consuming pre-assembly of brackets, sliding nuts and bolts is necessary
- The wing nut can be moved as desired in the rail slot and can be positioned with a 45° rotation

Areas of application:

- When connecting two mounting rails with a bracket, for example



Article No.	Article Description	QTY
8575 8	WING NUT STRUT M 8	g 50
8575 10	WING NUT STRUT M10	g 50
8575 12	WING NUT STRUT M12	g 50

Technical Data

Art. No.	Tightening Torque in Nm ¹	Max. recommended Tensile load in N
8575 8	15	6,000
8575 10	15	9,500
8575 12	30	10,000

1) Tightening torque should not be exceeded

Sliding Nut STRUT

For fixing in mounting rails and consoles

- Electrolytically galvanised
- Material thickness: 6 mm
- Compatible with all mounting rails Type 41 STRUT

Technical Data	
Tightening Torque in Nm¹	Max. recommended Tensile load in N
15	6,000

1) Tightening torque should not be exceeded

Article No.	Article Description	QTY
8578 8	SLIDING NUT STRUT M 8	f 100
8578 10	SLIDING NUT STRUT M10	f 100
8578 12	SLIDING NUT STRUT M12	f 100



Rail Insulation Profile STRUT

To prevent acoustic bridges during the construction of traverses and consoles in ventilation systems

- Sound-deadening insert for mounting rails Type 41 STRUT
- Noise insulation according to DIN 4109

Product benefits:

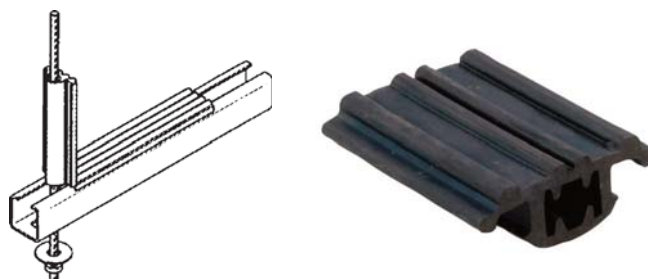
- Quick assembly
- Made from high quality EPDM rubber
- Can also be used with M6, M8 and M10 threaded rods

Usage instructions:

- Press into the mounting rail profile
- Push over the threaded rod

Technical Data	
For rails	For threaded rods
STRUT Type 41	M6 / M8 / M10

Article No.	Article Description	QTY
8574 41	RO(30M)RAIL INS.PROFILE STRUT	e 30



Rail End Cap STRUT

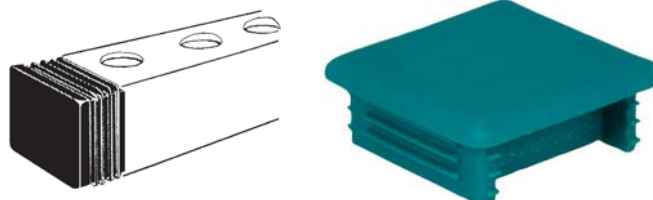
For safe and neat finishing of the ends of mounting rails and consoles

- Simply press or tap in
- Ribbed on the sides for better hold

Product benefits:

- Made from high quality polyethylene
- Suitable for mounting rails Type 41 × 21 and Type 41 × 41 STRUT

Article No.	Article Description	QTY
8574 1 41 21	RAIL END CAP STRUT 41/21	e 50
8574 1 41 41	RAIL END CAP STRUT 41/41	e 50



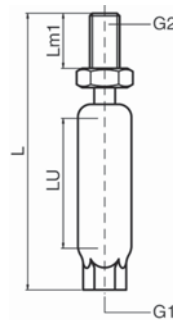
Pendulum Hanger / Ball and Hinge Joint

- For hanging pipes and components with spaced threads
- Recommended for metallic pipes up to DN 50 and for plastic pipes up to DN 100
- Particularly suitable for large ceiling distances
- Prevents tilting of pipe clamps
- Prevents uncontrolled tensile forces on the fixture
- Simple, continuously variable height adjustment (see LU)

Technical Data

Art. No.	L mm	LU mm	G1	G2	Lm1 mm	Max. recommended effective load N
8562 8	49	7	M8	M8	15	3,100
8562 10	49	7	M10	M10	15	3,100
8562 8 1	74	32	M8	M8	15	3,100
8562 10 1	74	32	M10	M10	15	3,100

Article No.	Article Description	QTY
8562 8	PENDULUM HANGER SHORT M 8	50
8562 10	PENDULUM HANGER SHORT M 10	50
8562 8 1	PENDULUM HANGER LONG M 8	25
8562 10 1	PENDULUM HANGER LONG M 10	25

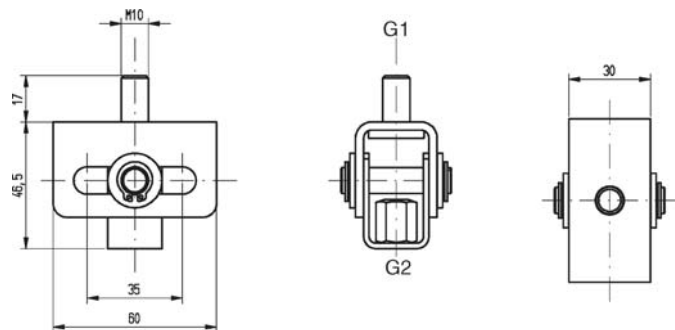


Sliding Component M10, Galvanized

- Fixture for pipes with linear thermal expansion
- Avoids strain forces on pipe clamps
- Assembly directly on the ceiling or on a mounting rail by means of a sliding nut M10
- Combined connection thread M8/M10 for variable connection
- Screw and nut CO₂ welded
- Material: steel electrolytically galvanized

Fields of application:

- In installation and pipeline construction



Technical Data

Connection-thread(G1)	Connection-thread(G2)	Admissible load in N
M10	M8/M10	1300

Article No.	Article Description	QTY
8660 4 10	SLIDING COMPONENT M10	10

Trapezoidal Sheet Metal Hanger VdS

- For fastening installation structures directly on to trapezoidal metal sheets
- Galvanised – corrosion-protected
- Various versions – optimum application options
- Material thickness: 25 × 2.5 mm
- Approved by VdS for fixing pipes up to DN 50 in accordance with VdS Approval No. G 4881021

Art. No. 8583 8, 8583 10:

- Welded nut

Art. No. 8583 8 1, 8583 10 1:

- Rotating threaded part permits subsequent continuous adjustment of the height



Article No.	Article Description	QTY
8583 8	TRAPEZ.METAL SHEET HANG. M8	50
8583 8 1	TRAPEZ.METAL SHEET H. M8 HREG.	50
8583 10	TRAPEZ.METAL SHEET HANG. M10	50
8583 10 1	TRAPEZ.ME.S.HANG.M10 HREG.	50

Trapezodial Sheet Metal Hanger

- Ideal for suspending pipe clips on trapezoidal plates
- Galvanised – corrosion-protected
- Designed with soundproofing element for assembly in accordance with DIN 4109
- Soundproofing element secured from falling out
- With predetermined bend perforations – easy bending and adjustment to the desired trapezoidal plate profiles
- The through-hole of the soundproofing element is dimensioned so that assembly with threaded rods up to a maximum size of M10 is possible
- Material thickness: 25 × 2.5 mm



Article No.	Article Description	QTY
8521 1	TRAPEZ.ME.S.HANG.TYPE L GAL.SD	100
8521 2	TRAPEZ.ME.S.HANG.TYPE L GAL.	100

Trapezoidal Metal Sheet Tongs

- To punch trapezoidal steel sheets with a thickness up to 1.25 mm

Article No.	Article Description	QTY
8625 1	TRAPEZOIDAL METAL SHEET TONGS	1
8625 2	PAIR(2)PUNCHING DIES	1

Delivery volume (item No 8625 1):

- 1x 1 kit punching dies 10.5 mm



Ventilation Pipe Fastener

- Galvanised – corrosion-protected
- Designed with soundproofing element for assembly in accordance with DIN 4109 soundproofing
- Soundproofing element secured from falling out
- With predetermined bend perforations – easy bending and adjustment to the desired pipe diameter
- The through-hole of the soundproofing element is dimensioned so that assembly with threaded rods up to a maximum size of M10 is possible
- Universal fixing options
 - Pop rivets up to max. Ø 4.2 mm
 - Self-tapping screws Ø 3.9 to 4.2 mm
- Material thickness: 35 × 2.00 mm
- Max. recommended load: 900 N



Article No.	Article Description	QTY
8521 3	VENT.PIPE FASTEN.TYPE L GAL.SD	100

Vent Duct Bracket

Vent duct bracket with soundproofing insert in L and Z form for fastening vent ducts in ventilation and air conditioning systems

- Temperature resistance (soundproofing element): -35 °C to +100 °C
- Galvanised

Product benefits:

- Soundproofing element secured from falling out
- Universal fastening options thanks to various hole geometries
 - Pop rivets up to Ø 4.8 mm (Art. No. 2723 48 125)
 - Self-tapping screws up to Ø 4.8 mm (Art. No. 1312 42 95)

Application areas:

- For assembling ventilation ducts

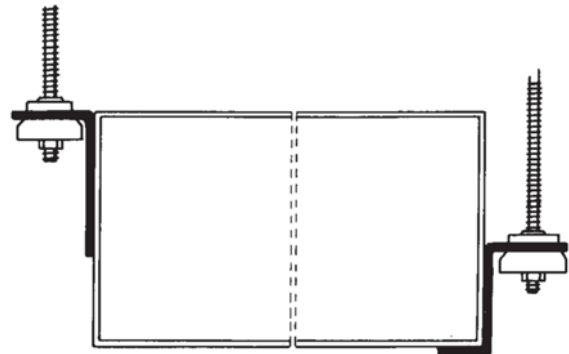


8522 40 80

8522 40 65

Technical Data			
Art. No.	Length mm	Material mm	Rec. perm. load in N
8522 40 65	65	35×2.5	300
8522 40 80	80	35×2.5	300
8522 40 165	165	35×2.5	900

Article No.	Article Description	QTY
8522 40 65	VENT DUCT BRACK. Z40X 65MM	50
8522 40 80	VENT DUCT BRACK. L40X 80MM	50
8522 40 165	VENT DUCT BRACK.BLAC.L40X165MM	50



Air Duct Clamp M8 × 20

- Galvanised
- Connecting element for duct flanges
- Suitable for all duct cross-sections
- Art. No. 8622 8 20 1 in stainless steel

Product benefits:

- The points on the clamp bite into the profile (without making holes) and thus provide a perfect and permanent hold on the duct flange
- The V bead in the clamp increases its rigidity by more than 50 %
- Optimised handling and assembly properties



Article No.	Article Description	QTY
8622 8 20 2	AIR DUCT CLAMP GAL.M8X20	100
8622 8 20 1	AIR DUCT CLAMP A4 M8X20	100

Sealing Tape for the Ventilation Construction

- For the sealing of ventilation ducts and exhaust air units
- Closed PE cell structure
- Weather-proof and resistant against chemicals
- Acts movement-restraining in case of high wind load and similar mechanic influences
- High elasticity
- Perfect thermal insulation values without PE peel off film
- Waste disposal of PE film which accrue when using other sealing tapes is committed
- Constant adhesive power since the sealing tapes are not unrolled and this way do not soil
- Avoids three-point adhesion
- Little consumption of sealing material

Article No.	Article Description	QTY
8802 3 12	MTR<200>SEALING TAPE GREY 3X12	200
8802 3 15	MTR<200>SEALING TAPE GREY 3X15	200
8802 4 9	MTR<200>SEALING TAPE GREY 4X9	200
8802 4 12	MTR<200>SEALING TAPE GREY 4X12	200
8802 4 15	MTR<200>SEALING TAPE GREY 4X15	200



Cold-shrink Tape Butyl

- Elastic polyethylene film, coated with a cold sealing butyl natural rubber glue
- Temperature range: from -30°C up to +80°C
- Reel length: 15 m

Fields of application:

- For durable sealing of butt joints and sleeve joints for sleeve joints of air ducts, spiral pipes and flex pipes in air-technical systems made of aluminum and galvanized steel sheet
- To seal flexible and rigid pipings made of polyethylene and PVC
- For durable sealing of penetrations and to glue butt joints on steep roofs

Article No.	Article Description	QTY
8840 2 50	REEL(15M)COLD-SHRINK TAPE 50MM	1
8840 2 75	REEL(15M)COLD-SHRINK TAPE 75MM	1
8840 2 100	REEL(15M)COLD-SHRINK TAPE 100MM	1



Spacing Bolts, Hexagon, Galvanized

- For assembly in electronic engineering
- **Machining steel, galvanised**



Article No.	Article Description	QTY
2210 3 8	SPACING BOLTS ST.GA 3X 8	100
2210 3 10	SPACING BOLTS ST.GA 3X10	100
2210 3 12	SPACING BOLTS ST.GA 3X12	100
2210 3 15	SPACING BOLTS ST.GA 3X15	100
2210 3 20	SPACING BOLTS ST.GA 3X20	100
2210 3 25	SPACING BOLTS ST.GA 3X25	100
2210 3 30	SPACING BOLTS ST.GA 3X30	100
2210 4 10	SPACING BOLTS ST.GA 4X10	100
2210 4 12	SPACING BOLTS ST.GA 4X12	100
2210 4 15	SPACING BOLTS ST.GA 4X15	100
2210 4 20	SPACING BOLTS ST.GA 4X20	100
2210 4 25	SPACING BOLTS ST.GA 4X25	100
2210 4 30	SPACING BOLTS ST.GA 4X30	100
2210 4 35	SPACING BOLTS ST.GA 4X35	100
2210 4 40	SPACING BOLTS ST.GA 4X40	100
2210 5 20	SPACING BOLTS ST.GA 5X20	100
2210 5 25	SPACING BOLTS ST.GA 5X25	100
2210 5 30	SPACING BOLTS ST.GA 5X30	100
2210 5 35	SPACING BOLTS ST.GA 5X35	100
2210 5 40	SPACING BOLTS ST.GA 5X40	100
2210 5 45	SPACING BOLTS ST.GA 5X45	100
2210 5 50	SPACING BOLTS ST.GA 5X50	100
2210 6 20	SPACING BOLTS ST.GA 6X20	100
2210 6 25	SPACING BOLTS ST.GA 6X25	100
2210 6 30	SPACING BOLTS ST.GA 6X30	100
2210 6 35	SPACING BOLTS ST.GA 6X35	100
2210 6 40	SPACING BOLTS ST.GA 6X40	100
2210 6 45	SPACING BOLTS ST.GA 6X45	100
2210 6 50	SPACING BOLTS ST.GA 6X50	100
2210 6 55	SPACING BOLTS ST.GA 6X55	100
2210 6 60	SPACING BOLTS ST.GA 6X60	100
2210 6 70	SPACING BOLTS ST.GA 6X70	100
2210 6 80	SPACING BOLTS ST.GA 6X80	100
2210 6 100	SPACING BOLTS ST.GA 6X100	100
2210 6 120	SPACING BOLTS ST.GA 6X120	100

(thread Ø mm × hexagon length L mm)

Technical Data

Thread Ø mm	AF mm	B mm
M3	5.5	6
M4	7.0	8
M5	8.0	10
M6	10.0	12

Reducing Sleeves, Galvanized

- Reducing sleeve with female thread at both sides
- Enables the secure connection of fixing parts of different diameters,
e.g. M10 threaded rod with M8-pipe clamp
- **Galvanized steel**



Article No.	Article Description	QTY
2203 8 6	REDUC.SLEEVE GA.M 8-M 6 FEMALE	100
2203 10 8	REDUC.SLEEVE GA.M10-M 8 FEMALE	100
2203 12 10	REDUC.SLEEVE GA.M12-M10 FEMALE	100
2203 16 12	REDUC.SLEEVE GA.M16-M12 FEMALE	100

(female thread)

Technical Data

Art. No.	D 1	D 2	Male thread-Ø
2203 8 6	M8	M6	13
2203 10 8	M10	M8	16
2203 12 10	M12	M10	16
2203 16 12	M16	M12	22

Reducers, Galvanized

- Connecting element between fastening parts with different thread diameters, e.g. M10 threaded rod and M8 pipe clamp
- **Galvanized steel**



Article No.	Article Description	QTY
2204 6 8	REDUCER GA M 6 I - M8 O	200
2204 6 10	REDUCER GA M 6 I - M10 O	200
2204 8 6	REDUCER GA M 8 I - M6 O	200
2204 8 10	REDUCER GA M 8 I - M10 O	200
2204 8 12	REDUCER GA M 8 I - M12 O	200
2204 10 8	REDUCER GA M10 I - M8 O	200
2204 10 12	REDUCER GA M10 I - M12 O	200
2204 10 16	REDUCER GA M10 I - M16 O	50
2204 12 8	REDUCER GA M12 I - M8 O	100
2204 12 10	REDUCER GA M12 I M10 O	100
2204 16 10	REDUCER GA M16 I M10 O	40
2204 16 12	REDUCER GA M16 I M12 O	40
2204 1 12 10	REDUCER GA 1/2" I- M10 O	25
2204 1 12 12	REDUCER GA 1/2" I- M12 O	25
2204 1 12 16	REDUCER GA 1/2" I- M16 O	10
2204 1 34 16	REDUCER GA 3/4" I- M16 O	10

(female thread - male thread)

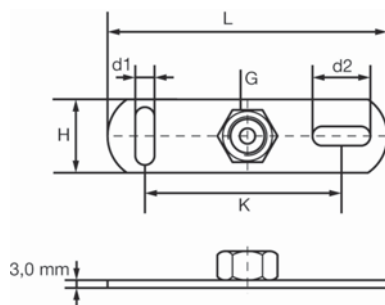
Technical Data

Head size

13
13
13
13
13
13
17
17
17
24
24
24
24
30
30

Base Plate

- For wall, ceiling and floor fixtures in industrial and in-house facilities
- The mounting holes are punched slots at 90° to each other, to improve ease of installation
- Electrolytically galvanised
- Type 1 and 2 with 4-fold welded connecting nut
- Type 3 with CO₂ welded threaded connection
- Stainless steel version:
Art. No. 8539 1 8 80
Art. No. 8539 1 10 80
Art. No. 8539 1 10 145



Article No.	Article Description	QTY
8543 1 8	BASE PLATE GA TYPE 1 M 8	e 50
8539 1 8 80	BASE PLATE A4 TYPE 1 M 8	10
8543 1 8 10	BASE PLATE GA TYPE 1 M8/M10	e 50
8543 1 10	BASE PLATE GA TYPE 1 M 10	e 50
8539 1 10 80	BASE PLATE A4 TYPE 1 M 10	10
8543 1 12	BASE PLATE GA TYPE 1 1/2"	e 50
8543 2 10	BASE PLATE GA TYPE 2 M 10	e 40
8539 1 10 145	BASE PLATE A4 TYPE 2 M 10	10
8543 2 12 0	BASE PLATE GA TYPE 2 1/2"	e 10
8543 2 12	BASE PLATE GA TYPE 2 M 12	e 10
8543 2 16	BASE PLATE GA TYPE 2 M 16	e 10
8543 3 1	BASE PLATE GA TYPE 3 1"	e 10
8543 3 12	BASE PLATE GA TYPE 3 1/2"	e 10
8543 3 34	BASE PLATE GA TYPE 3 3/4"	e 10

Technical Data

G	L	H	K	d1	d2	Fa, z
mm / inch	mm	mm	mm	mm	mm	N
M8	80	25	50	15 × 8.5	15 × 8.5	2,500
M8	80	25	50	15 × 8.5	15 × 8.5	2,500
M8/M10	80	25	50	15 × 8.5	15 × 8.5	2,500
M10	80	25	50	15 × 8.5	15 × 8.5	2,500
M10	80	25	50	15 × 8.5	15 × 8.5	2,500
1/2"	145	38	100	25 × 11	30 × 11	3,800
M10	145	38	100	25 × 11	30 × 11	3,500
M10	145	35	100	30 × 11	25 × 11	3,000
1/2"	145	38	100	25 × 11	30 × 11	3,800
M12	145	38	100	25 × 11	30 × 11	3,800
M16	145	38	100	25 × 11	30 × 11	3,800
1"	145	38	100	25 × 11	30 × 11	5,500
1/2"	145	38	100	25 × 11	30 × 11	4,000
3/4"	145	38	100	25 × 11	30 × 11	5,000

Assembly Plate with Treaded Pin

- Galvanized steel
- With set screw M8
- Slot hole 25 x 8.5 mm
- For flow and return installations



Article No.	Article Description	QTY
8618 65	DOUBLE SUPP. THR.PIN M8 65MM	50
8618 85	DOUBLE SUPP. THR.PIN M8 85MM	50
8618 105	DOUBLE SUPP. THR.PIN M8 105MM	50

Technical Data

Total length mm	Distance set screws mm	Material thickn. mm
85	65	5
105	85	5
125	105	5

Assembly Plate / Double Support Galvanized Steel

- Galvanized steel
- Plate thickness: 5 mm
- Slot hole: 25 x 8.5 mm
- With inside thread M8
- For flow and return installations



Article No.	Article Description	QTY
8617 55	DOUBLE SUPP. GAL. M8 55MM	50
8617 65	DOUBLE SUPP. GAL. M8 65MM	50
8617 85	DOUBLE SUPP. GAL. M8 85MM	50
8617 105	DOUBLE SUPP. GAL. M8 105MM	50

Technical Data

Total length mm	Distance set screws mm	Material thickn. mm
75	55	5
85	65	5
105	85	5
125	105	5

Threaded Bolts

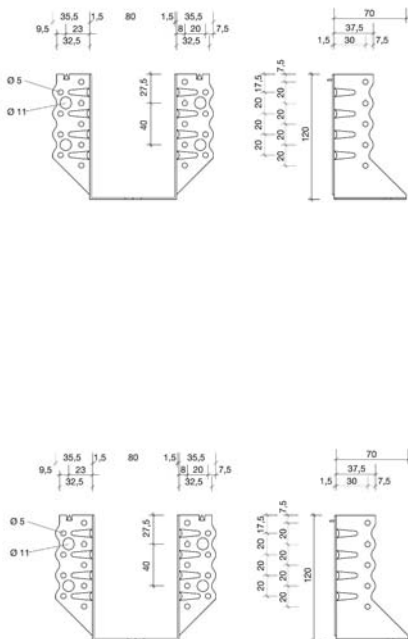
- Galvanized steel
- Outside thread: M8
- Appropriate for assembly plates with M8 inside thread

Article No.	Article Description	QTY
8619 25	THR. BOLT GAL. M8 25MM	100
8619 35	THR. BOLT GAL. M8 35MM	100
8619 45	THR. BOLT GAL. M8 45MM	100
8619 55	THR. BOLT GAL. M8 55MM	100
8619 65	THR. BOLT GAL. M8 65MM	100



Joist Hanger Top M

- With European Technical Approval ETA-08/0264
- Approved for direct connection to wooden panels, e.g. OSB3 panels in conjunction with angle fitting screw
- Assembly aid (Top M) for consistent flush and perpendicular connection to the main support
- Instant, accurate fit of joist hanger with a single push
- Fits precisely on the fracture line to the nearest millimetre
- Assembly mandrel provides a third hand during assembly
- Ring marking on the nail holes for quick and correct nailing of parts (40% fewer nails)
- Corrugations for added stability to meet even the highest requirements
- Fastening material: Anchor/ring shank nails and angle fitting screw



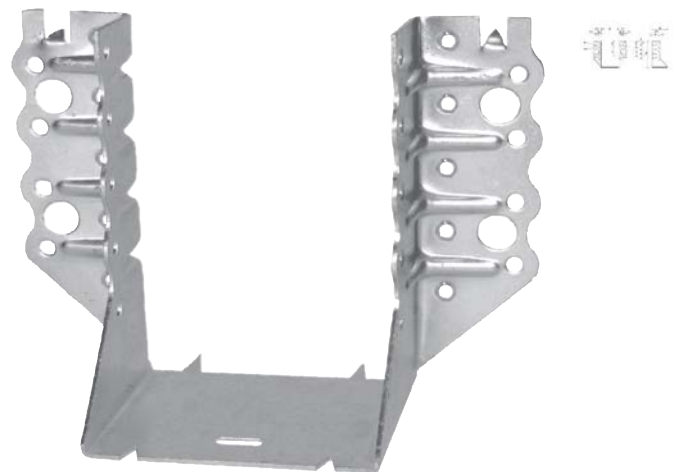
(Drawing provided as an example)

Article No.	Article Description	QTY
8880 60 100 1	JOIST HANG.TOP M EXT. 60X100	50
8880 60 130 1	JOIST HANG.TOP M EXT. 60X130	50
8880 80 120 1	JOIST HANG.TOP M EXT. 80X120	50
8880 80 150 1	JOIST HANG.TOP M EXT. 80X150	50
8880 100 140 1	JOIST HANG.TOP M EXT. 100X140	50
8880 100 170 1	JOIST HANG.TOP M EXT. 100X170	50
8880 120 160 1	JOIST HANG.TOP M EXT. 120X160	50

Your Advantage / Benefit

- Assembly mandrel for self-sufficient hold
- Quick and inexpensive assembly
- Ring markings on the nail holes
- Corrugations for added stability

Application

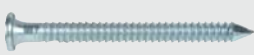


Technical Data

Dimensions in mm	Thickness in mm	Number of holes main support	No. of holes sec. support
W x H		Ø 5 mm / Ø 11 mm	Ø 5 mm
60 x 100	1.5	14 / 2	8
60 x 130	1.5	18 / 4	10
80 x 120	1.5	18 / 4	10
80 x 150	1.5	22 / 4	12
100 x 140	1.5	22 / 4	12
100 x 170	1.5	26 / 4	14
120 x 160	1.5	26 / 4	14

Related Products

■ Anchoring Nails / Ring Shank Nails
AGR 8854



■ Angle Fitting Screws, Galvanised Steel
AGR 8853 5



■ Screw Anchor with Pressed-on Washer, Galvanised
AGR 8171

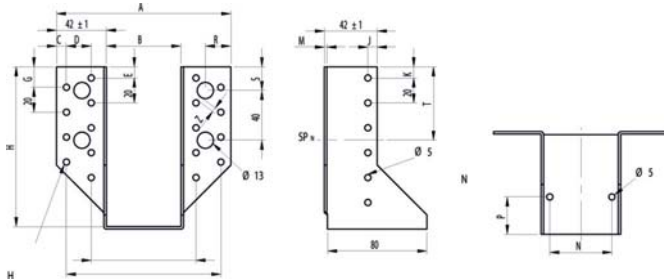


■ Injection Mortar
FIT Z-B SF
Art. No. 8150 345 5



Joist Hanger Kombi, Angled Outwards

- With European Technical Approval ETA-08/0079
- With European Technical Approval ETA-08/0264 *
- 275 g/m² anti-corrosion protection on both sides
- For main/secondary supports or prop connectors
- Approved for partial or complete nailing
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Technical Data

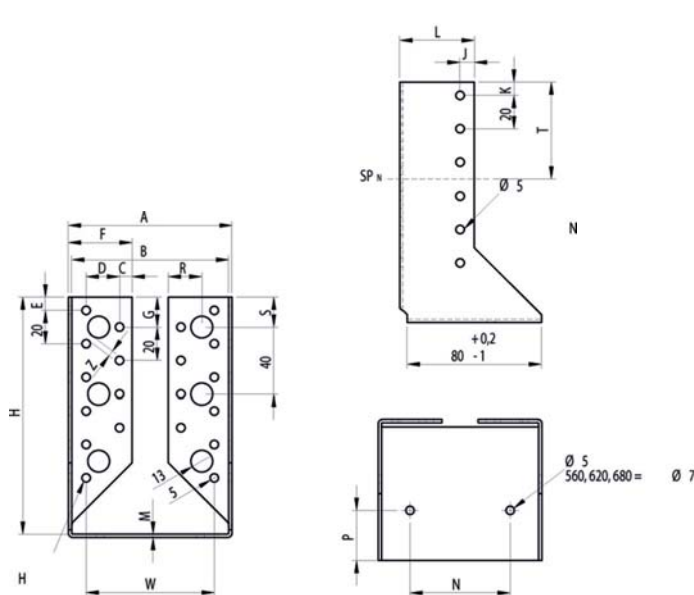
Article No.	Article Description	QTY
8880 60 100	JOIST HANG.COMBO EXT. 60X100	50
8880 60 160	JOIST HANG.COMBO EXT. 60X160	50
8880 60 190	JOIST HANG.COMBO EXT. 60X190	20
8880 80 120	JOIST HANG.COMBO EXT. 80X120	50
8880 80 140	JOIST HANG.COMBO EXT. 80X140*	50
8880 80 150	JOIST HANG.COMBO EXT. 80X150	50
8880 80 180	JOIST HANG.COMBO EXT. 80X180	20
8880 80 210	JOIST HANG.COMBO EXT. 80X210	20
8880 100 140	JOIST HANG.COMBO EXT. 100X140	50
8880 100 160	JOIST HANG.COMBO EXT. 100X160*	25
8880 100 170	JOIST HANG.COMBO EXT. 100X170	20
8880 100 200	JOIST HANG.COMBO EXT. 100X200	20
8880 120 160	JOIST HANG.COMBO EXT. 120X160	20
8880 120 180	JOIST HANG.COMBO EXT. 120X180*	25
8880 120 190	JOIST HANG.COMBO EXT. 120X190	20
8880 140 180	JOIST HANG.COMBO EXT. 140X180	20
8880 160 200	JOIST HANG.COMBO EXT. 160X200	25
8880 180 220	JOIST HANG.COMBO EXT. 180X220	25
8880 200 240	JOIST HANG.COMBO EXT. 200X240	25

Dimensions in mm (W x H)	Thickness in mm	Number of holes main support Ø 5 mm/Ø 13 mm	No. of holes sec. support Ø 5 mm	Hole Ø in mm
60 x 100	2.0	16/4	8	5.0/13.0
60 x 160	2.0	20/6	12	5.0/13.0
60 x 190	2.0	26/6	14	5.0/13.0
80 x 120	2.0	18/4	12	5.0/13.0
80 x 140 *	2.0	20/4 x Ø 11 mm	10	5.0/11.0
80 x 150	2.0	20/6	12	5.0/13.0
80 x 180	2.0	26/6	14	5.0/13.0
80 x 210	2.0	30/6	16	5.0/13.0
100 x 140	2.0	20/12	6	5.0/13.0
100 x 160 *	2.0	24/4 x Ø 11 mm	12	5.0/11.0
100 x 170	2.0	26/6	14	5.0/13.0
100 x 200	2.0	30/6	16	5.0/13.0
120 x 160	2.0	26/6	14	5.0/13.0
120 x 180 *	2.0	28/6 x Ø 11 mm	14	5.0/11.0
120 x 190	2.0	30/6	16	5.0/13.0
140 x 180	2.0	30/6	16	5.0/13.0
160 x 200	2.5	32/8	18	5.0/13.0
180 x 220	2.5	38/8	22	5.0/13.0
200 x 240	2.5	42/10	22	5.0/13.0

* With European Technical Approval ETA-08/0264

Joist Hanger Kombi, Angled Inwards

- With European Technical Approval ETA-08/0079
- With European Technical Approval ETA-08/0264*
- 275 g/m² anti-corrosion protection on both sides
- For main/secondary supports or prop connectors
- Approved for partial or complete nailing
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Technical Data

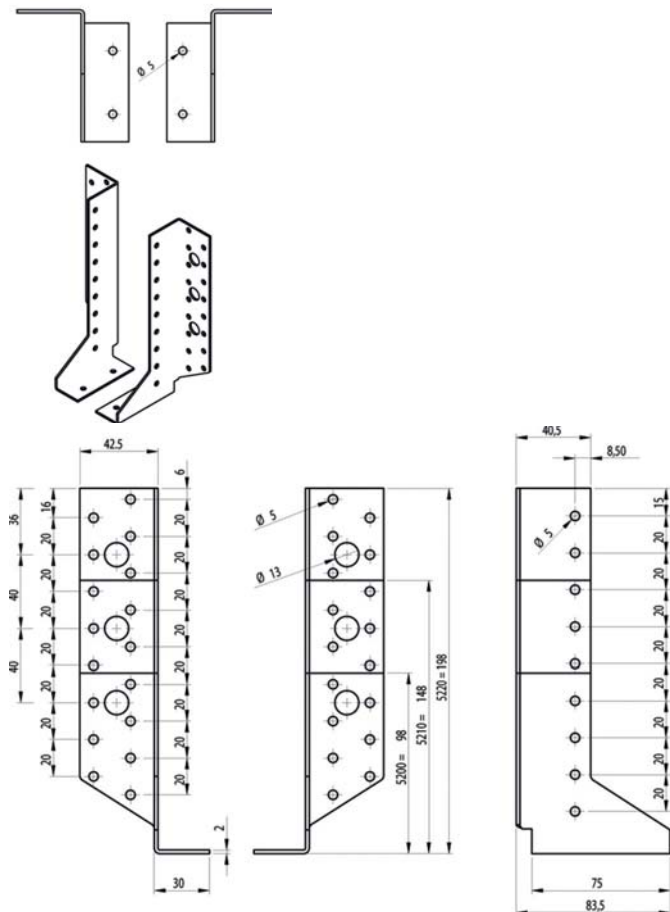
Article No.	Article Description	QTY
8880 1 60 100	JOIST HANG.COMBO INT. 60X100	50
8880 1 80 120	JOIST HANG.COMBO INT. 80X120	50
8880 1 80 150	JOIST HANG.COMBO INT. 80X150*	50
8880 1 100 140	JOIST HANG.COMBO INT. 100X140	50
8880 1 100 170	JOIST HANG.COMBO INT. 100X170	20
8880 1 120 160	JOIST HANG.COMBO INT. 120X160	20
8880 1 140 180	JOIST HANG.COMBO INT. 140X180	20
8880 1 160 200	JOIST HANG.COMBO INT. 160X200	25
8880 1 200 240	JOIST HANG.COMBO INT. 200X240	25

Dimensions in mm (W x H)	Thick- ness in mm	No. of holes main support Ø 5 mm/Ø 13 mm	No. of holes sec. support Ø 5 mm
60 x 100	2.0	16/4	8
80 x 120	2.0	18/4	12
80 x 150*	2.0	20/4	12
100 x 140	2.0	20/6	12
100 x 170	2.0	26/6	14
120 x 160	2.0	26/6	14
140 x 180	2.0	30/6	16
160 x 200	2.5	32/8	18
200 x 240	2.5	42/10	22

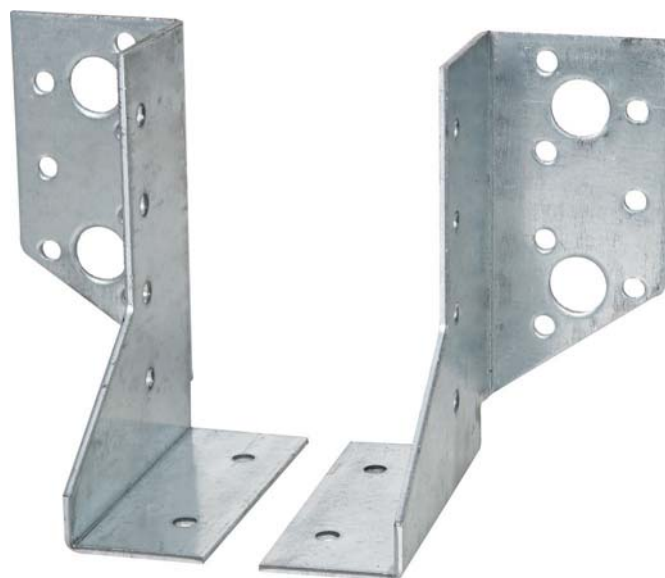
* With European Technical Approval ETA-08/0264

Joist Hanger 2-part

- Can be used everywhere for intermediate sizes and in renovation
- For main/secondary supports or prop connectors
- For partial or complete nailing
- 275 g/m² anti-corrosion protection on both sides
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Technical Data

Article No.	Article Description	QTY	Dimensions in mm (W × H)	Thick- ness in mm	Number of holes main support Ø 5 mm/Ø 13 mm	No. of holes sec. support Ø 5 mm
8880 2 30 98	(PAIR)JOIST HANG. EXT. 30X 98	25	30 × 98	2.0	7/2	6
8880 2 30 148	(PAIR)JOIST HANG. EXT. 30X148	25	30 × 148	2.0	12/3	6
8880 2 30 160	(PAIR)JOIST HANG. EXT. 30X160	25	30 × 160	2.0	26/4	12

Atlas Wood Connector

- High quality aluminium wood connector
- With European Technical Approval ETA-12/0068
- Can be used in almost all areas of timber construction
- Can be used vertically and horizontally
- For main/secondary supports, props and waling constructions
- Wood-to-wood connections
- For invisible connections (milled)
- For visible connections (shadow groove)
- Atlas 70: Fully threaded screws 4.0 × 60 mm TX 15
- Atlas 100: Fully threaded screws 4.8 × 80 mm TX 20
- Atlas 135: Fully threaded screws 5.0 × 80 mm TX 20
- Atlas 170: Fully threaded screws 5.0 × 80 mm TX 20
- Atlas 200: Fully threaded screws 6.0 × 100 mm TX 25
- Fixing screw and a DUO-Bit TX 15, 20, 25



Article No.	Article Description	QTY
8880 4 30 70	(PAIR)WOOD CONNECTOR ATLAS 70	10
8880 4 50 100	(PAIR)WOOD CONNECTOR ATLAS 100	10
8880 4 50 135	(PAIR)WOOD CONNECTOR ATLAS 135	10
8880 4 50 170	(PAIR)WOOD CONNECTOR ATLAS 170	10
8880 4 70 200	(PAIR)WOOD CONNECTOR ATLAS 200	6

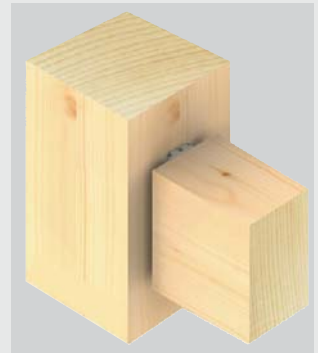
Your Advantage / Benefit

- Low intrinsic weight
- Invisible assembly possible
- Quick and easy working
- With high tested static values
- Delivery including fully threaded screws
- Fixing screw for lift-out safety device

Application



Hidden fastening



Shadow groove fastening

Technical Data

Dimensions in mm (W × H)	Thickness in mm	Secondary support min. width	Secondary support min. height	QTY pcs./pairs
30 × 69.5	9	50	80	20/10
50 × 98.5	11.5	80	115	20/10
50 × 133.5	11.5	80	150	20/10
50 × 169.5	11.5	80	185	20/10
70 × 199.0	16.5	100	200	12/6

Related Products

- Bit Magazine TX **FÖRCH**.....
Art. No. 4319 60

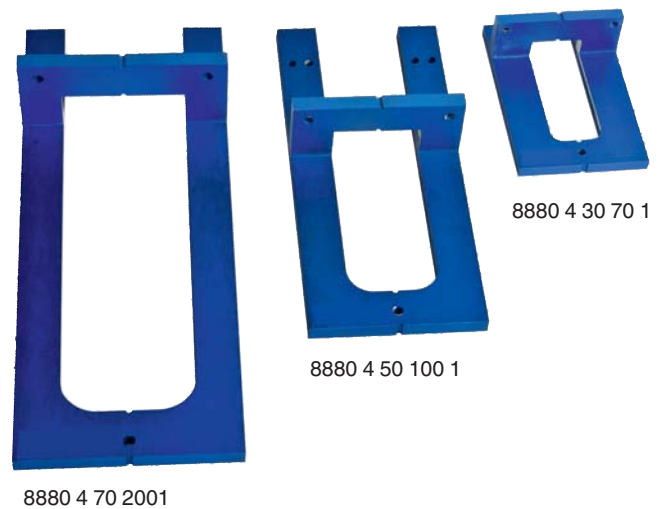


- KliiKlamp Quick-release Clamp
Art. No. 4689 120 80



Templates for Atlas Wood Connectors

- Milling and assembly jig with adjustable stop
- Template can be fixed to the beam with screws
- Delivery includes 4 fully threaded screws 4.0 × 60 mm galvanised TX 15
- 2 Allen screws M5 × 16 mm



Article No.	Article Description	QTY
8880 4 30 70 1	TEMPLATES ATLAS HFS 70	1
8880 4 50 100 1	TEMPLATES ATLAS HFS 100	1
8880 4 70 200 1	TEMPLATES ATLAS HFS 200	1

Technical Data

Suitable for
 Atlas 70
 Atlas 100 / 135 / 170
 Atlas 200

Cutters for Atlas Wood Connectors

- Groove cutter with thrust ring



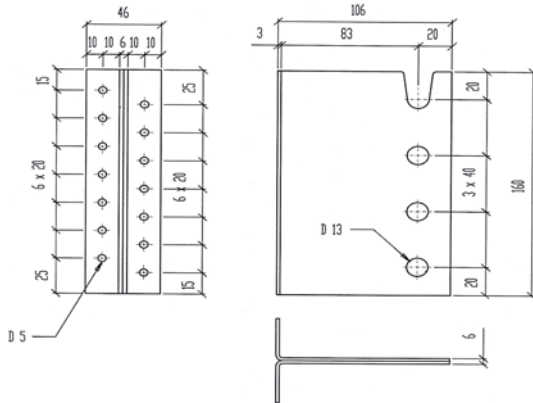
Article No.	Article Description	QTY
8880 4 30 70 2	CUTTERS ATLAS HFF 70	1
8880 4 30 100 2	CUTTERS ATLAS HFF 100	1
8880 4 30 200 2	CUTTERS ATLAS HFF 200	1

Technical Data

Suitable for Template
 HFS 70
 HFS 100 / 135 / 170
 HFS 200

Beam Support

- with European Technical Approval ETA-09/0105
- for the blunt and invisible connection of secondary supports to the front side of main supports
- Mounting slots enable easy and secure hanging of secondary support
- Wood-to-wood connections
- Fastening material:
 - Secondary support: Rod dowel Ø 8.0 mm or Ø 12.0 mm
 - Main support: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)

Article No.	Article Description	QTY
8880 5 90	BEAM SUPPORT 90MM	25
8880 5 120	BEAM SUPPORT 120MM	25
8880 5 160	BEAM SUPPORT 160MM	25
8880 5 200	BEAM SUPPORT 200MM	15
8880 5 240	BEAM SUPPORT 240MM	15

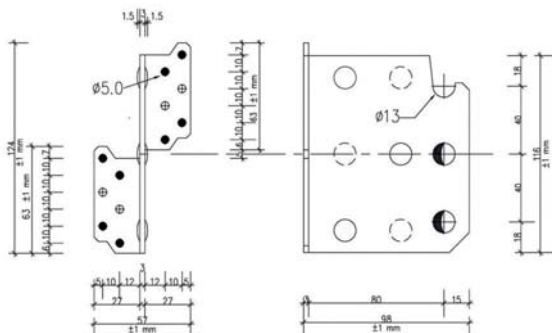


Technical Data

Dimensions in mm (L x H)	Thickness in mm	No. of holes main support Ø 5 mm	No. of holes/Ø secondary support in mm
106 x 90	3.0	8	3 / 8.0
106 x 120	3.0	11	3 / 13.0
106 x 160	3.0	15	4 / 13.0
106 x 200	3.0	19	5 / 13.0
106 x 240	3.0	22	6 / 13.0

Beam Support 3 mm

- With European Technical Approval ETA-10/0009
- 4-row combination hole pattern
- for invisible connections
- for main/secondary supports or column supports
- quick installation thanks to pre-mounted rod dowel in secondary support
- required slot width in secondary support 6.0 mm
- for partial or complete nailing
- Anti-corrosion protection 275 g/m²
- Wood-to-wood connections
- Fastening material
 - Secondary support: Rod dowel Ø 12.0 mm
 - Main support: Anchor/ring shank nails Ø 4.0 mm



(Drawing provided as an example)

Article No.	Article Description	QTY
8880 3 98 244	BEAM SUPPORT 3 MM 98X244	25



Technical Data

Dimensions in mm (L x H)	Thickness in mm	Number of holes Main support Ø 5 mm
98 x 244	3/6	24

-
- The image displays two views of a perforated metal angle. The left view is a side profile showing the L-shaped cross-section of the metal, with a series of circular holes punched along the length of both legs. The right view is an end-on perspective, showing the thickness of the metal and the arrangement of the holes in a grid-like pattern across the two legs. The metal has a dark, slightly textured appearance.



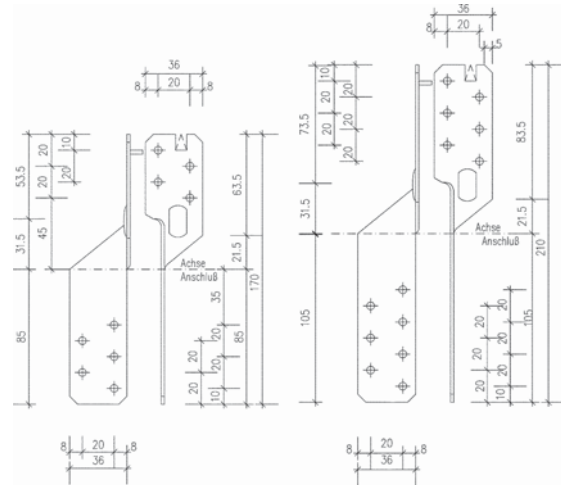
Technical Data			
Dimensions in mm (L × H × W)	Thickness in mm	Number of holes	Hole Ø in mm
170 × 35 × 35	2.0	16	5.0
210 × 35 × 35	2.0	24	5.0
250 × 35 × 35	2.0	36	5.0

Rafter-To-Purlin Connector RL-D

- With European Technical Approval ETA-10/0007
- Suited particularly well for dissipating wind suction forces and for locking the support of rafter supporting purlins on roof trusses
- Assembly mandrel for fast, precise fixing
- Can be used universally on left and right
- Wood-to-wood connections
- Fastening material: Anchor/ring shank nails or angle fitting screws

Your Advantage / Benefit

- Assembly mandrel
- For any roof inclination
- Can be used on right and left
- Optimised nailing pattern



(Drawing provided as an example)

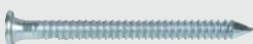
Article No.	Article Description	QTY
8881 1 35 170 1	RAFTER/PURLIN CON. RL-D 35X170	100
8881 1 35 210 1	RAFTER/PURLIN CON. RL-D 35X210	100
8881 1 35 250 1	RAFTER/PURLIN CON. RL-D 35X250	100

Technical Data

Dimensions in mm (L x H x W)	Thickness in mm	No. of holes	Hole Ø in mm
170 x 36 x 36	2.0	9	5.0
210 x 36 x 36	2.0	13	5.0
250 x 36 x 36	2.0	17	5.0

Related Products

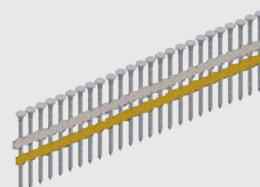
- Anchoring Nails / Ring Shank Nails AGR 8854



- Angle Fitting Screws, Galvanised Steel AGR 8853 5



- Nails AGR 8356

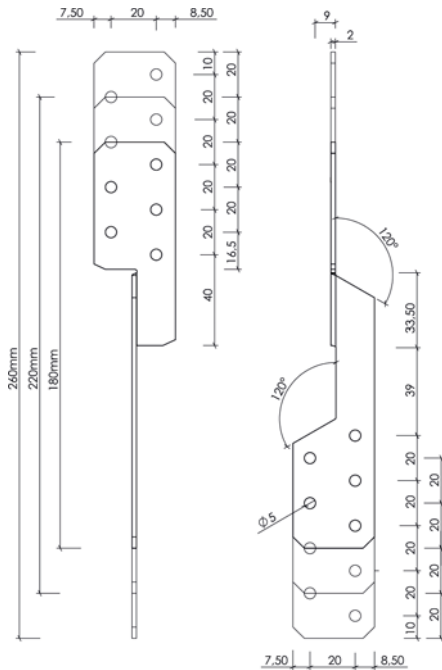


- Compressed Air Nailer Art. No. 5357 2 16 50



Rafter-To-Purlin Connector, Type Universal

- With European Technical Approval ETA-08/0203
- Can be used universally on left and right
- Must be fitted at least in pairs
- 275 g/m² anti-corrosion protection on both sides
- Wood-to-wood connections
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Article No.	Article Description	QTY
8881 1 35 180	RAFTER/PURLIN CON. UNI 35X180	100
8881 1 35 220	RAFTER/PURLIN CON. UNI 35X220	100
8881 1 35 260	RAFTER/PURLIN CON. UNI 35X260	100

Technical Data			
Dimensions in mm (L x H x W)	Thickness in mm	Number of holes	Hole Ø in mm
180 x 35 x 35	2.0	2 x 3	5.0
220 x 35 x 35	2.0	2 x 4	5.0
260 x 35 x 35	2.0	2 x 5	5.0

Rafter Shoe, Wood

- The rafter shoes for connections to wood are used for fastening rafters at an inclination of 30° to 60° at the base
- The rafter shoes are available in 3 standard sizes for rafter widths of 80, 100 and 120 mm
- Rafter shoes are suitable as rafter abutments on ceiling joists
- They are easy to fit and enable secure, dimensionally stable connections between roof and substructure
- Fastening material: Anchor/ring shank nails and angle fitting screw



Article No.	Article Description	QTY
8881 6 80 300	RAFTER SHOE WOOD 80X300	10
8881 6 100 300	RAFTER SHOE WOOD 100X300	10
8881 6 120 300	RAFTER SHOE WOOD 120X300	10

Technical Data			
Dimensions in mm (L x W)	Thickness in mm	No. of holes rafters Ø 5 mm	No. of holes beams Ø 5 mm
300 x 80	2.5	8	48
300 x 100	2.5	8	48
300 x 120	2.5	8	48

Rafter Shoe, Concrete

- The rafter shoes for connections to concrete are used for fastening rafters at an inclination of 30° to 60° at the base
- The rafter shoes are available in 3 standard sizes for rafter widths of 80, 100 and 120 mm
- Rafter shoes are suitable as rafter abutments on concrete
- They are easy to fit and enable secure, dimensionally stable connections between roof and substructure
- Means of fastening to rafters: Anchor/ring shank nails and angle fitting screw
- Means of fastening to concrete: Screw anchor, bolt anchor, injection mortar, etc.

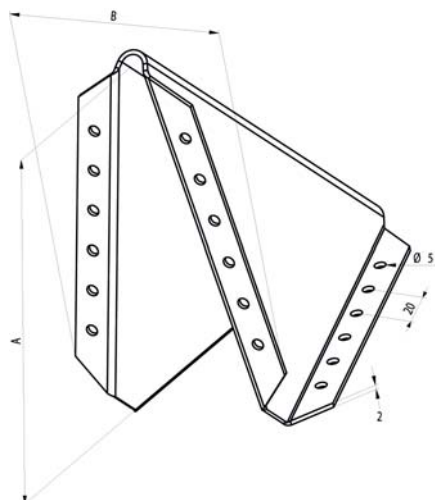


Article No.	Article Description	QTY
8881 7 80 170	RAFTER SHOE CONCRETE 80X170	15
8881 7 100 170	RAFTER SHOE CONCRETE 100X170	15
8881 7 120 170	RAFTER SHOE CONCRETE 120X170	10

Technical Data			
Dimensions in mm (L x W)	Thickness in mm	No. of holes rafters Ø 5 mm	No. of holes concrete Ø 17 mm
170 x 80	2.5	8	2
170 x 100	2.5	8	2
170 x 120	2.5	8	2

Brace

- For securing purlins from tilting
- In combination with rafter-to-purlin connectors, provides the best security against wind load
- 275 g/m² anti-corrosion protection on both sides
- Connections: Wood-to-wood
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Technical Data

Article No.	Article Description		QTY
8881 2 65 90	BRACE	65X 90	40
8881 2 75 130	BRACE	75X130	40
8881 2 95 170	BRACE	95X170	20
8881 2 100 210	BRACE	100X210	20

Dimensions in mm (H x W)	Thick-ness in mm	No. of holes	Hole Ø in mm	Length A in mm	Length B in mm
90 x 65	2.0	16	5.0	90	85
130 x 75	2.0	20	5.0	135	105
170 x 95	2.0	24	5.0	160	120
210 x 100	2.0	36	5.0	215	160

HT Tension Anchor

- With European Technical Approval ETA-10/0010
- Absorption of high tensile loads in timber frame construction
- Tension anchor also suitable for prop connectors
- Use of pressure plates for tensile loads of more than 42.0 kN
- Fastening in wood, even over intermediate layers (e.g., OSB3 panels)
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approval



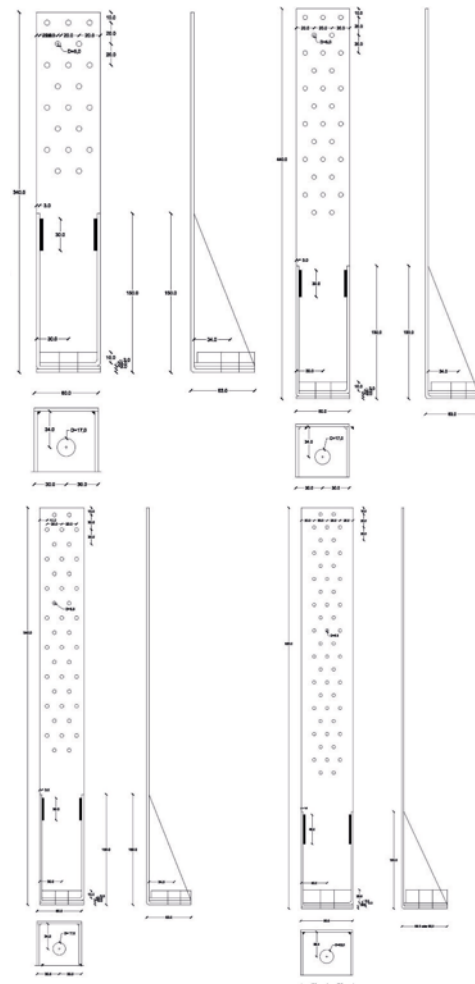
8881 5 340 60



8881 5 60

Your Advantage / Benefit

- Reduced overall height
- Short fillet height (150 mm)
- Optimised hole pattern
- Pressure plates optional



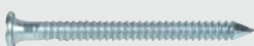
Article No.	Article Description	QTY
8881 5 340 60	HT16 TENSION ANCHOR	10
8881 5 440 60	HT22 TENSION ANCHOR	10
8881 5 540 60	HT28 TENSION ANCHOR	10
8881 5 620 80	HT34 TENSION ANCHOR	10
8881 5 60	HT PRESS.PLATE HT16-28	20
8881 5 80	HT PRESS.PLATE HT34	10

Technical Data

Dimensions in mm (H x L x W x D)	No. of holes Ø 5 mm	Hole Ø for dowel
340 x 60 x 63 x 3.0	20	17
440 x 60 x 63 x 3.0	30	17
540 x 60 x 63 x 3.0	42	17
620 x 60 x 63 x 3.0	52	22
- x 50 x 56 x 10.0	-	18
- x 70 x 77 x 20.0	-	22

Related Products

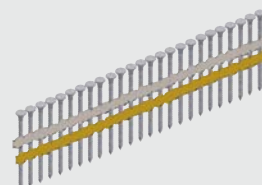
- Anchoring Nails / Ring Shank Nails AGR 8854



- Angle Fitting Screws, Galvanised Steel AGR 8853 5



- Nails AGR 8356



- Compressed Air Nailer Art. No. 5357 2 16 50



Tension Anchor Top Vario

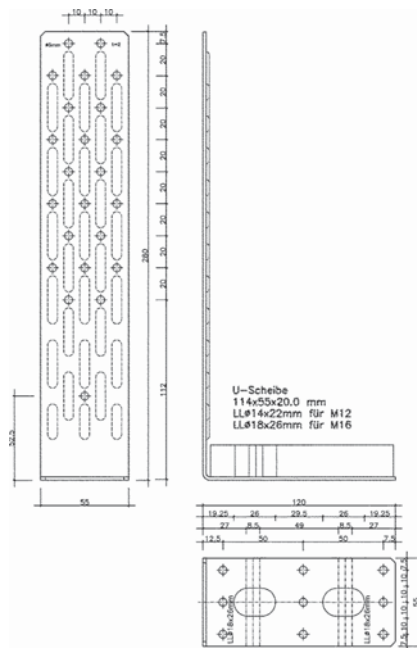
- With European Technical Approval ETA-10/0010
- The tensile force is passed from the bracket into the concrete in a structurally perfect manner by the thrust washer and dowel
- Approved connection via intermediate layer (panels)
- Efficient wall or prop connection to concrete
- High level of pre-assembly in timber/timber frame construction
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approvals



Suitable for fastening to:

- OSB3 panels*
- Laminated particle boards*
- Hard fibreboards*
- Whole and glued laminated timber*

***In conjunction with the angle fitting screw**



(Drawing provided as an example)

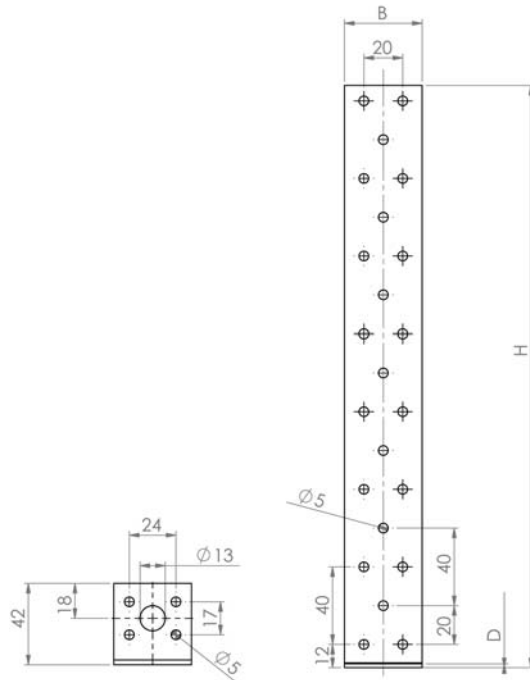
Article No.	Article Description	QTY
8881 4 240 120	TENSION ANCH.TOP VARIO 240X120	50
8881 4 280 120	TENSION ANCH.TOP VARIO 280X120	50
8881 4 240 1	PRES.PLATE F.TENS.ANCH.TYPE240	10
8881 4 280 1	PRES.PLATE F.TENS.ANCH.TYPE280	10



Technical Data			
Dimensions in mm (L x H x W)	Thickness in mm	Dowel Ø	Hole Ø, anchor Hole Ø, washer
120 x 240 x 55	2.0	-	18 x 26
120 x 280 x 55	2.0	-	18 x 26
114 x 55	20.0	M12	14 x 22
114 x 55	20.0	M16	18 x 26

Concrete Flat Steel Anchor

- With European Technical Approval ETA-09/0132, for thickness 2 mm
- With European Technical Approval ETA-10/0010, for thickness 4 mm
- The wood connector anchored in the concrete provides a secure hold for eaves purlins and supports
- Can be encased in concrete
- Thickness: 2.0mm and 4.0 mm available
- Hole Ø: 5.0 mm
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approval



(Drawing provided as an example)



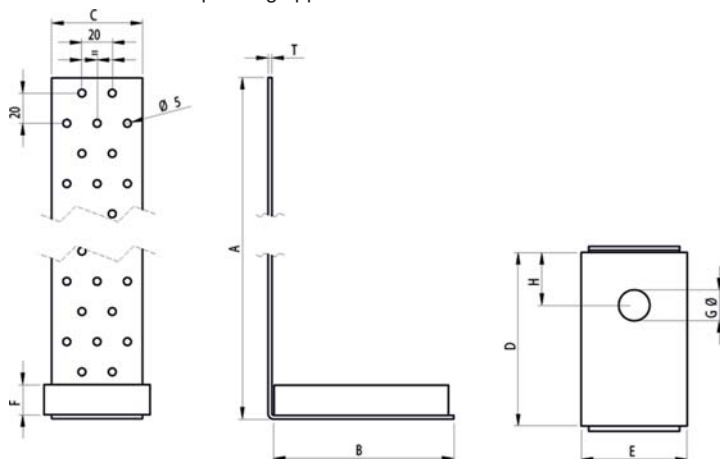
Article No.	Article Description	QTY
8881 3 2 40 200	CONC.FLAT STEEL ANCH.40X200X 2	50
8881 3 2 40 300	CONC.FLAT STEEL ANCH.40X300X 2	25
8881 3 2 40 400	CONC.FLAT STEEL ANCH.40X400X 2	25
8881 3 4 40 200	CONC.FLAT STEEL ANCH.40X200X 4	10
8881 3 4 40 300	CONC.FLAT STEEL ANCH.40X300X 4	10
8881 3 4 40 400	CONC.FLAT STEEL ANCH.40X400X 4	10

Technical Data

Dimensions in mm (L x H)	Thick- ness in mm	Number of holes Ø 13 mm / Ø 5 mm
40 x 200	2.0	1 / 19
40 x 300	2.0	1 / 27
40 x 400	2.0	1 / 34
40 x 200	4.0	1 / 19
40 x 300	4.0	1 / 27
40 x 400	4.0	1 / 34

Tension Anchor

- With European Technical Approval ETA-10/0010
- Optimised nail pattern for optimum load capacity
- Partial nailing possible
- For absorbing wind loads in timber studding and timber frame construction
- The load is passed into the base plate by means of a washer and suitable dowel
- 275 g/m² anti-corrosion protection on both sides
- Connection to concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approvals



(Drawing provided as an example)

Technical Data

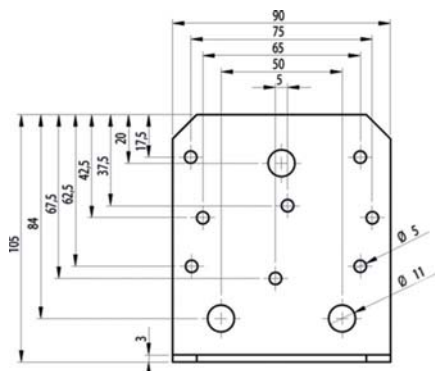
Dimensions in mm (L x H x W)	Thick- ness in mm	Dowel Ø	No. of holes	Hole Ø in mm	Dimensions of washer in mm	Hole Ø of washer in mm
182x340x40	2.0	M12	23	5.0	160x50x15	12.5
123x400x40	3.0	M16	23	5.0	110x60x15	16.5
222x420x60	2.0	M16	38	5.0	200x60x20	16.5
102x420x60	2.0	M20	38	5.0	85x60x20	20.5
123x480x60	2.5	M20	38	5.0	115x70x20	20.5

Article No.	Article Description	QTY
8881 4 340 182	TENSION ANCH.2-PART 340X182X40	10
8881 4 400 123	TENSION ANCH.2-PART 400X123X40	10
8881 4 420 102	TENSION ANCH.2-PART 420X102X60	10
8881 4 420 222	TENSION ANCH.2-PART 420X222X60	10
8881 4 480 123	TENSION ANCH.2-PART 480X123X60	10

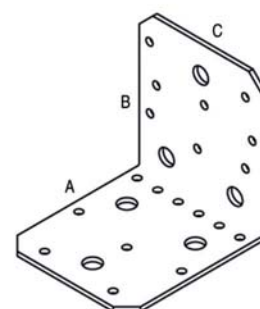
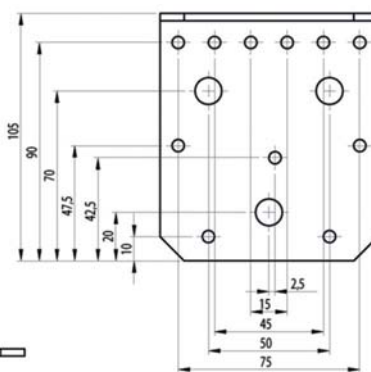


Perforated Sheet Angle Bracket, No Fillet

- With European Technical Approval ETA-08/0215 for wood/wood connections
- With European Technical Approval ETA-09/0322* for wood/wood connections
- No fillet
- Approved for partial and complete nailing
- 275 g/m² anti-corrosion protection on both sides
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



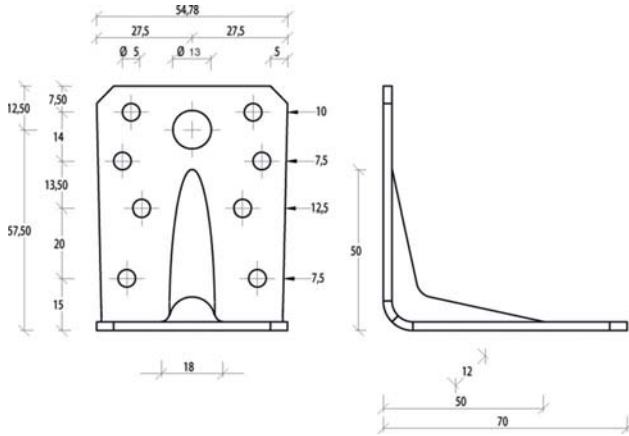
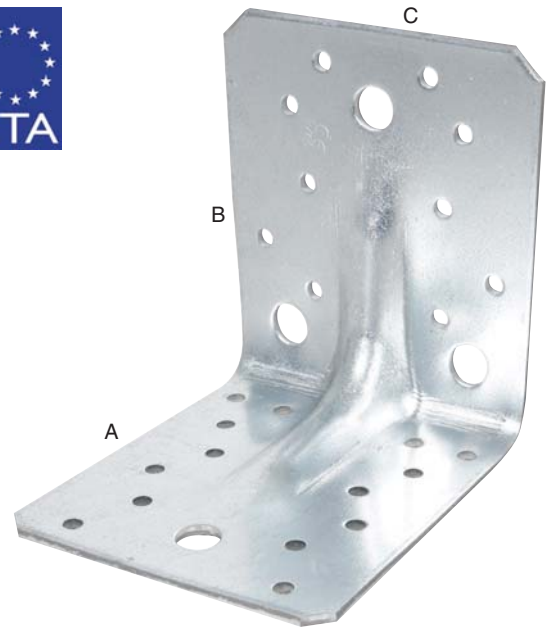
Article No.	Article Description	QTY
8882 50 50 35	ANGLE BRACKET 50X 50X 35*	100
8882 70 70 55	ANGLE BRACKET 70X 70X 55	100
8882 90 90 40	ANGLE BRACKET 90X 90X 40*	50
8882 90 90 65	ANGLE BRACKET 90X 90X 65	100
8882 105 105 90	ANGLE BRACKET 105X105X 90	50

Technical Data

Dimensions in mm (A x B x C)	Thickness in mm	Number of holes Ø 5 mm / Ø 11 mm
50 x 50 x 35*	2.5	8/2
70 x 70 x 55	2.0	16/2
90 x 90 x 40*	3.0	18/4
90 x 90 x 65	2.5	22/4
105 x 105 x 90	3.0	19/6

* With European Technical Approval ETA-09/0322

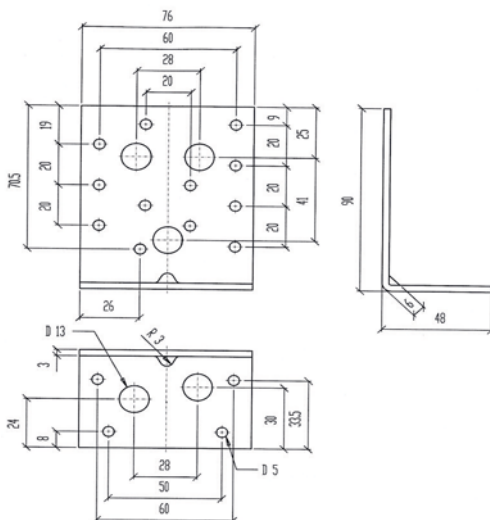
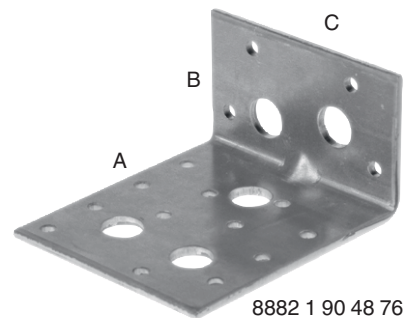
- With European Technical Approval ETA-08/0215 for wood/wood connections
- With fillet
- Approved for partial and complete nailing
- 275 g/m² anti-corrosion protection on both sides
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails and angle fitting screws



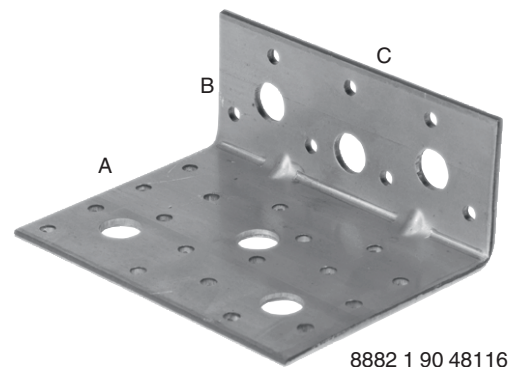
Article No.	Article Description	QTY
8882 1 70 70 55	ANGLE BRAC.FILLET 70X 70X 55	100
8882 1 90 90 65	ANGLE BRAC.FILLET 90X 90X 65	100
8882 1 10510590	ANGLE BRAC.FILLET105X105X 90	50

Technical Data			
Dimensions in mm (A x B x C)	Thick- ness in mm	Number of holes Ø 5 mm/Ø 11 mm	Number of holes Ø 5 mm/Ø 13 mm
70 x 70 x 55	2.0	16/2	-
90 x 90 x 65	2.5	20/2	-
105 x 105 x 90	3.0	-	24/4

- With European Technical Approval ETA-09/0133 for wood/wood connections
- Approved for partial and complete nailing
- Quantity and lengths of the nails or screws depend on the particular loading
- 275 g/m² anti-corrosion protection on both sides
- Fastening material: Anchor/ring shank nails and angle fitting screws



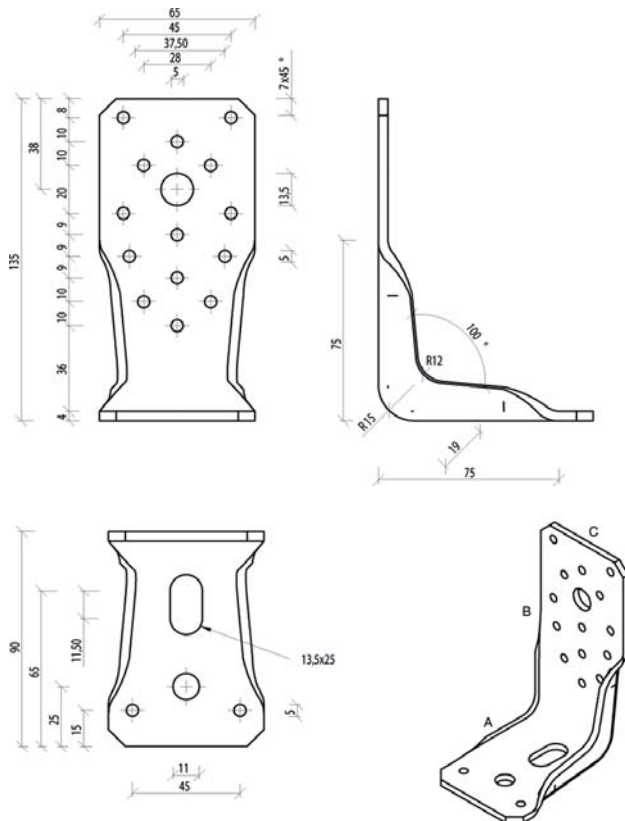
Article No.	Article Description	QTY
8882 1 90 48 76	ANGLE BRAC.FILLET 90X 48X 76	50
8882 1 90 48116	ANGLE BRAC.FILLET 90X 48X116	25



Technical Data		
Dimensions in mm (A x B x C)	Thick- ness in mm	Number of holes Ø 5 mm / Ø 13 mm
90 x 48 x 76	3.0	16 / 5
90 x 48 x 116	3.0	25 / 6

Angle Bracket KR

- With European Technical Approval ETA-09/0324
- Heavy duty design, fillet on each side
- For threshold and prop connectors
- Can be adjusted on the floor thanks to the oblong hole in the short leg
- For partial or complete nailing
- Connection to wood/concrete/masonry/Halfen rails
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approvals



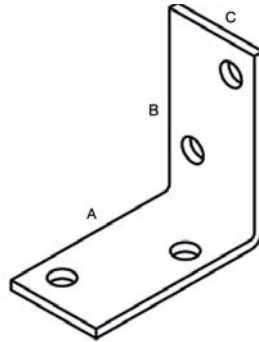
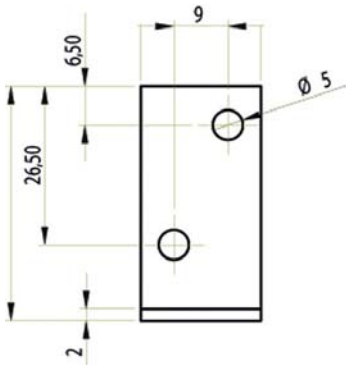
(Drawing provided as an example)

Article No.	Article Description	QTY
8882 2 95 90 65	ANGLE BRACKET KR 95X 90X 65	25
8882 2 135 90 65	ANGLE BRACKET KR 135X 90X 65	25
8882 2 285 90 65	ANGLE BRACKET KR 285X 90X 65	25

Technical Data			
Dimensions in mm (A x B x C)	Thickness in mm	Oblong hole in mm	Number of holes Ø 5 mm / Ø 13 mm
88 x 95 x 65	4.0	25 x 13.5	11/-
88 x 135 x 65	4.0	25 x 13.5	17/1
88 x 285 x 65	4.0	25 x 13.5	28/3

Mini Bracket

- With European Technical Approval ETA-13/0900
- For structurally subordinated connections
- 275 g/m² anti-corrosion protection on both sides
- Thickness: 2.0 mm
- Hole Ø: 5.0 mm
- Wood-to-wood connections
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)

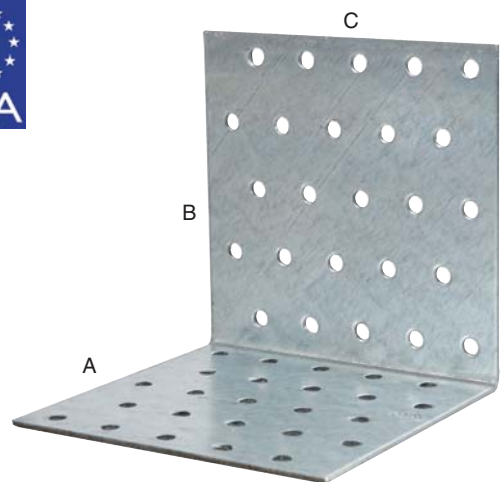
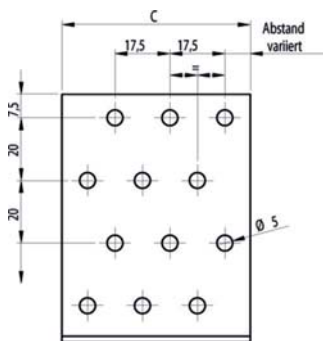
Article No.	Article Description	QTY
8882 3 40 40 20	MINI BRACKET 40X 40X 20	100
8882 3 40 40 40	MINI BRACKET 40X 40X 40	100
8882 3 50 50 40	MINI BRACKET 50X 50X 40	100

Technical Data

Dimensions in mm (A x B x C)	Thickness in mm	Number of holes	Hole Ø in mm
40 x 40 x 20	2.0	4	5.0
40 x 40 x 40	2.0	8	5.0
50 x 50 x 40	2.0	12	5.0

Perforated Sheet Angle Bracket

- With European Technical Approval ETA-13/0900
- For structurally subordinated connections
- 275 g/m² anti-corrosion protection on both sides
- Thickness: 2.0 mm
- Hole Ø: 5.0 mm
- Wood-to-wood connections
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)

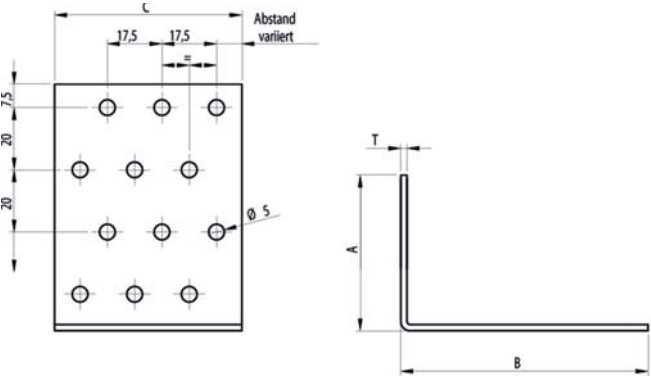
Article No.	Article Description	QTY
8882 4 40 40 60	PERF.SHEET BRACKET 40X 40X 60	100
8882 4 60 60 40	PERF.SHEET BRACKET 60X 60X 40	100
8882 4 60 60 50	PERF.SHEET BRACKET 60X 60X 50	100
8882 4 60 60 60	PERF.SHEET BRACKET 60X 60X 60	100
8882 4 60 60 100	PERF.SHEET BRACKET 60X 60X 100	100
8882 4 80 80 60	PERF.SHEET BRACKET 80X 80X 60	100
8882 4 80 80 80	PERF.SHEET BRACKET 80X 80X 80	100
8882 4 100 100 100	PERF.SHEET BRACKET 100X 100X 100	50

Technical Data

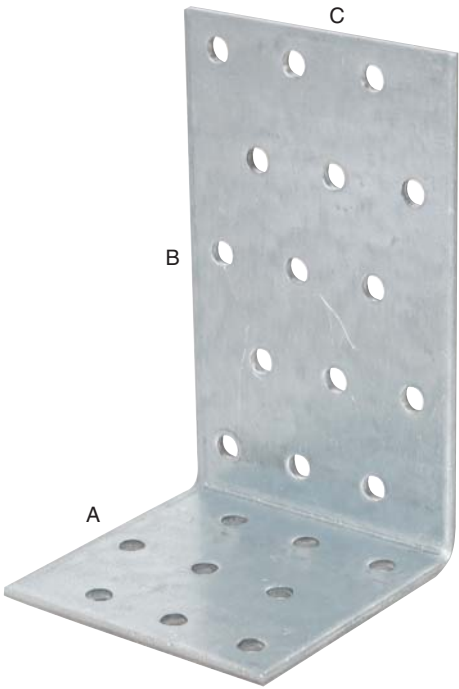
Dimensions in mm (A x B x C)	Thickness in mm	Number of holes	Hole Ø in mm
40 x 40 x 60	2.0	12	5.0
60 x 60 x 40	2.0	12	5.0
60 x 60 x 50	2.0	15	5.0
60 x 60 x 60	2.0	18	5.0
60 x 60 x 100	2.0	30	5.0
80 x 80 x 60	2.0	24	5.0
80 x 80 x 80	2.0	32	5.0
100 x 100 x 100	2.0	50	5.0

Perforated Sheet Angle Bracket, Asymmetric

- With European Technical Approval ETA-13/0900
- For structurally subordinated connections
- 275 g/m² anti-corrosion protection on both sides
- Thickness: 2.5 mm
- Hole Ø: 5.0 mm
- Wood-to-wood connections
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)

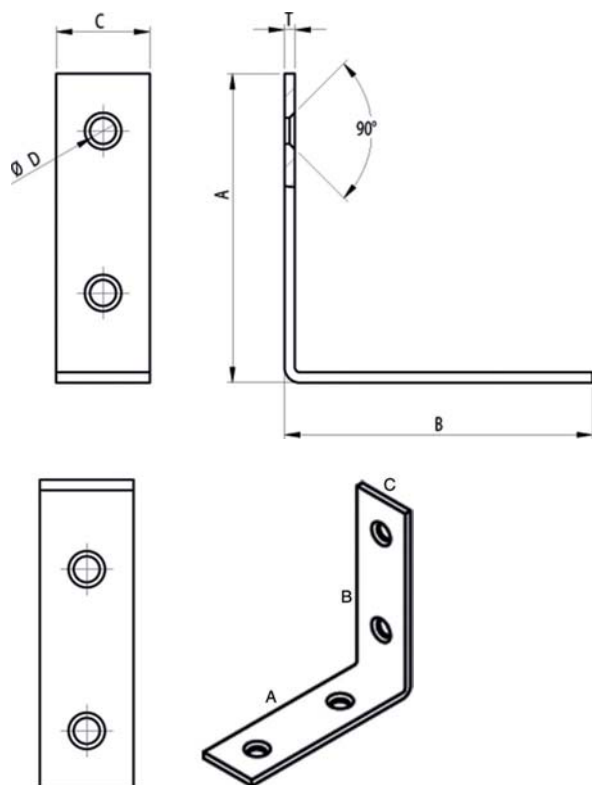


Article No.	Article Description	QTY
8882 5 40 60 60	PERF.SH.BRACK.ASYM. 40X 60X 60	50
8882 5 60 80 60	PERF.SH.BRACK.ASYM. 60X 80X 60	50
8882 5 60 10060	PERF.SH.BRACK.ASYM. 60X100X 60	50
8882 5100200100	PERF.SH.BRACK.ASYM.100X200X100	50

Technical Data			
Dimensions in mm (A x B x C)	Thick-ness in mm	Number of holes	Hole Ø in mm
40 x 60 x 60	2.5	15	5.0
60 x 80 x 60	2.5	21	5.0
60 x 100 x 60	2.5	24	5.0
100 x 200 x 100	2.5	75	5.0

Chair and Box Bracket

- Holes countersunk on one side
- Galvanised
- Thickness: 2.0 mm
- Wood-to-wood connections
- Fastening material: Chipboard screw



(Drawing provided as an example)



Technical Data			
Dimensions in mm (A × B × C)	Thickness in mm	Number of holes	Hole Ø in mm
25 × 25 × 15	2.0	4	4.5
30 × 30 × 15	2.0	4	4.5
40 × 40 × 15	2.0	4	4.5
50 × 50 × 15	2.0	4	4.5
60 × 60 × 18	2.0	4	4.5
80 × 80 × 18	2.0	4	4.5
100 × 100 × 20	2.0	6	5.5

Article No.	Article Description	QTY
8882 7 25 25 15	CHAIR+BOX BRACKET 25X 25X 15	100
8882 7 30 30 15	CHAIR+BOX BRACKET 30X 30X 15	100
8882 7 40 40 15	CHAIR+BOX BRACKET 40X 40X 15	100
8882 7 50 50 15	CHAIR+BOX BRACKET 50X 50X 15	100
8882 7 60 60 18	CHAIR+BOX BRACKET 60X 60X 18	100
8882 7 80 80 18	CHAIR+BOX BRACKET 80X 80X 18	50
8882 7 100 100 20	CHAIR+BOX BRACKET 100X 100X 20	50

- Approved and monitored in accordance with EN 14545:2008
- For large-scale connection of wooden beam structures in timber frame construction and structural timberwork
- 275 g/m² anti-corrosion protection on both sides
- Fastening material: Anchor/ring shank nails or angle fitting screws

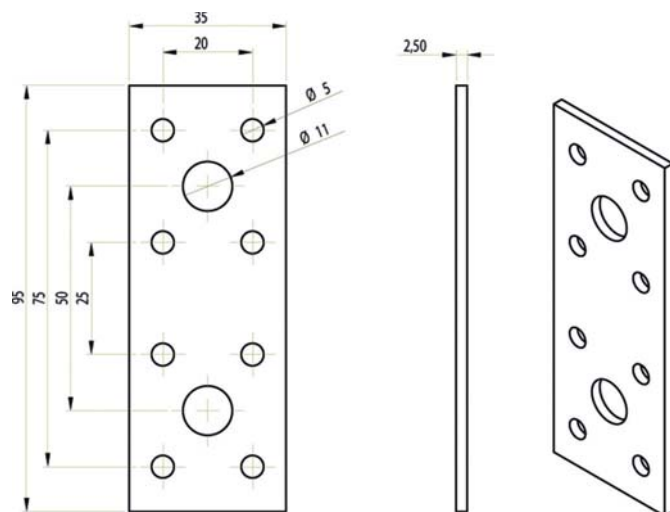
[illegible]

Article No.	Article Description	QTY
8883 40 120	PERF.SHEET 40X 120	100
8883 40 160	PERF.SHEET 40X 160	100
8883 60 120	PERF.SHEET 60X 120	100
8883 60 140	PERF.SHEET 60X 140	50
8883 60 160	PERF.SHEET 60X 160	50
8883 60 200	PERF.SHEET 60X 200	50
8883 60 240	PERF.SHEET 60X 240	50
8883 80 200	PERF.SHEET 80X 200	50
8883 80 240	PERF.SHEET 80X 240	50
8883 80 300	PERF.SHEET 80X 300	50
8883 100 200	PERF.SHEET 100X 200	50
8883 100 240	PERF.SHEET 100X 240	50
8883 100 260	PERF.SHEET 100X 260	50
8883 100 300	PERF.SHEET 100X 300	50
8883 120 200	PERF.SHEET 120X 200	50
8883 120 300	PERF.SHEET 120X 300	50
8883 60 1200	PERF.SHEET STRIPS 60X1200	10
8883 80 1200	PERF.SHEET STRIPS 80X1200	10
8883 100 1200	PERF.SHEET STRIPS 100X1200	10
8883 120 1200	PERF.SHEET STRIPS 120X1200	10
8883 140 1200	PERF.SHEET STRIPS 140X1200	10
8883 160 1200	PERF.SHEET STRIPS 160X1200	10
8883 180 1200	PERF.SHEET STRIPS 180X1200	10
8883 200 1200	PERF.SHEET STRIPS 200X1200	10
8883 220 1200	PERF.SHEET STRIPS 220X1200	10
8883 240 1200	PERF.SHEET STRIPS 240X1200	5
8883 260 1200	PERF.SHEET STRIPS 260X1200	5
8883 280 1200	PERF.SHEET STRIPS 280X1200	5
8883 300 1200	PERF.SHEET STRIPS 300X1200	5
8883 400 1200	PERF.SHEET STRIPS 400X1200	5

Dimensions in mm (W x L)	Thick- ness in mm	No. of holes	Hole Ø in mm
40 x 120	2.0	12	5.0
40 x 160	2.0	16	5.0
60 x 120	2.0	18	5.0
60 x 140	2.0	21	5.0
60 x 160	2.0	24	5.0
60 x 200	2.0	30	5.0
60 x 240	2.0	36	5.0
80 x 200	2.0	40	5.0
80 x 240	2.0	48	5.0
80 x 300	2.0	60	5.0
100 x 200	2.0	50	5.0
100 x 240	2.0	60	5.0
100 x 260	2.0	65	5.0
100 x 300	2.0	75	5.0
120 x 200	2.0	60	5.0
120 x 300	2.0	84	5.0
60 x 1,200	2.0	180	5.0
80 x 1,200	2.0	240	5.0
100 x 1,200	2.0	300	5.0
120 x 1,200	2.0	360	5.0
140 x 1,200	2.0	420	5.0
160 x 1,200	2.0	480	5.0
180 x 1,200	2.0	540	5.0
200 x 1,200	2.0	600	5.0
220 x 1,200	2.0	660	5.0
240 x 1,200	2.0	720	5.0
260 x 1,200	2.0	780	5.0
280 x 1,200	2.0	840	5.0
300 x 1,200	2.0	900	5.0
400 x 1,200	2.0	1,200	5.0

Flat Connector, Heavy

- Approved and monitored in accordance with DIN EN 14545:2008
- Heavy flat connector for the connection of timber and beam constructions
- Connection to wood/concrete/masonry/Halfen rails
- 275 g/m² anti-corrosion protection on both sides
- Fastening material: Anchor/ring shank nails, angle fitting screws and dowels with corresponding approvals



(Drawing provided as an example)



Technical Data

Article No.	Article Description	QTY
8883 1 95 35	HEAVY FLAT CONNECTOR 95X 35	100
8883 1 135 55	HEAVY FLAT CONNECTOR 135X 55	100
8883 1 175 40	HEAVY FLAT CONNECTOR 175X 40	50

Dimension in mm (W × L)	Thick- ness in mm	Number of holes Ø 5 mm/Ø 11 mm
35 × 95	2.5	8/2
55 × 135	2.0	16/2
40 × 175	3.0	16/4

Gerber Connector

- Gerber connectors are suitable for forming the links in butt-jointed continuous beams
- Due to the large distance of the nails from the joint, the nail distance parallel to the grain is also maintained
- Load transmission in all three directions
- Optimised load capacities for full and partial nailing
- Individual dimensions suitable for several wood cross-sections
- Fastening material: Anchor/ring shank nails or angle fitting screws

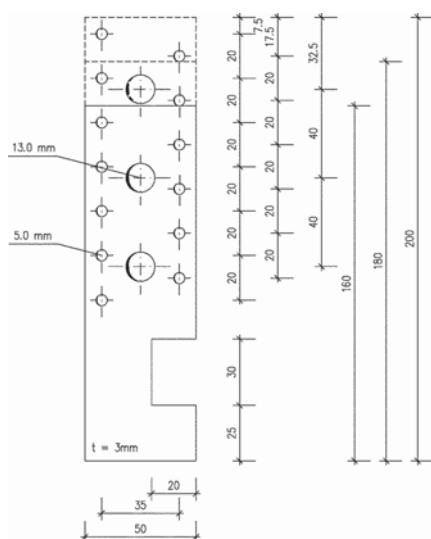


Article No.	Article Description	QTY
8883 5 140	(PAIR)GERBER CONNECTOR 180X140	10
8883 5 180	(PAIR)GERBER CONNECTOR 180X180	10
8883 5 220	(PAIR)GERBER CONNECTOR 180X220	10
8883 5 260	(PAIR)GERBER CONNECTOR 180X260	10

Technical Data

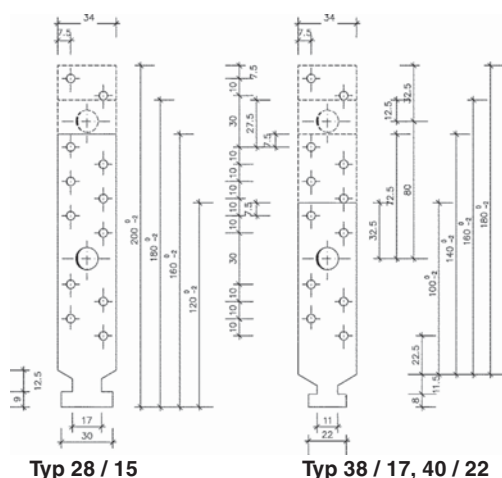
Dimensions in mm (L × W × H)	Thick- ness in mm	Number of holes Ø 5 mm
180 × 25 × 140	2.0	60
180 × 25 × 180	2.0	80
180 × 25 × 220	2.0	100
180 × 25 × 260	2.0	120

- Approved and monitored in accordance with EN 14545:2008
- The T-beams are fastening materials for easy connection to wooden beams on steel beams
- Application always on both sides or diagonally
- Fastening material: Anchor/ring shank nails or angle fitting screws



Technical Data		
Dimension in mm (W x L)	Thick- ness in mm	Number of holes Ø 5mm / Ø 13mm
160 x 50	3.0	9 / 2
180 x 50	3.0	11 / 3
200 x 50	3.0	13 / 3

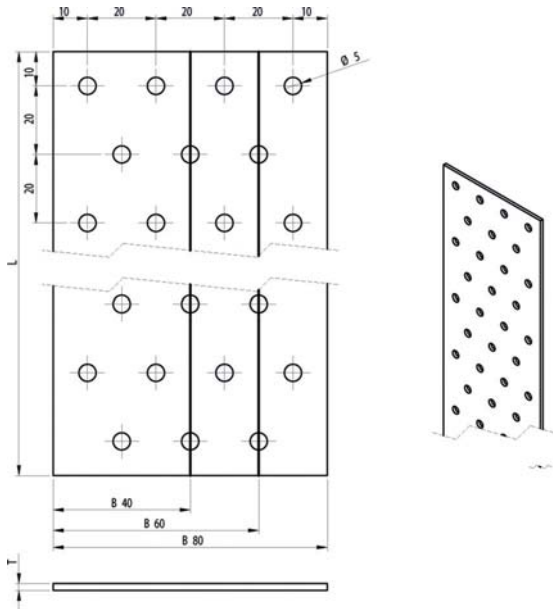
- Approved and monitored in accordance with EN 14545:2008
- Securing of wood beams, rafter, stringer, etc. to anchor rails (Halfen rails)
- Application always on both sides
- Fastening material: Anchor/ring shank nails or angle fitting screws
- **Profile anchor 1 for Halfen rails type 28/15**
- **Profile anchor 2 for Halfen rails type 38/17 and 40/22**



Technical Data			
Dimension in mm (L x W)	Thick- ness in mm	Number of holes Ø 5mm / Ø 13mm	For Halfen rails types
90 x 34	3.0	4 / 0	28 / 15
130 x 34	3.0	6 / 1	28 / 15
150 x 34	3.0	8 / 1	28 / 15
130 x 34	3.0	6 / 1	38 / 17, 40 / 22
150 x 34	3.0	10 / 1	38 / 17, 40 / 22

Wind Brace Strapping

- Approved and monitored in accordance with EN 14545:2009-2
- **Edge galvanised**, consequently even lower risk of injury
- For bracing roof and wall structures
- Hole Ø: 5.0 mm
- Roll length: 50 m
- Thickness: 1.5 mm
- Anti-corrosion protection 275 g/m²
- Fastening material: Anchor/ring shank nails and angle fitting screws



(Drawing provided as an example)



Article No.	Article Description	QTY
8883 2 40 50	RO(50M)WIND BRACE STRAP.40X 50	1
8883 2 60 50	RO(50M)WIND BRACE STRAP.60X 50	1

Technical Data			
Width in mm	Thickn. in mm	Length in m	Hole Ø in mm
40	1.5	50	5.0
60	1.5	50	5.0

Wind Brace Strapping Tensioner System

- For tensioning the wind brace strapping
- Retrospective tensioning possible
- Supplied with screws and nuts

Art. No. 8883 2 40 50 1 and 8883 2 60 50 1:

- Tensioners are placed within the WRB
- Can be used with 40 mm and 60 mm WRB

Art. No. 8883 2 40 60 1:

- Connection between the WRB and the connection plates
- Can be used with 40 mm and 60 mm WRB

Art. No. 8883 2 40 60 2:

- For the connection to the connection plates
- Can be used with 40 mm and 60 mm WRB

Art. No. 8883 2 40 50 2:

- In pairs for the eaves or ridge area
- Can be used with 40 mm WRB

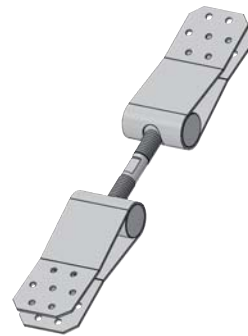
Art. No. 8883 2 60 50 2:

- In pairs for the eaves or ridge area
- Can be used with 60 mm WRB

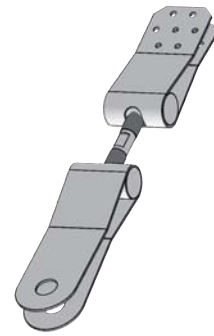
Art. No. 8883 2 40 60 3:

- Connecting plate for the ridge area when two WRBs from neighbouring zones meet
- Can be used with 40 mm and 60 mm WRB

WRB = wind brace strapping



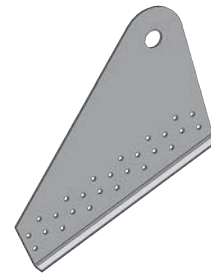
8883 2 40 50 1
8883 2 60 50 1



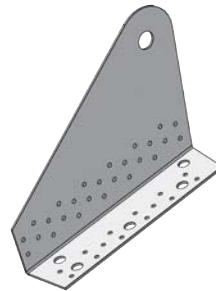
8883 2 40 60 1



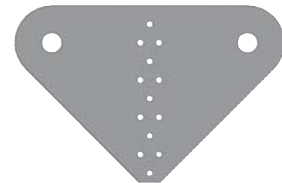
8883 2 40 60 2



8883 2 40 50 2



8883 2 60 50 2



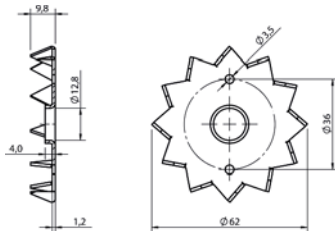
8883 2 40 60 3

Article No.	Article Description	QTY
8883 2 40 50 1	WBS.TENSIONER TYPE S40	4
8883 2 60 50 1	WBS.TENSIONER TYPE S60	4
8883 2 40 60 1	WBS.TENSIONER CONNECT.PLATES	4
8883 2 40 60 2	WBS.COMBO CONNECTOR 40/60	4
8883 2 40 50 2	(PAIR) WBS.CONNECT.PLATE 40	2
8883 2 60 50 2	(PAIR) WBS.CONNECT.PLATE 60	1
8883 2 40 60 3	WBS.CONNECT.PLATE TYPE A40/60	e 10

Technical Data			
Dimensions in mm (W x L)	Thickness in mm	No. of holes Ø 5mm	No. of holes Ø 21mm
40 x 300 – 350	2.0	5 + 5	–
60 x 300 – 375	2.0	7 + 7	–
60 x 300 – 350	2.0	7	–
60 x 157	2.0	7	–
198 x 289	2.0	–	1
198 x 289	2.0	–	1
190 x 290	2.0	–	2

Insertion dowel

- In accordance with DIN EN 14545:2008
- For toothed wood connectors bearing high levels of force
- One-sided design: secure connection of solid wood beams and laminated beams to steel or concrete
- Anti-corrosion protection 275 g/m²
- Double-sided design: secure connection of solid wood beams and laminated beams to each other
- Zinc-plated steel



Article No.	Article Description	QTY
8883 3 48	INSERTION DOWEL 48	300
8883 3 62	INSERTION DOWEL 62	100
8883 3 75	INSERTION DOWEL 75	100
8883 3 2 48	INSERTION DOWEL DS 48	200
8883 3 2 62	INSERTION DOWEL DS 62	200
8883 3 2 75	INSERTION DOWEL DS 75	100

(DS=double-sided)

Technical Data

Diameter in mm	Hole diameter in mm	Thickness in mm
48	12	1.00
62	12	1.20
75	16	1.25
48	17	1.00
62	21	1.20
75	26	1.25

Insertion Dowel Geka

- For toothed wood connectors bearing high levels of force
- One-sided design: secure connection of solid wood beams and laminated beams to steel or concrete
- Double-sided design: secure connection of solid wood beams and laminated beams to each other
- Galvanised steel



Article No.	Article Description	QTY
8883 4 50	INSERTION DOWEL GEKA 50	50
8883 4 65	INSERTION DOWEL GEKA 65	50
8883 4 80	INSERTION DOWEL GEKA 80	25
8883 4 95	INSERTION DOWEL GEKA 95	25
8883 4 115	INSERTION DOWEL GEKA 115	25
8883 4 2 50	INSERTION DOWEL GEKA DS 50	50
8883 4 2 65	INSERTION DOWEL GEKA DS 65	50
8883 4 2 80	INSERTION DOWEL GEKA DS 80	25
8883 4 2 95	INSERTION DOWEL GEKA DS 95	25
8883 4 2 115	INSERTION DOWEL GEKA DS 115	25

Technical Data

External Ø in mm	Bolt Ø	Thickn. in mm
50	M12	3.0
65	M16	3.0
80	M20	3.0
95	M24	3.0
115	M24	3.0
50	M12	3.0
65	M16	3.0
80	M20	3.0
95	M24	3.0
115	M24	3.0

Pedix Post Anchor Height-adjustable/Rigid

- with European Technical Approval ETA-13/0550
- constructive wood protection thanks to EPDM sealing 90 × 90 × 1.5 mm on end-grain
- high tensile strength and compression strength
- hot-dipped galvanised in accordance with DIN EN ISO 12944-2 (C3)
- min. wood cross section: 100 × 100 mm
- Delivery including 12 fully threaded screws 5.0 × 80 mm TX 20
- Support plate: 90 × 90 mm
- Base plate: 160 × 100 × 8 mm

Your Advantage / Benefit

- quick and easy assembly
- no joinery, pre-drilling or milling required
- height-adjustable after installation
- high load-bearing capacity
- Delivery including fully threaded screws

Article No.	Article Description	QTY
8884 4 140	POST ANCH.PEDIX 140 ADJ.HEIGHT	4
8884 4 190	POST ANCH.PEDIX 190 ADJ.HEIGHT	4
8884 4 300	POST ANCH.PEDIX 300 ADJ.HEIGHT	4
8884 4 500	POST ANCH.PEDIX B500 FIX	4
8884 4 500 1	POST ANCH.PEDIX B500 ADJ.HEI.	4

Application



Technical Data

Art. No.	Min. installation depth mm	Height adjustment mm	Load-bearing capaci. (pressure) Nc,d [kN]	Tensile capacity Nt,d [kN]	QTY
8884 4 140	-	140 – 190	48.0	9.2	4
8884 4 190	-	190 – 290	30.9	9.2	4
8884 4 300*	-	300 – 450	16.2	9.2	4
8884 4 500	250	-	48.0	17.7	4
8884 4 500 1	250	50	30.9	17.7	4

* not part of the ETA approval

Related Products

- Bit Magazine TX **FÖRCH** Art. No. 4319 60



- Bolt Anchor R-HPTII, A4 Stainless Steel AGR. 8226

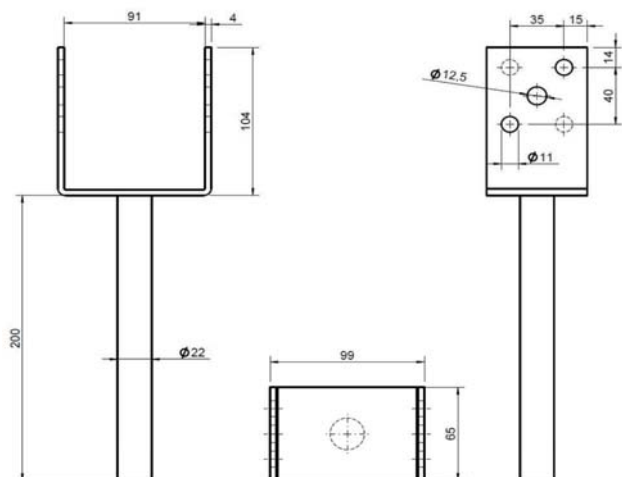


- Screw Anchor, Stainless Steel A4 Art. No. 8170 1 75 65



Support Foot Type „U”

- For visible beam Connections
- Suitable for light to medium wood constructions, e.g. car ports
- Encasable in concrete
- Hole Ø: 11.0 mm and 12.5 mm
- Thickness: 5.0 mm
- Concrete stem: 20 × 200 mm
- Steel hot dipped galvanised



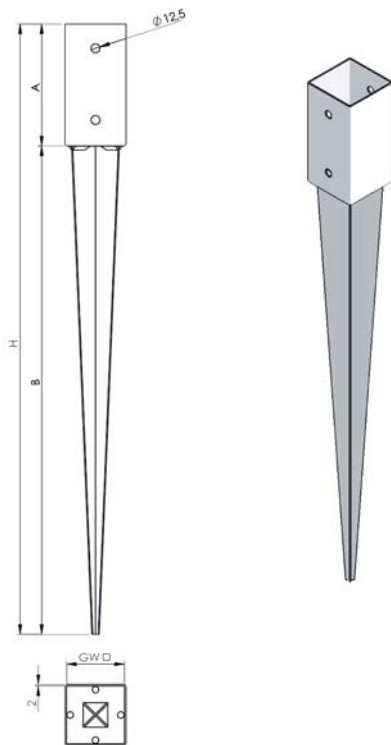
Article No.	Article Description	QTY
8884 81	SUPPORT FOOT TYPE "U" 81MM	10
8884 91	SUPPORT FOOT TYPE "U" 91MM	10
8884 101	SUPPORT FOOT TYPE "U" 101MM	10
8884 121	SUPPORT FOOT TYPE "U" 121MM	10
8884 141	SUPPORT FOOT TYPE "U" 141MM	10

Technical Data

Width in mm	Stem length in mm	Thickn. in mm
81	200	4.0
91	200	4.0
101	200	4.0
121	200	4.0
141	200	4.0

Support Foot, Needle-shaped

- for hammering into the ground
- for lightweight wood constructions
- Post depth: 150 mm
- Thickness: 2.2 mm
- Hole Ø: 12.5 mm
- Securing method: Post securing screws



Article No.	Article Description	QTY
8884 1 7171750	SUPP,FOOT NEEDL.SH. 71X71X750	1
8884 1 7171900	SUPP,FOOT NEEDL.SH. 71X71X900	1
8884 1 9191750	SUPP,FOOT NEEDL.SH. 71X71X750	1
8884 1 9191900	SUPP,FOOT NEEDL.SH. 91X91X900	1

Technical Data				
Fork width in mm	Ground depth in mm	Overall length in mm	Thickn. in mm	Hole Ø in mm
71	600	750	2.20	12.5
71	750	900	2.20	12.5
91	600	750	2.20	12.5
91	700	900	2.20	12.5

Related Products

■ Carpenter's Roofing Hammer FÖRCH
Art. No. 4724 7



■ Post Screws AGR 1628

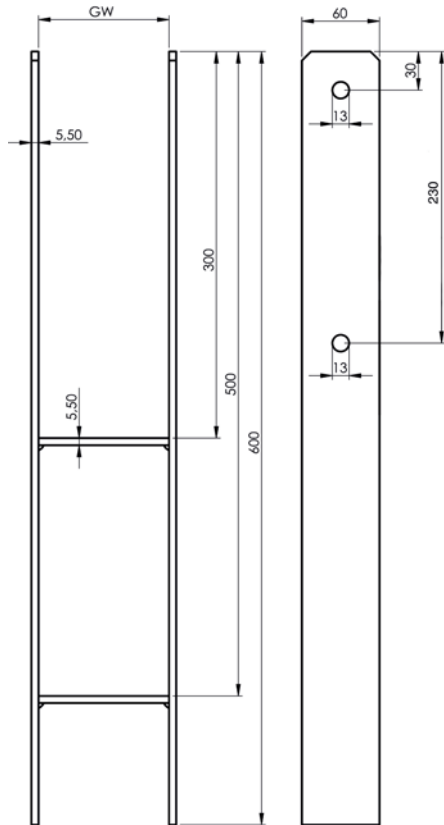


■ Hammer, Recoilless
AGR 4726



Post Anchor Type „H”

- The concrete-encased post anchor provides a secure hold in heavy wood constructions
- Material width: 60 mm
- Partial height: 300 mm
- Total height: 600 mm
- Hole Ø: 13 mm
- Zinc-plated steel



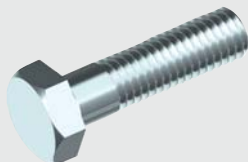
(Lochbild kann variieren)

Article No.	Article Description	QTY
8884 2 71	POST ANCHOR TYPE "H" 71MM	1
8884 2 91	POST ANCHOR TYPE "H" 91MM	1
8884 2 101	POST ANCHOR TYPE "H" 101MM	1
8884 2 121	POST ANCHOR TYPE "H" 121MM	1
8884 2 141	POST ANCHOR TYPE "H" 141MM	1

Technical Data			
Fork width in mm	Dimensions in mm	Thickness in mm	Hole Ø in mm
71	600 × 60	5.0	13.0
91	600 × 60	5.0	13.0
101	600 × 60	5.0	13.0
121	600 × 60	5.0	13.0
141	600 × 60	5.0	13.0

Related Products

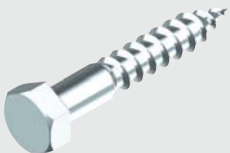
■ Hex Head Bolts DIN 931 8.8, Galvanised AGR 1001 12



■ Post Screws AGR 1628

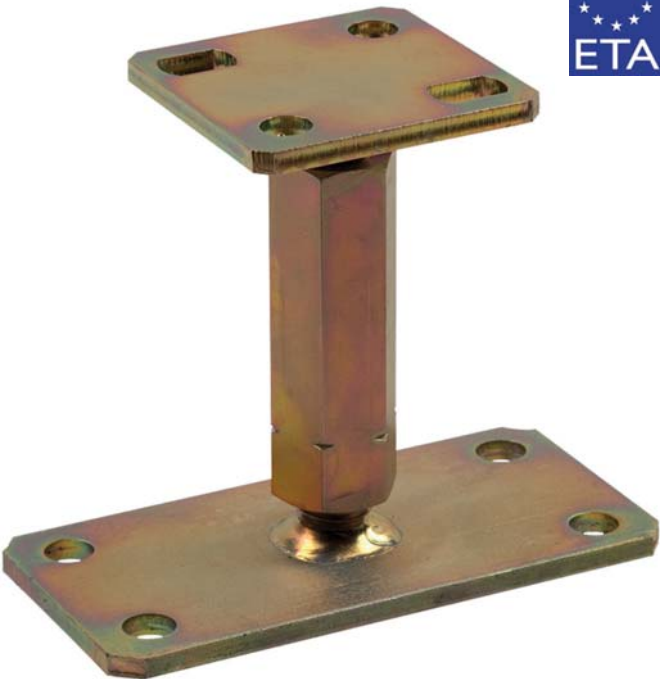
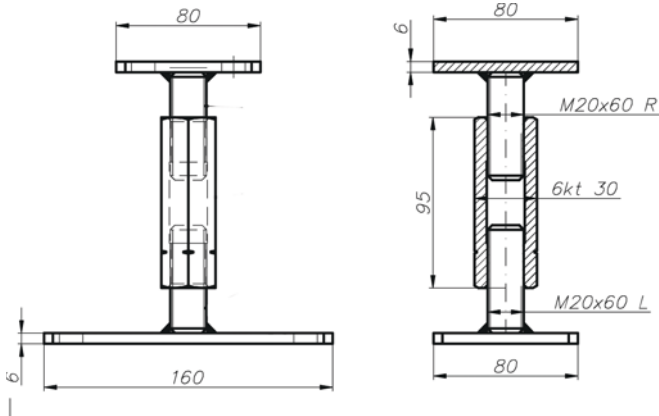


■ Hexagon Wood Screws AGR 1561



Post Anchor Height-adjustable Type P

- with European Technical Approval ETA-13/1063
- for securing lightweight constructions, e.g. car ports, canopies
- Plate-based design
- Height: 100 mm
- Support plate: 80 × 80 × 6.0 mm
- Base plate: 160 × 80 × 6.00 mm
- suitable rod dowel: Ø 10 mm
- height-adjustable once installed: 140–200 mm
- galvanised, yellow-chromated



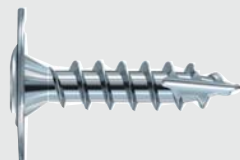
Article No.	Article Description	QTY
8884 3 1 1	POST ANCH.HEI.ADJUST.TYPE P	e 10

Related Products

■ Wood Screws AGR 1628



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII, Stainless Steel A4 AGR. 8226

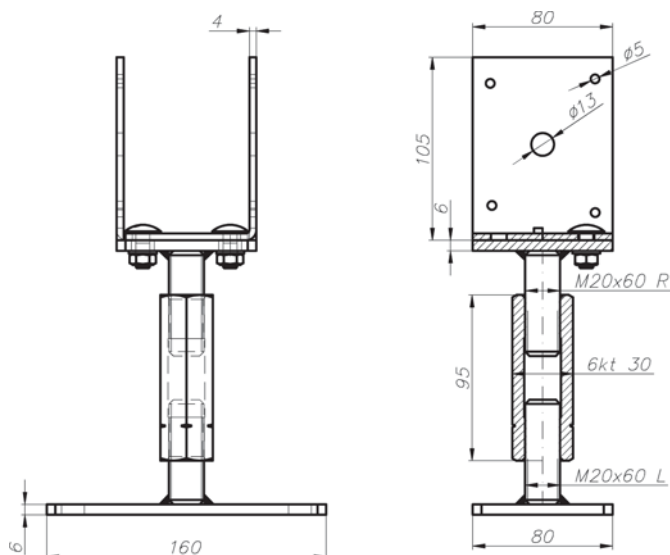


■ Hexagon Wood Screws AGR 1561



Post Anchor Height-adjustable Type „U”

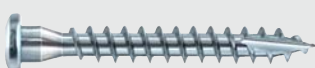
- With European Technical Approval ETA-13/1063
- For securing lightweight constructions, e.g. car ports, canopies
- Fork-based design
- Height: 150 mm
- Adjustment angle: $110 \times 80 \times 4.0$ mm
- Adjustable fork width: 80 – 160 mm
- Base plate: $160 \times 80 \times 6.0$ mm
- Securing plate: $80 \times 80 \times 6.0$ mm
- Suitable rod dowel: $\varnothing 10$ mm
- Height-adjustable once installed: 140 – 200 mm
- Galvanised, yellow-chromated



Article No.	Article Description	QTY
8884 3 1 2	POST ANCH.HEI.ADJUST.TYPE U	e 10

Related Products

■ Angle Fitting Screws,
Galvanised Steel
AGR 8853 5



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII,
Stainless Steel A4
AGR. 8226

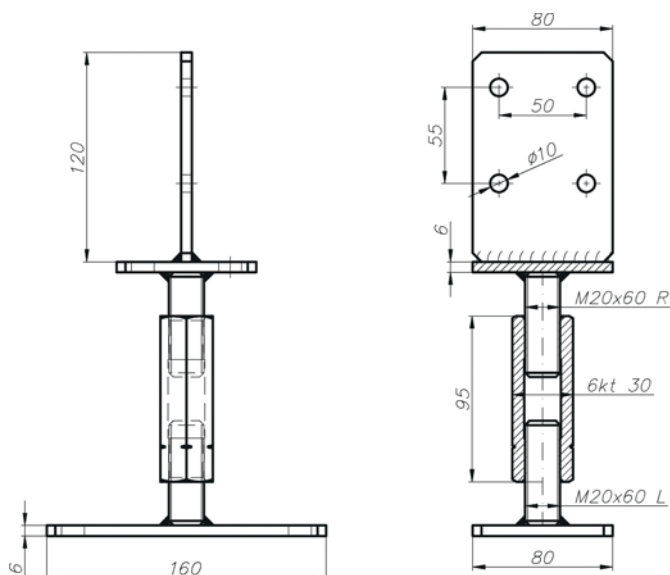


■ Hex Head Bolts DIN 931 8.8,
Galvanised
AGR 1001 12



Post Anchor Height-adjustable Type S

- with European Technical Approval ETA-13/1063
- for securing lightweight constructions, e.g. car ports, canopies
- Design with centre plate
- Height: 150 mm
- Support plate: 80 × 80 × 6.0 mm
- Centre plate: 120 × 80 × 6.0 mm
- Base plate: 160 × 80 × 6.0 mm
- suitable rod dowel: Ø 10 mm
- height-adjustable once installed: 140–200 mm
- galvanised, yellow-chromated



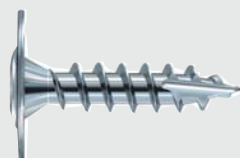
Article No.	Article Description	QTY
8884 3 1 3	POST ANCH.HEI.ADJUST.TYPE S	e 10

Related Products

■ Rod Dowel AGR 8885



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII, Stainless Steel A4 AGR. 8226

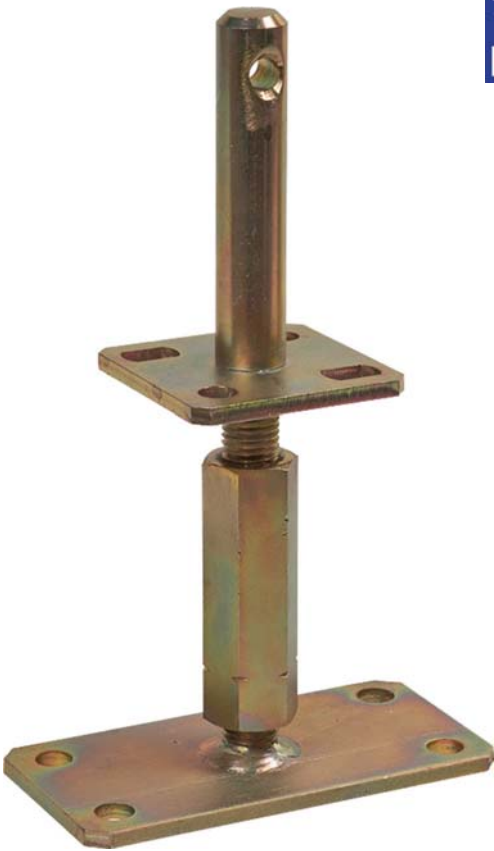
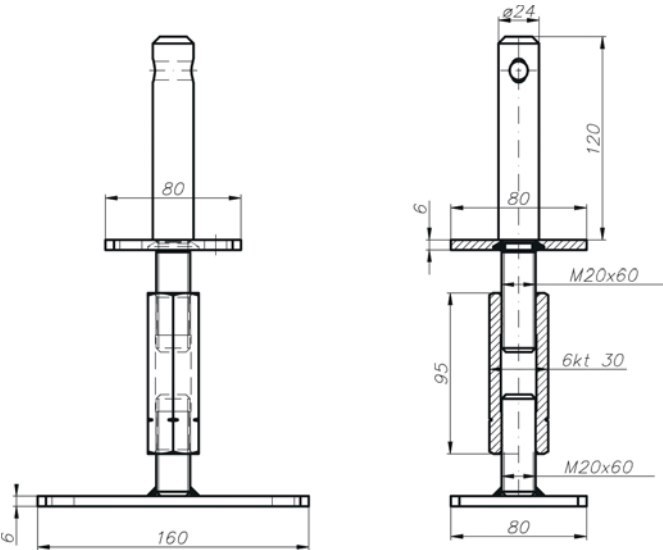


■ Hexagon Wood Screws AGR 1561



Post Anchor Height-adjustable Type Z

- With European Technical Approval ETA-13/1063
- For securing lightweight constructions, e.g. car ports, canopies
- Mandrel-based design
- Height: 150 mm
- Support plate: 80 × 80 × 6.0 mm
- Mandrel: Ø 24 × 120 mm
- Base plate: 160 × 80 × 6.0 mm
- Suitable rod dowel: Ø 10 mm
- Height-adjustable once installed: 140 – 200 mm
- Galvanised, yellow-chromated



Article No.	Article Description	QTY
8884 3 1 4	POST ANCH.HEI.ADJUST.TYPE Z	e 10

Related Products

■ Rod Dowel
AGR 8885



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII,
Stainless Steel A4
AGR. 8226

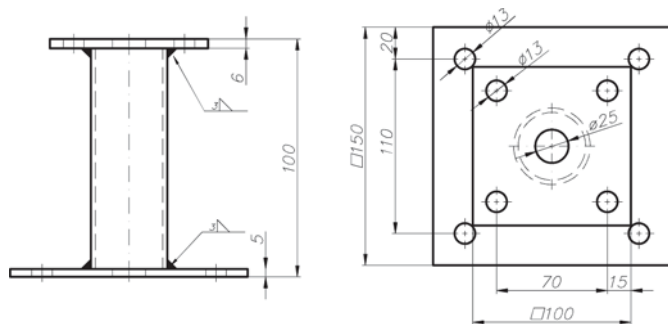


■ Hexagon Wood Screws
AGR 1561



Post Anchor Rigid Type P

- with European Technical Approval ETA-13/1063
- especially well-suited for invisible installations requiring absorption of high forces
- Plate-based design
- Support plate: 100 × 100 × 6.0 mm
- Base plate: 150 × 150 × 5.0 mm
- Height: 100 mm
- Zinc-plated steel



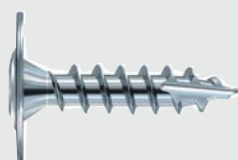
Article No.	Article Description	QTY
8884 3 2 1	POST ANCHOR RIGID TYPE P	e 10

Related Products

Wood Screws AGR 1628



Post Screws AGR 1628



Bolt Anchor R-HPTII, Stainless Steel A4 AGR. 8226

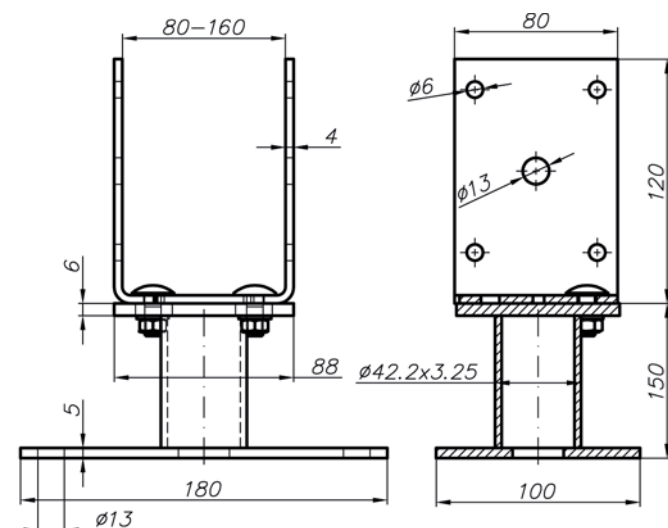


Hexagon Wood Screws AGR 1561



Post Anchor Rigid Type U

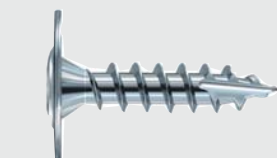
- With European Technical Approval ETA-13/1063
- Fork-based design
- Suitable for high loads
- Adjustment angle: $110 \times 80 \times 4.0$ mm
- Adjustable fork width: 80 – 160 mm
- Base plate: $180 \times 100 \times 5.0$ mm
- Height: 150 mm
- Suitable rod dowel: $\varnothing 10$ mm
- Zinc-plated steel



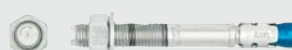
Article No.	Article Description	QTY
8884 3 2 2	POST ANCHOR RIGID TYPE U	e 10

Related Products

- Hex Head Bolts DIN 931 8.8, Galvanised AGR 1001 12



- Bolt Anchor R-HPTII, Stainless Steel A4 AGR. 8226

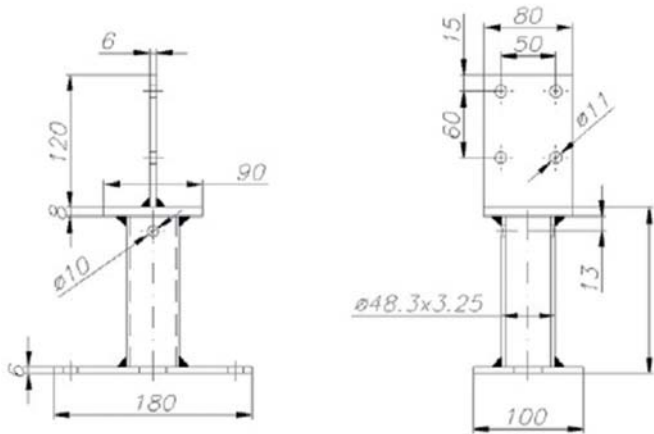


- Wood Screws AGR 1628



Post Anchor Rigid Type S

- with European Technical Approval ETA-13/1063
- Design with centre plate
- suitable for high loads
- Support plate: 100 × 80 × 8.0 mm
- Centre plate: 120 × 80 × 6.0 mm
- Base plate: 180 × 100 × 6.0 mm
- Height: 150 mm
- suitable rod dowel: Ø 10 mm
- Zinc-plated steel



Article No.	Article Description	QTY
8884 3 2 3	POST ANCHOR RIGID TYPE S	e 10

Related Products

■ Rod Dowel
AGR 8885



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII,
Stainless Steel A4
AGR. 8226

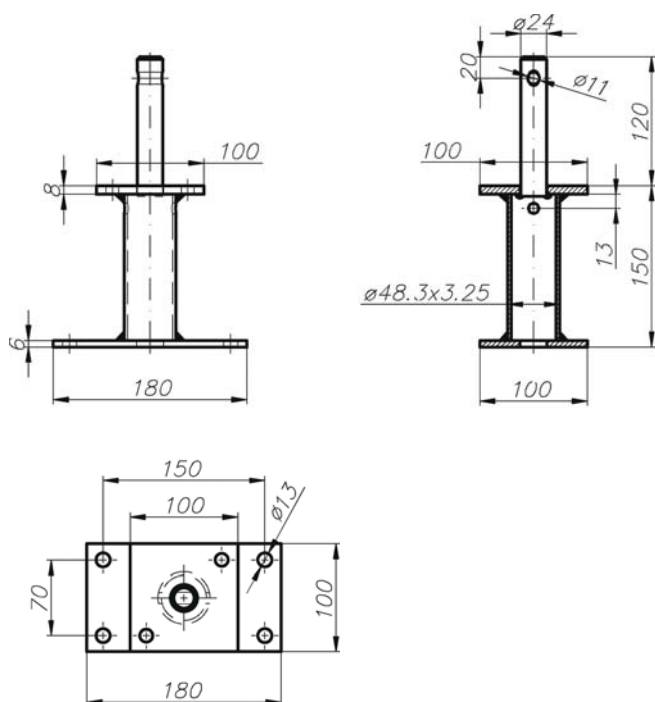


■ Hexagon Wood Screws
AGR 1561



Post Anchor Rigid Type Z

- With European Technical Approval ETA-13/1063
- Mandrel-based design
- For connection of wooden supports with a cross-section starting from 10/10 cm
- Support plate: 100 × 100 × 8.0 mm
- Mandrel: Ø 24 × 120 mm
- Base plate: 180 × 100 × 6.0 mm
- Height: 150 mm
- Suitable rod dowel: Ø 10 mm
- Zinc-plated steel



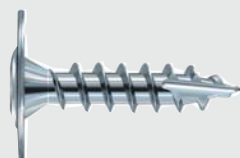
Article No.	Article Description	QTY
8884 3 2 4	POST ANCHOR RIGID TYPE Z	e 10

Related Products

■ Rod Dowel AGR 8885



■ Post Screws AGR 1628



■ Bolt Anchor R-HPTII, Stainless Steel A4 AGR. 8226

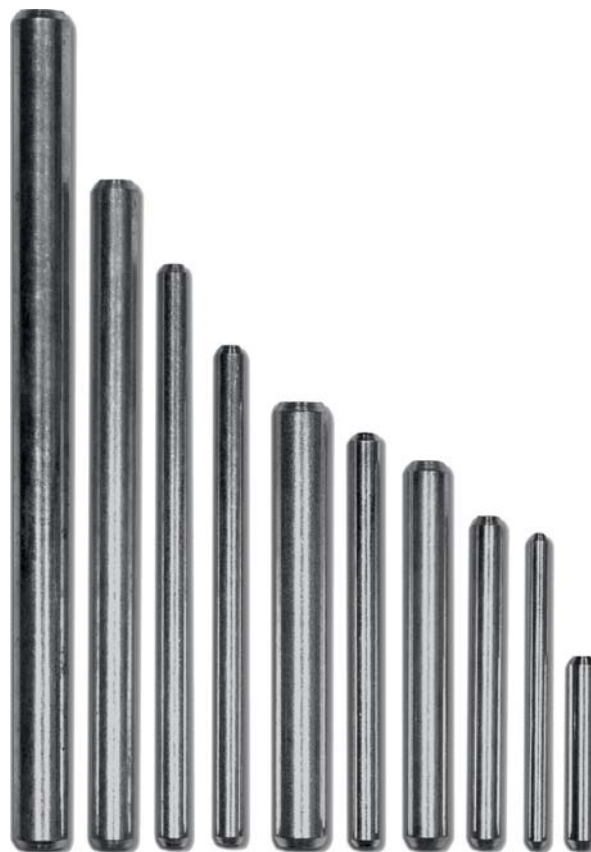
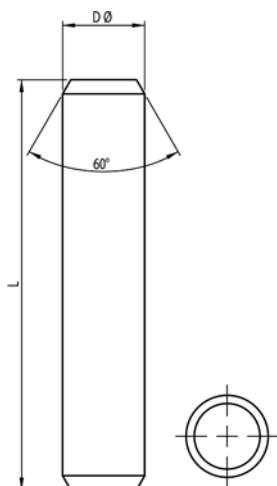


■ Hexagon Wood Screws AGR 1561



Rod Dowel

- Approved and monitored in accordance with EN 14592
- For mounting T-beam supports and support feet
- For diverse connections in wooden structures, particularly in combination with sheet steel or steel fishplates
- Inserted from either end
- Galvanised



Article No.	Article Description		QTY
8885 8 65	ROD DOWEL	8X 65	100
8885 8 90	ROD DOWEL	8X 90	100
8885 8 115	ROD DOWEL	8X115	100
8885 10 100	ROD DOWEL	10X100	100
8885 10 120	ROD DOWEL	10X120	100
8885 10 140	ROD DOWEL	10X140	100
8885 12 65	ROD DOWEL	12X 65	100
8885 12 90	ROD DOWEL	12X 90	100
8885 12 115	ROD DOWEL	12X115	100
8885 12 120	ROD DOWEL	12X120	100
8885 12 140	ROD DOWEL	12X140	100

(Other sizes available on request)

Technical Data

Ø in mm:	Length in mm:
8	65
8	90
8	115
10	100
10	120
10	140
12	65
12	90
12	115
12	120
12	140

Interlayer Grid Blocks, Plastic

- For the levelling of stud frames in pre-fabricated housing – timber construction
- Constructive wood protection for supporting wooden stands
- Two holes for fixing using screws
- Weatherproof and rot-proof
- Extremely pressure-resistant, can carry a weight of up to 4 tonnes
- When several adjusting blocks are stacked, pin connections prevent the blocks from slipping against each other
- Pins change according to loading pressure
- A different colour for every strength
- Packer length: 120 mm and 160 mm
- Packer width: 50 mm



Article No.	Article Description	QTY
8886 120 50 2	INTERL.GR.BLOCKS RED 120X50X2	250
8886 120 50 3	INTERL.GR.BL.GREEN 120X50X3	250
8886 120 50 5	INTERL.GR.BL.BLUE 120X50X5	250
8886 120 50 10	INTERL.GR.BL.WHITE 120X50X10	100
8886 120 50 15	INTERL.GR.BL.YELLOW 120X50X15	100
8886 160 50 2	INTERL.GR.BL.RED 160X50X2	250
8886 160 50 3	INTERL.GR.BL.GREEN 160X50X3	250
8886 160 50 5	INTERL.GR.BL.BLUE 160X50X5	250
8886 160 50 10	INTERL.GR.BL.WHITE 160X50X10	100
8886 160 50 15	INTERL.GR.BL.YELLOW 160X50X15	100

Interlayer Grid Blocks, Plastic MIX

- For the levelling of stud frames in pre-fabricated housing – timber construction
- Constructive wood protection for supporting wooden stud frames
- Two holes for fixing using screws
- Weatherproof and rot-proof
- Extremely pressure-resistant, can carry a weight of up to 4 tonnes
- When several adjusting blocks are stacked, pin connections prevent the blocks from slipping against each other
- Pins change according to loading pressure
- A different colour for every strength
- Packer length: 120 mm and 160 mm
- Packer width: 50 mm



Article No.	Article Description	QTY
8886P 120	<125PCS>INT.GR.BLOCKS MIX120	1
8886P 160	<100PCS>INT.GR.BLOCKS MIX160	1

Contents of Art.-No. 8886P 120:

- 25 pcs. red, 2 mm
- 25 pcs. green, 3 mm
- 25 pcs. blue, 5 mm
- 25 pcs. white, 10 mm
- 25 pcs. yellow, 15 mm

Contents of Art.-No. 8886P 160:

- 20 pcs. red, 2 mm
- 20 pcs. green, 3 mm
- 20 pcs. blue, 5 mm
- 20 pcs. white, 10 mm
- 20 pcs. yellow, 15 mm



Post Screws

- **Galvanised steel**
- Flat head screw Ø 8 mm, head diameter Ø 22 mm
- Splitting effect reduced by special spreading geometry; no pre-drilling required
- Highly corrosion protected
- Used in fence and pergola construction for example
- Not suitable for woods containing tannin

Article No.	Article Description	QTY
1628 1 8 40	TFK-TX40 WOODSCR.FT GA 8 X 40	100
1628 1 8 50	TFK-TX50 WOODSCR.FT GA 8 X 50	100



Slings

- Multiple use

Article No.	Article Description	QTY
4982 540 08	BAND SLING 540KG 0.8M	ez 150
4982 540 1	BAND SLING 540KG 1M	1 z
4982 540 12	BAND SLING 540 KG 1.2M	e 10



Chemical Products for Construction



**Sealants, adhesives,
Liquid Plastic**



**Release agent,
processing tools**



Liquid wood glue



**Road construction
products**



**PU foams, step
adhesive for stairways**



**Boiler, burner cleaners,
cleaner leak tracer**



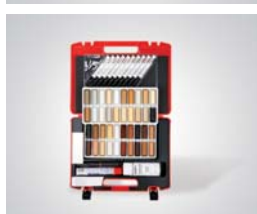
Primer



Cold adhesive



Cleaning agents



Wood repair



Lubricants



Primer, paints, fillern



Quick-setting cement

General usage instructions for sealants:

Silicone sealant base:

Our single component silicone sealants harden under the influence of air humidity and have the following properties:

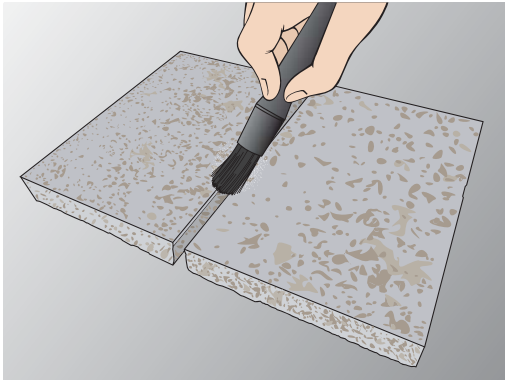
- High elasticity level, in accordance with EN 26927
- Good bonding properties
- Sealed and easy-to-clean surface
- High resistance to weather and ageing
- Good UV resistance
- And temperature resistance of at least 160 °C

The silicone sealants cannot be painted over or varnished. The silicone sealants are designed for sealing expansion connection and movement joints and are used in the most varied areas of applications.

Due to the variety of possible applications, the sealant should be tested in each individual usage case to ensure that it is suitable and effective. Silicone sealant compounds (excluding silicone MC) contain plasticisers. If the sealant comes into contact with materials that tend to absorb or release plasticisers, damage may be caused to the sealant or substrate. Products of this nature include some soft synthetic materials, strips of synthetic material, adhesive tapes, other sealants, tar, bitumen, etc. With marble, sandstone, and similarly absorptive, sensitive substrates the edge zones may become soiled. Joints affected by mechanical factors, chemicals, or severe moisture are maintenance joints according to DIN 52460.

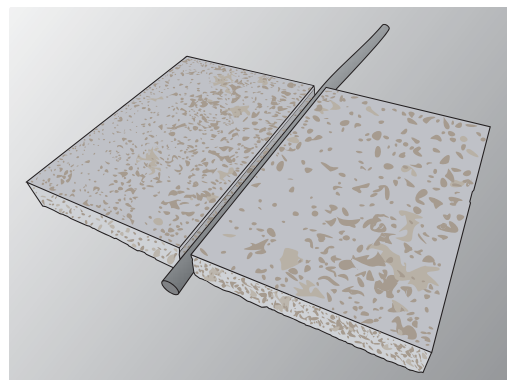
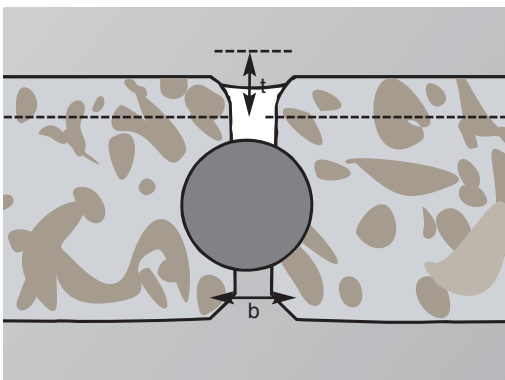
1. Substrate:

The surfaces contacting the sealant must be sustainable, dry, and clean, free from dust, dirt, rust, oil, and similar materials.



2. Joint Dimensions and 3-Edge Adhesion:

The dimensions of the joint must be taken into account and the joint must be about half as deep as it is wide, but at least 6 mm. In order to avoid 3-edge adhesion and the stress cracks associated with this, a PE backer cord must be inserted into the joint.



Joint depth (t) = ½ joint width
 Minimum joint width (b) = 6 mm
 Maximum joint width (b) = 20 mm

3. Priming:

In order to ensure that the sealant will adhere to absorptive and porous substrates, a silicone primer (Art.-No. 6830 8299) must be used.

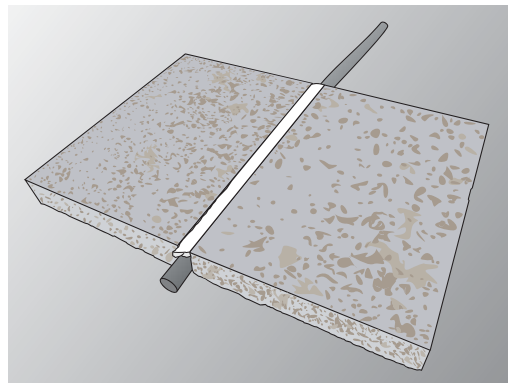


4. Smoothing the Joint:

In order to achieve a pliable and attractive joint, the sealant can be smoothed out with a smoothing agent before a skin develops. Before the sealant's skin is fully formed, it is essential to ensure that no dirt ends up on the joint surface and that the joint is not mechanically stressed.

Don't use an alkaline smoothing agent!

After the smoothing process is complete, immediately clean off any excess smoothing agent.



Note:

This information merely constitutes a set of recommendations and is based on personal experience. The respective technical data sheets must be observed! Pretests are essential!

Silicone OX **ECO**

Properties:

- Neutral silicone sealant compound, oxime-interlacing, with optimum adhesion to almost all standard building industry substrates and having good material properties
- With fungicide
- Lightweight, moisture-resistant, and weather-resistant
- Low corrosion risk with metals
- Permanently elastic in accordance with DIN EN 26927

Meets the requirements of the following standards:

- DIN 18545-2 Part E
- ISO 11600 G 25 LM

Applications:

- The material is particularly suitable for meeting the demands of glass and window construction
- Applications in handicrafts, industry, sanitation construction, building construction, metal construction, etc.
- For indoor and outdoor use
- Not suitable for aquarium construction, underwater jointing, and natural stone (e.g. marble)

Usage:

- Please consult our overview „General Usage Instructions for Sealants“ (Pages 2/100 and 2/101, 8/178 and 8/179)

Technical Data

Based on:	Neutral interlacing with oxime
Ability to absorb movement:	25 %
Skin formation time*:	approx. 8 – 15 min.
Hardening speed*:	approx. 1 – 2 mm per day
Working temperature:	+5 °C to +45 °C
Paintable:	no
With fungicide:	yes
Building material class:	B2
Storage stability:	12 months

*Depending to temperature and humidity

Article No.	Article Description	QTY
6810 8230	SILICONE OX TRANSPAR.ECO 310ML	25
6810 8231	SILICONE OX WHITE ECO 310ML	25
6810 8232	SILICONE OX GREY ECO 310ML	25
6810 8233	SILICONE OX BLACK ECO 310ML	25
6810 8234	SILICONE OX BROWN ECO 310ML	25
6810 8235	SILICONE OX OAK ECO 310ML	25
6810 8236	SILICONE OX TRANSPAR.ECO 310ML	25
6810 8237	SILIC.OX.LIGHT BEECH ECO 310ML	25
6810 8605	SILIC.OX TRANS.TRANS.ECO 600ML	12
6810 8606	SILICONE OX NEUTRAL ECO 600ML	12
6810 8607	SILICONE OX WHITE ECO 600ML	12
6810 8608	SILICONE OX GREY ECO 600ML	12
6810 8610	SILICONE OX BROWN ECO 600ML	12
6810 8612	SILICONE OX TRANSP.ECO 600ML	12
6810 8613	SILICONE OX WHITE ECO 400ML	12

Colour name	Colour display*
grey	
black	
brown	

*Colour reproduction not binding



Colour name	Colour display*
oak	
Light-beech	

Silicone Neutral 4in1

- High-quality, neutral and low-emission silicone sealant (MEKO-free) with very strong adhesion on most substrates typically used in construction
- With fungicide
- Weather-resistant, light-fast and UV-resistant
- Can be easily smoothed and shaped
- Contains no acid or lye
- Permanently elastic in accordance with DIN EN 26927

Meets the requirements of the following standards:

- EN15651-1 Façade: INT/EXT 25LM CC
- EN 15651-2 Glass: 25LM CC
- EN 15651-3 Plumbing: XS1
- EN 15651-4 Floor joints: INT/EXT 25LM CC

Areas of application:

- For sealing and expansion joints in the following areas: Interior construction, window and glass construction, façade construction, sanitary and wet-rooms, metal and container construction, building connection filler, ceiling and wall, high-temperature applications
- For indoor and outdoor use
- Not suitable for aquarium construction, underwater jointing, and natural stone (e.g. marble)
- Usage:
- Please consult our overview „General Usage Instructions for Sealants“ (Pages 2/100 and 2/101)

Technical Data

Based on:	Neutral cross-linker, contains no MEKO
Ability to absorb movement:	25 %
Skin formation time*:	approx. 8 – 15 min
Hardening speed*:	approx. 1 – 2 mm per day
Working temperature:	+5 °C to +45 °C
Temperature resistance:	-60 °C to +180 °C (220 °C, briefly up to 3 hrs)
Paintable:	No
With fungicide:	Yes
Fire behaviour:	Class E
Storage stability:	12 months (at temperatures Between +5 °C and +30 °C)

*Depending to temperature and humidity

Article No.	Article Description	QTY
6810 1 310 1	C(310ML)SILIC. N 4IN1 TRANSP.	20
6810 1 310 2	C(310ML)SILICONE N 4IN1 WHITE	20
6810 1 310 3	C(310ML)SILICONE N 4IN1 BLACK	20
6810 1 310 4	C(310ML)SILICONE N 4IN1 GREY	20
6810 1 310 5	C(310ML)SILICONE N 4IN1 BROWN	20
6810 1 600 1	C(600ML)SILICONE N 4IN1 TRANSP	12

Colour name	Colour display*
grey	
black	
brown	

*Colour reproduction not binding



600 ml

Silicone MC *****

Characteristics:

- Neutral, oxime cross-bonded silicone sealant with best processing features and very good adhesion on most common construction substrates
- With fungicide
- Very good UV-resistance
- Compatible with marble and natural stones
- High thermal resistance up to 220 °C
- Very good to be smoothed and modeled
- Non-corrosive to metals
- Light-resistant, moisture-proof
- Permanently elastic and highly resistant to weathering

Complies with the requirements of the following standards:

- DIN 18545 group D
- ISO 11600 G – 25 HM
- Suitable for cleanrooms (Hygiene-Institut Gelsenkirchen)
- VDI 6022 (requirements for RLT-facilities)
- ISO 846 part A, B, C (Hygiene-Institut Gelsenkirchen)
- Suitable for VSG- glass¹ (IFT Rosenheim)

Fields of application:

- Due to its very high quality features this material is nearly suitable for all professional applications, e.g. in the field of sanitary facilities, loft conversions, window sealing, kitchen, industrial use, metal trade, mirror joint sealing etc.
- Can also be used for the sealing of marble and natural stones, as well as for bonding of mirrors²;
- For building interstices and expansions joints acc. to DIN 18540 for high-building joints up to 15 % expansion stress
- Very good adhesion on e.g. glass, tiles, ceramic, varnished tiles, enamel, many metals, (e.g. aluminium, steel, zinc, copper), on painted, glazed or impregnated wood and many plastic materials.
- For inside and outside use
- Not suitable for aquarium construction and underwater joint sealings

Processing:

- Please take into consideration our overview „General processing advice for sealants“ (page 2/100 and 2/101)



Technical Data

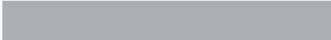
Basis:	Neutral silicone, oxime cross-bonded
Movement absorbability:	25 %
Skin formation time³:	approx. 8 – 15 min
Hardening speed³:	approx. 1 mm pro Tag
Processing temperature:	+5 °C to +45 °C
Temperature resistance:	-60 °C to +180 °C (220 °C, temporary up to max. 3 h)
Density:	approx. 1,03 ± 0,01 g/ml (transparent) approx. 1,10 ± 0,05 g/ml (coloured)
Water vapour diffusion resistance factor:	approx. 265 µ
Overpaintability:	no
Fungicide-equipped:	yes
Building material class:	B2
Storage stability:	12 months

¹ Applies only for certain brands. The IFT test certificate must be strictly observed!

² Please refer to the technical data sheet!

³ Measured at 20 °C / 60 % RLF. Values depending on temperature and humidity.

Article No.	Article Description	QTY
6830 8200	K(300ML)SILICONE MC TRANSP. 5*	25
6830 8201	K(300ML)SILICONE MC WHITE 5*	25
6830 8202	K(300ML)SILIC.MC LIGHT GREY 5*	25
6830 8203	K(300ML)SILICONE MC MID-GREY5*	25
6830 8204	K(300ML)SILIC.MC ANTHRACITE 5*	25

Colour name	Colour display*
light grey	
middle grey	
anthracite	

*Colour reproduction not binding

Silicone Acetate Transparent **ECO**

Properties:

- Silicone sealant, acetate interlacing
- Very good adhesion to many different substrates such as glass, tiles, enamel, etc.
- Permanently elastic and wet-room resistant
- Lightfast and weatherproof

Areas of application:

- Universal use for permanently elastic sealing for handicraft and industrial applications
- For indoor and outdoor use
- Not suitable for aquarium construction, underwater jointing, and natural stone (e.g. marble)

Note:

- The low levels of acetic acid contained in the material may corrode certain metals (steel, copper) and alkaline substrates

Usage:

- Please consult our overview „General Usage Instructions for Sealants“ (Pages 2/100 and 2/101)

Technical Data	
Based on:	Acetate interlacing
Ability to absorb movement:	25 %
Skin formation time*:	approx. 3 – 10 min.
Hardening speed*:	approx. 2 mm a day
Working temperature:	+5 °C to +45 °C
Paintable:	no
With fungicide:	no
Building material class:	B2
Storage stability:	12 months

Article No.	Article Description	QTY
6820 8200	SILICONE ACETATE TRANSP.310ML	25
6820 8201	SILICONE ACETATE WHITE 310ML	25
6820 8202	SILICONE.ACET.CONCR.GREY 310ML	25
6820 8203	SILICONE ACETATE BLACK 310ML	25
6820 8204	SILICONE ACETATE BROWN 310ML	25
6820 8205	SILICONE ACET.MANHATTEN 310ML	25
6820 8215	SILICONE ACET.JOINT GREY 300ML	25
6820 8216	SILIC.ACET.SILVER GREY 310ML	25
6820 8600	SILICONE ACETATE TRANSP.600ML	12

Colour name	Colour display*
concrete grey	
black	
brown	

*Colour reproduction not binding



Colour name	Colour display*
manhattan	
join grey	
silver grey	

Sanitary silicone

- High-quality, acetate cross-linking, tin-free silicone sealant with excellent adhesion on most substrates typically used in construction
- Specially for use in sanitary facilities, wet rooms and kitchens
- With fungicide
- Weather-resistant, light-fast and UV-resistant
- Can be easily smoothed and shaped
- Permanently elastic in accordance with DIN EN 26927

Meets the requirements of the following standards:

- EN 15651-3 Sanitary joints: XS1
- EN 15651-1 Façade elements: INT/EXT 25LM CC
- EN 15651-2 Glass: 25LM CC

Areas of application:

- For sealing and expansion joints in the following areas: Sanitary facilities and wet rooms, kitchens, interior fittings, windows and glass, AC systems/ventilation systems, high temperature applications
- For indoor and outdoor use
- Not suitable for aquarium construction, underwater jointing, and natural stone (e.g. marble)

Usage:

- Please consult our overview „General Usage Instructions for Sealants“ (Pages 2/100 and 2/101).

Technical Data

Basis:	Acetate cross-linking
Ability to absorb movement:	25 %
Skin formation time*:	approx. 5 – 10 min
Hardening speed*:	approx. 1 – 2 mm per day
Working temperature:	+5 °C to +45 °C
Temperature resistance:	-60 °C to +180 °C (220 °C, briefly up to 3 hrs)
Paintable:	No
With fungicide:	Yes
Fire behaviour:	Class E
Storage stability:	12 months (at temperatures between +5 °C and +30 °C)

Article No.	Article Description	QTY
6820 310 1	SANITARY SILIC.TRANSF. 310ML	e 20
6820 310 2	SANITARY SILIC.WHITE 310ML	e 20
6820 310 3	SANITARY SILIC.MANH.310ML	e 20
6820 310 4	SANITARY SILIC.SILV-GREY 310ML	e 20
6820 310 5	SANITARY SILIC.SAN.GREY310ML	e 20
6820 310 6	SANITARY SILIC.ANTHR.310ML	e 20
6820 310 7	SANITARY SILIC.BAHAMAB.310ML	e 20

Colour name	Colour display*
manhattan	
silver grey	
sanitary grey	
anthracite	
bahama beige	

*Colour reproduction not binding



Power-seal Hydro

- High-grade, 1-component, water-swelling, polyurethane based sealant
- Outstanding, controlled swelling properties up to 450% in water
- Powerdicht Hydro shrinks to its initial volume when completely dry and swells up again on renewed contact with water
- Excellent resistant to chemicals

Meets the requirements of the following standards:

- DVGW VP-601

Usage:

- Suitable for concrete, metal and hard PVC
- The adhesion surfaces must be clean, free of dust and grease, water impermeable and capable of bearing load
- Standing water, cement slurry and other adhesion-reducing substances must be removed
- Fill both ends of the concrete leadthrough with 5 cm of Powerdicht Hydro. If necessary, wrap the pipe with PUR cord in the middle of the leadthrough
- Before hardening clean with whit spirit followed by mechanical cleaning
- The sealant hardens from the outside towards the inside, low temperatures and/or low humidity delay hardening

Swelling properties:

- 24 h: 150 – 200%
 - 72 h: approx. 300%
 - 144 h: 400 – 450%
- Compared to original volume



Your Advantage / Benefit

- Easy to use 1-component compound
- Water-tight and gas-tight up to 5 bar
- Adapts perfectly to the material to be sealed
- Permanently flexible once hardened

Application

- For sealing pipe and duct leadthroughs in concrete
- For fixing expanding joint sealing tape in concrete
- For sealing joints and penetrations in concrete



Technical Data

Based on:	1-C polyurethane
Consistency:	Stable paste
Skin formation:	approx. 120 min
Hardening speed:	1–2 mm in the first 24 h
Shore A hardness (DIN53505):	15 ± 5
Density (DIN 53 479):	approx. 1.37 g/ml
Tensile strength (DIN 53504):	0.60 N/mm ²
Elongation (DIN 53504):	> 800 %
Temperature resistance:	-30 °C to +90 °C
Storage (dry, between +5 °C and +25 °C):	9 months
Building material class:	B2 (normally flammable)

Article No.	Article Description	QTY
6880 30 310	C(310ML)POWER SEAL.HYDRO	e 6

High Temperature Silicone

- Elastic joint sealant, specifically for high thermic stresses up to +280 °C
- Resistant to a range of chemicals such as fuel, oil, grease, anti-freeze etc.
- Can be used to seal boilers, air conditioners, kitchen appliances, pumps, motors as well as for washing machine and dryer construction

Processing instructions:

- Adhesive surfaces have to be clean, dry, dust- and grease-free
- In case of doubt, make a contact test
- Use silicone primer (Art-No. 6830 8299) beforehand for delicate surfaces such as aluminium, copper, chrome

Technical Data

Raw material base:	silicone polymer low modulus acetate
Max. permanent movement absorption	20 %
Skin formation time:	after approx. 7 mins
Temperature resistant:	-60°C to + 280°C
Processing temperature:	+5°C to + 35°C
Colour:	rust red
Shelf life:	12 months (at temp. betw. +5°C and +25°C)

Article No.	Article Description	QTY
6990 1 310	C(310ML)HIGH-TEMPERAT.SILICONE	25



Air Duct Sealant

- Ideal for sealing purposes in air duct construction
- Corresponds to VDI 6022/1 (hygienic requirements for ventilation units)
- Antifungal and antibacterial
- Overpaintable
- Silicone-free
- Not corrosive

Applications:

- Specifically suitable to seal air ducts, air shafts, air conditioning units and ventilation units

Processing instructions:

- Joints have to be free from dust, oil and grease.
- The joint has to be protected from rain, dirt and heavy mechanical stresses for as long as it takes to form a solid surface skin.
- The joint may only be cleaned with neutral, lightly lubricating media. Never use aggressive or abrasive cleaners.
- Adherence to DIN and VDI regulations is inevitable to ensure professional processing.

Technical Data

Raw material base:	acrylate-dispersion
Skin formation:	approx. 5 min
Hardening:	approx. 2 mm per 24 h
Shore A-hardness:	30
Processing temperature:	+5 °C to + 40 °C
Temperature resistance:	-20 °C to + 75 °C
Shelf life:	18 months if stored in a cold, frost-free condition
Colour:	silver grey

Article No.	Article Description	QTY
6880 10 310	C(310ML)AIR DUCT SEALANT	25



Silicone Primer

- Improves the adhesion of silicone-sealing compounds on aspirating and porousing undergrounds e. g. concrete, wood etc.
- Avoids corrosion on bared and galvanized ferric, aluminium, stainless steel, copper, plumb etc.
- Especially used at application of acetate-systems

Article No.	Article Description	QTY
6830 8299	SILICONE PRIMER 250ML	e 24



Silicone Smoothing Agent

- For clean and even removal from fresh sealant joints such as, e.g., silicone, MS polymer, etc.

- Acid and alkali free

Usage instructions:

- After the smoothing process, remove any excess smoothing agent from the substrate
- May cause corrosion when steel parts are joined
- Discolouration may occur on absorbent substrates
- Do not apply to water-sensitive or expandable surfaces
- Preliminary tests should be performed if necessary

Art. No. 6830 8290:

- 400 ml aerosol can

Art. No. 6830 8291:

- Concentrate, can be diluted 1:10

Art. No. 6830 8295:

- Ready to use, solvent-free, sealant smoothing agent
- Produces smooth, attractive joint surfaces

Article No.	Article Description	QTY
6830 8290	SMOOTHING AGENT SPRAY DS 400ML	e 12
6830 8291	SMOOTH.AGENT SPR.CONCENTR. 1L	e 12
6830 8295	SILICONE SMOOTHING AGENT 5L	1



6830 8290

6830 8291

6830 8295

Joint Knife

- Cutting tool for elastic sealants
- Double-sided blade form and 90° chamfering makes the tool usable in forward and backward movement

Fields of application:

- For all seams in construction work
- Not suitable for cement and mortar seams

Article No.	Article Description	QTY
4765 100	JOINT KNIFE	1 f



Joint-Filler Knife

- Special plastic
- High-flexible
- Acid resistant
- For rapid and clean smoothing of silicone and acrylic joints

Article No.	Article Description	QTY
5422 140 60	JOINT-FILLER KNIFE 8.5X40MM	1
5422 140 60 3	JOINT-FILLER SET 3-PIECES	1
5422 140 60 7	JOINT-FILLER SET 7-PIECES	1



Replacement Nozzles for Cartridges

Art.-No. 6015 1000:

- For bagged goods
- With piercing device, no slicing of the bag necessary anymore

Article No.	Article Description	QTY
6015 8270	REPLACEMENT TOP F. EXCHANGE.	e 25
6015 8271	REPL.NOZZLE PLST.CARTRI.LOCKAB	e 10
6010 0010	BAG(10)CARTRI.NOZZLE TURN.360°	1
6015 1000	BAG(25)BAG NOZZLE EASY CUT	1



Nozzles for Flat Application

Suitable for flowable and pasty materials

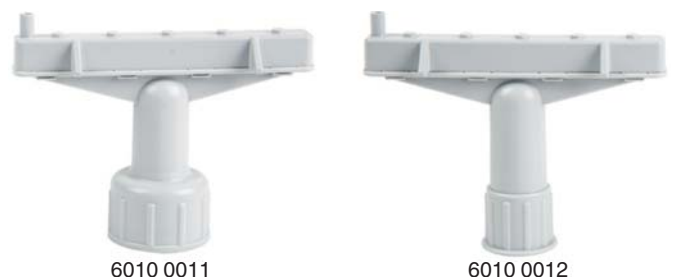
Art.-No. 6010 0011:

- Suitable for bottles

Art.-No. 6010 0012:

- Suitable for cartridges
- Five application vents allow an application width of 20 - 75 mm depending on the individual cutting
- Lateral guiding nose-piece for better grip and round-shaped or flat outer edges, guiding nose-piece easily removable at inner edges
- Uniform application for narrow and broad surfaces by laterally positioned guiding nose-pieces

Article No.	Article Description	QTY
6010 0011	BAG(20) BOTTLE NOZZLE FLAT	1
6010 0012	BAG(20) CARTRIDGE NOZZLE FLAT	1



Join Fux

- The long handle of this joint filler removal tool will keep silicone off your fingers
- Best handling, optimal movement control when pulling up material
- Its thin tip is good for pulling sealant out of hard-to-reach corners

Available in 3 different kits:

- Art.- No. 5422 140 60 8: 5-pc. mixed size 6.5 / 8.5 / 10.0 / 12.5
- Art.- No. 5422 140 60 9: 5-pc. round
- Art.- No. 5422 140 60 10: 3-pc. angular size 6.5 / 8.5 / 10

Article No.	Article Description	QTY
5422 140 60 8	JOINT FUX 5PCE MIXED	1
5422 140 60 9	JOINT FUX 5PCE ROUND	1
5422 140 60 10	JOI.FUX 3PCE ANGUL.6.5/8.5/10	1



Round Cord Seal

- To backfill sealing and expansion joints for e.g. for window connecting joints, sanitary joints etc.
- Round cords are used to limit joint depths and to avoid a three-flank adhesion
- Due to its neutral characteristics ideal as a primer for priming surfaces
- Fine-porous, closed-cell polyethylene-foam
 - No absorption and binding of water
- For indoor and outdoor use
- Resistant against assembly foams and other sealant on silicone, polysulfide, polyurethane or polyacrylate basis
- Complies with DIN 18540
 - Foerch quality with highest application guarantee for any building sealing jobs
- Designed for 6 mm to 30 mm diameter in endless-dispenser-box
 - Ideal extraction
 - Optimised storing
- 40 mm diameter in 2.0 rods

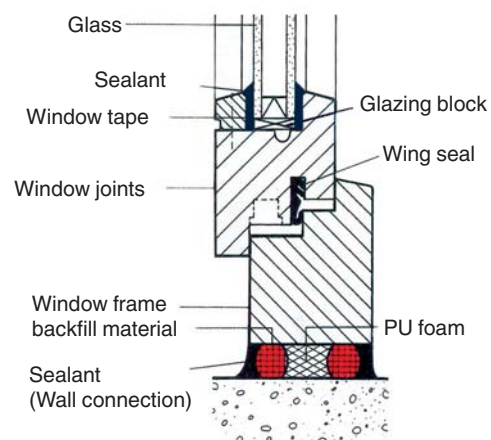
Processing advice:

- To apply into joint use blunt tool in order to prevent damage to the surface

Technical Data

Material:	closed cell polyethylene
Colour:	grey
Volume weight:	33 kg/cm ³
Temperature resistant:	-40°C to +60°C
Water absorption:	none
Fire behaviour:	flammable

Article No.	Article Description	QTY
8803 6	MTR.ROUNDCORDSEAL 6MM	H 500
8803 8	MTR.ROUNDCORDSEAL 8MM	H 500
8803 10	MTR.ROUNDCORDSEAL 10MM	H 500
8803 15	MTR.ROUNDCORDSEAL 15MM	H 500
8803 20	MTR.ROUNDCORDSEAL 20MM	f 250
8803 30	MTR.ROUNDCORDSEAL 30MM	g 125
8803 40	MTR.ROUNDCORDSEAL 40MM	135



Round Cord Seal PUR

- Fine-porous, open-cell foam **PUR** to backfill expansion joints such as window connection joints, sanitary joints etc.
- PUR foam material is easier to process as they are more compressible
- PUR - round cords are used to limit the joint depth in order to avoid three-flank adhesion
- Resistant against assembly foams and other sealant on silicone, polysulfide, polyurethane or polyacrylate
- Easy to process
- Do not use if **DIN 18540** is required
- Only for **indoor use**
- Design: all diameters in 1.0 rods

Processing advice:

- To apply into joint use blunt tool in order to prevent damage to the surface

Technical Data

Material:	open-cell PUR foam material
Colour:	grey
Volume weight:	18+-2 kg/m ³

Article No.	Article Description	QTY
8803 1 10	MTR.ROUND CORD PUR 10 MM	1500
8803 1 15	MTR.ROUND CORD PUR 15 MM	1000
8803 1 20	MTR.ROUND CORD PUR 20 MM	500
8803 1 30	MTR.ROUND CORD PUR 30 MM	250
8803 1 40	MTR.ROUND CORD PUR 40 MM	150
8803 1 50	MTR.ROUND CORD PUR 50 MM	100



Painter Acrylic

- Suitable for joint sealing with a movement absorption of up to 20 % indoors and outdoors
- Can be painted over (expansion stressed joints may not be painted over high fill emulsion paints can lead to cracks)
- Solvent-free (water-based)

Usage instructions:

- The surface must be clean, dry, sound and free of dust and grease
- Porous surfaces must be primed beforehand with a primer (mix the compound with water at a ratio of 1:1 to 1:5)
- To avoid three-edged adhesion, pre-fill joints with closed cellular PE round cord
- In case of doubt, test a small area beforehand
- Smooth with water before a skin forms



Technical Data

Temperature resistance (after curing):	-20 °C to +75 °C
Working temperature:	+5 °C to +40 °C
Time for skin forming:	approx. 7 min
Water vapour diffusion resistance factor (μ):	approx. 2,800 – 3,000
Sd value (at 8mm joint depth):	approx. 24 m
Fire behaviour:	class E
Shelf life:	1 year in unopened package, stored in cool and dry place

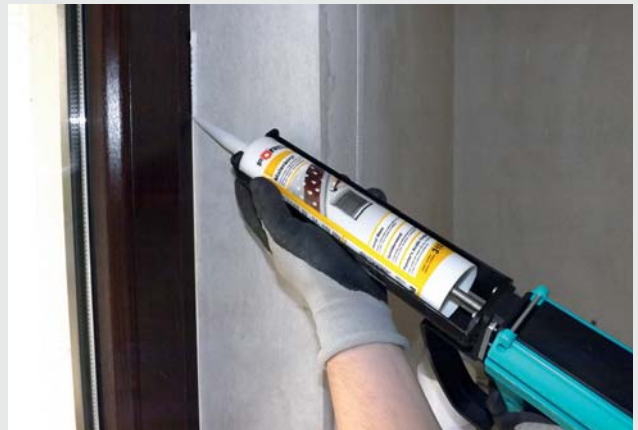
Article No.	Article Description	QTY
6840 8310	PAINTER ACRYLIC WHITE 310ML	25
6840 8311	B(600ML)PAINTER-ACRYL.WHITE	12

Your Advantage / Benefit

- Sealant for indoor and outdoor use
- Universally applicable
- Resistant to weather and UV
- Resistant to ageing

Application

- For sealing joints and frames that are not subject to large movements: between plaster, concrete, brickwork, anodised aluminium, gypsum, rigid PVC and wood e.g. for sealing joints on window sills, window joints, shutter boxes, door frames, plasterboard walls etc.
- Joining plasterboard walls, ceiling panels etc.,
- Repair works, such as filling cracks, sealing plastic pipes where they pass through walls
- Joining in paint-processing plants
- Not suitable for sanitary applications, on marble / natural stone, bituminous surfaces, PP, PE, PTFE, submersion, glass, ceramics

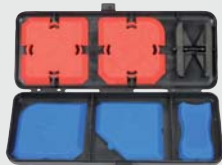


Related Products

- **Handymax Manual Cartridge-Foil Wrap Gun**
Art.-No. 6010 0006



- **Joint Smoother**
Art.-No. 5422 140 60 7



- **Smoothering Agent**
Art.-No. 6830 8290



- **Cartridge Nozzle, 360° Rotation**
Art.-No. 6010 0010



Acrylic Sealer Transparent

- For sealing Joints with low expansion
- Ageing, weather and UV-resistant
- Free of dissolver
 - Physiological credible
 - Universal applicable
- Generally overpaintable with customary colours and paints

Fields of Application:

- Repairing of cracks on brick works and plasters
- Sealing up of joints with a small stretching
- Connecting and sealing joints on interior fittings

Acrylic Sealer White / Grey / Brown

- Suitable for sealing up joints with a maximum of 7.5 % on movement admission

- For indoor and outdoor uses

Acryl Sealer Transparent

- Suitable for sealing up joints with a maximum of 5.0 % on movement admission

- Only for indoor uses

Processing advice:

- The cleaned, nonfat and dry joint should be half as much deeper (at least 6mm) than wide
- To avoid a three-flank adhesion, fill up the joints with closed cells PE-Round court
- At ground suction (e. g. wood, concrete, cement and stone etc.) the bond has to be improved by a previous coat (mixture of mass with water 1:1 up to 1:5)
- In case of doubt carry out a contact trial
- Polish with water before skin formation (approx. 5 minutes)

Art.-No. 6840 8303:

- Gets transparent while hardening process

Article No.	Article Description	QTY
6840 8300	ACRYLIC SEALER WHITE 310ML	25
6840 8301	ACRYLIC SEALER GREY 310ML	25
6840 8302	ACRYLIC SEALER BROWN 310ML	25
6840 8303	ACRYLIC SEALER TRANSP.310ML	25
6840 8624	ACRYLIC SEALER WHITE 550ML	12



Rapucryl

- High-quality, plasto-elastic, stable filler
 - Free of liquor
 - After hardening overpaintable with commercial colours and paints
- For unflashy reparation and sealing of joints with a minor in spreading at brick works and different plasters,
- Corned structure
 - Surface is corned like plaster
 - No retouch of the joint or the crack is necessary
- Ageing, weather and UV resistant after hardening
 - Applicable to interior and exterior
- Water vapour diffusion resistance μ : approx. 2,800 , 3,000

Processing advice:

- The cleaned, nonfat and dry joint should be at least 6 mm in deep and wideness
- To avoid a three-side faced adhesion fill up the closed cellular PE-string before
- On absorbing floors (e. g. wood, concrete, cement, stone etc.) the adhesion will be improved due to a pre-coating (blending of the mass with water 1:1 up to 1:5)
- In case of doubt do a contact test

Article No.	Article Description	QTY
6880 2 310	C(310ML)RAPUCRYL	25



Joint Sealing INTERIOR

Product description:

- Joint Sealing INTERIOR is a high-quality, plasto-elastic, one-component sealant on polyacrylate basis for standard window sealing acc. to RAL or ÖNORM on the inside
- Low water permeability
- Very good processability
- Solvent and silicone-free
- Fade-resistant, weather- and UV-resistant
- Waterproof after curing
- Can be covered with plaster or wallpaper

Field of application:

- Specially adjusted for the sealing system in window installation, in connection with the products Joint Sealing Foam SOFT and Joint Sealing EXTERIOR S / EXTERIOR P
- Permanent, air-tight inside sealing of joints between masonry and door or window frames
- For joints with low load between masonry, concrete, plaster and window sills, as well as roller shutter boxes
- For the sealing of metal joints, metal seams and overlaps in metal and apparatus construction industry, as well as in climatisation and ventilation technology

Processing instructions:

- The surfaces to be bonded must be sound, clean, dust- and grease-free
- Not suitable for glass, metals with risk of corroding, enamel, ceramic, underwater joint sealings, bitumen, tar, marble and natural stones
- Pre-coat highly porous surfaces with a mixture of 1/3 of Joint Sealing INTERIOR and 2/3 of water and let allow to dry for at least 60 min.
- In case of doubt, perform a contact test
- Even with water before skin formation

Technical Data

Basis:	polyacrylate
Skin formation: *	approx. 30 min
Processing temperature:	+5 °C to +40 °C
Temperature resistance:	-20 °C to +80 °C
Max. admissible total transformation (DIN EN ISO 11600):	15 %
Water vapour diffusion resistance factor (μ):	approx. 7,186
Sd-value (at 8mm joint depth)	approx. 57.5m
Colour:	white
Building material class (DIN 4102 part 1):	B2

* Measured acc. to standard climate DIN EN ISO 291 with 23°C/50% r.h. These values can vary due to environmental factors such as temperature, humidity and type of substrate.



Article No.	Article Description	QTY
6880 3 310 1	K(310ML)JOINT SEAL. INTERIOR	25

Joint Sealing EXTERIOR P

Attention:

- this version can be painted over

Product description:

- Joint Sealing EXTERIOR P is a high quality, neutrally curing, flexible hybrid-based sealant for the standard window sealing acc. to RAL or ÖNORM on the outside
- Can be painted over very well
- Weather- and UV-resistant, fade-resistant
- Very good processability starting at 0 °C
- Solvent-, isocyanate- and silicone-free

Application:

- Specially adjusted for the sealing system in window installation, in connection with the products Joint Sealing Foam SOFT and Joint Sealing INTERIOR
- All common building joints, as well as joints in high-building acc. to DIN 18540
- Connection joints between window / door frames and masonry
- Tensionless bonding of window sealing strips
- Tension compensating expansion joints between construction materials with very different expansive characteristics
- Very good adhesion on all common building substrates such as e.g. concrete, gas concrete, hard PVC, wood, metals, glass-fibre reinforced plastics, etc.
- Not suitable for PE, PP, PTFE, silicones, soft PVC, butyl rubber, EPDM rubber

Processing instructions:

- The surfaces to be bonded must be sound, clean, dust- and grease-free
- Pre-coat highly porous substrates with silicone primer
- In case of doubt, perform contact test
- Even with silicone smoother before skin formation



Technical Data

Basis:	Hybridpolymer
Skin formation: *	approx. 20 min
Hardening speed: *	3 mm in the first 24 hrs
Processing temperature:	0 °C to +40 °C
Temperature resistance:	-40 °C to +90 °C
Shore A-hardness (DIN 53505):	30 +/- 5
Max. admissible total transformation (DIN EN ISO 11600):	25 %
Water vapour diffusion resistance factor (μ):	approx. 991
Sd-Value (at 8mm joint depth)	approx. 7.9m
Colour:	white
Building material class (DIN 4102 part 1):	B2

*Measured acc. to standard climate DIN EN ISO 291 with 23°C / 50 % r.h. These values can vary due to environmental factors such as temperature, humidity and type of substrate.

Article No.	Article Description	QTY
6880 3 310 3	K(290ML)JOINT SEAL.EXTERIOR P	25
6880 3 600 3	B(600ML)JOINT SEAL.EXTERIOR P	12

Rooftight

Characteristics:

- High quality synthetic rubber sealant for expansion and connection joints specifically for pitched and flat roofs
- High elasticity
- UV and weather resistant
- Silicone-free
- Bitumen compatible
- Excellent mould resistance

Applications:

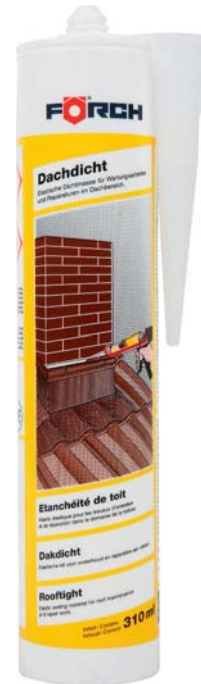
- Excellent adhesion on a range of surfaces such as wood, glass, concrete, plastics and metal e.g. titan-zinc constructions, drains and gutters and chimney surrounds
- Also suitable for wet and slightly oily surfaces

Processing instructions:

- Surfaces have to be clean and stable
- Smooth surfaces may be wet, open-pored surfaces must be dry
- If material is exposed to water for a long time it might yellow slightly, this does not effect the quality
- For extreme conditions and in case of plastics, treat with silicone primer
- Not suitable to seal glass
- Carry out a test if using standard colours and varnishes

NOTE:

- Optical impairment in case of direct application on cutting edge of bitumenline possible



Technical Data

Raw material base:	Synthetic rubber
Density:	0.95 g/cm ³
Skin formation time:	approx. 10 mins
Hardening:	about 2-3 mm/24hrs
Shore A-hardness:	25 ± 5
Volume decrease:	approx. 20%
Processing temperature:	+5°C to +40°C
Temperature resistant:	-25°C to +80°C
Shelf life:	about 24 months in original packaging at room temperature
Colour:	transparent/black/brown/grey

Bitumen Sealant

Characteristics:

- Plasto-elastic 1-component sealant based on bitumen. Suitable for sealings and stickings in the exterior area.
- Very strong adhesion on bituminous substrates, masonry, concrete, asphaltic products and metals
- Usable on the water and underwater, excellent weather resistant
- For the repair of bituminous roof substrates, overlappings and impacts of roof sheetings as well as roof breakthroughs
- Solvent-containing

Operating instructions:

- Surfaces to treated must be clean and free of dust
- Make contact tests, if necessary

Technical Data

Colour:	black
Thermal stability:	-35°C to +130°C hardened
Processing temperature:	+1°C to +30°C
Skin formation:	within 20 mins
Rain-proof:	immediately
Volume decrease:	approx. 10 %
Shelf life:	1 year in closed package when storing

Article No.	Article Description	QTY
6880 6 310	C(310ML)BITUMEN SEALER BLACK	25



Repair sealant Aqua-Stop

- weather-resistant and fibre-reinforced repair sealant
- for sealing cracks and holes
- can be used in the rain or underwater
- highest level of elasticity
- will adhere to virtually any substrates common in construction, such as aluminium, zinc, lead, glass, stone, asphalt, asbestos, bitumen felt etc.
- Applications: Sealing of lighting domes, roof guttering, chimney connections, sheet metal cladding etc.
- not suitable for expanded polystyrene or PVC

Technical Data	
Raw material base:	Synthetic rubber
Consistency:	Paste-like
Character:	Elastic
Colour:	grey
Working temperature:	-5 °C to +40 °C
Temperature resistance:	-25 °C to + 100 °C
Sealing:	Immediately water-tight
Paintable:	With acrylic paint
Shelf life:	12 month (< 60 °C, not sensitive to frost)

Article No.	Article Description	QTY
6880 11 1000	CAN(1KG)REP.SEAL.AQUA STOP GY	e 8



Power Adhesive Hybrid FÖRCH *****

Characteristics:

- 1K-Power adhesive with extremely high initial tack and ultimate strength
- Very good adhesion on almost all usual construction substrates, also damp ones
- Quick hardening
- Odourless and non-corrosive to metals
- Elastic joint (shore-A hardness approx. 70)
- Natural stone compatible
- Can be painted over when cured
- Very good UV, weathering and seawater resistance
- Isocyanate, silicone and tin-free

Complies with the requirements of the following standards:

- GEV-Ecode EC 1 plus

Fields of application:

- **System component of the FÖRCH pre-wall installation system**
- Excellent adhesion to wood, metal, natural stone, concrete, duro- and thermoplastics, polystyrene, ceramic, glass, etc.
- Particularly suitable for various applications in vehicle constructions and vehicle bodies for the bonding of sandwich panels
- For vertical and overhead applications, as well as for the bonding of panels, wooden strips, window sills, etc.
- For container building, metal trade and mechanical engineering, plastic bonding, indoor and outdoor applications, mirror bonding, as well as for the working of natural stone, etc.
- No adhesion on PE / PP

Processing:

- The surfaces to be bonded must be sound, clean, as well as grease and oil-free
- Pre-treat porous substrates with silicone undercoat or primer system
- Put the materials to be bonded together within skin formation time

Technical Data

Basis:	1K-STP
Colour:	white
Film characteristics:	elastic
Viscosity (at +20°C):	highly viscous-pasty
Density (acc. to EN 542 bei +20°C):	approx. 1.47 g/cm ³
Skin formation time (at +20°C, 50% rel. hum.):	approx. 5 min
Hardening speed (at +20°C):	approx. 3 mm (in 24 h)
Min. processing temperature:	starting at 0 °C
Temperature resistance:	-30 °C to +80 °C (short term up to +120 °C)
Storage time (dry, betw. +15°C and +25°C):	12 months
Tensile strength:	5 N/mm ²

Article No.	Article Description	QTY
6880 18 310	POWER ADHESIVE HYBRID 450G 5*	e 25
6880 18 600	POWER ADHESIVE HYBRID 870G 5*	10

Art.-No. 6880 18 600:

- incl. cartridge tip adapter and nozzle with V-weld



Sealing Adhesive MS-P

- High-quality strong adhesive, neutral 1K adhesive and sealant compound on MS polymer base
- Permanently elastic and weather-resistant
- Very good UV resistance
- Can be painted and varnished
- Neutral odour
- Free from isocyanate, silicone, and solvents
- Seawater resistant
- With fungicide

Usage instructions:

- Contact surfaces must be sustainable and clean as well as free from grease and oil
- It may be necessary to pretreat porous substrates with silicone primer or system primer
- Push together the materials to be adhered or smooth out the seal joint with a smoothing agent during the skin formation period



Your Advantage / Benefit

- Suitable for use as a seal and a bond both indoors and outdoors
- Has a broad bonding spectrum, even without primer
- Will not corrode metals
- Possesses ISEGA food grade certification
- Tested in accordance with DIN EN ISO 846 process A and C (ILH Berlin)
- Tested in accordance with ISO 11600 F 20 HM

Application

- Adheres very well to wood, metal, concrete, polyester, polystyrene, hard PVC, ceramics, porcelain, glass, glazed surfaces, enamel, stone, etc.
- In wood, metal, and glass construction, in climate control and ventilation, catering areas, electronic installations, coachwork, vehicle manufacture and the food industry
- For bonding mirrors, panels, borders, window sills, and insulation materials
- Not suitable for use on PP, PE, PTFE, and bitumen as well as underwater



Technical Data

Raw material base:	MS-Polymer
Concentration:	1.54 g/ml
Skin formation time:	10 min.
Curing:	approx. 2–3 mm / 24 hrs
Shore A-hardness:	60
Ability to absorb movement:	25 %
Paintable:	yes
Working temperature:	+5 °C to +40 °C
Temperature resistance:	-40 °C to +90 °C
Shelf life (at +5 °C to +20 °C):	12 months from date of manufacture

Article No.	Article Description	QTY
6880 9 290 1	SEALING ADHES.MS-P BROWN 435G	e 25
6880 9 290 2	SEALING ADHES.MS-P WHITE 435G	e 25
6880 9 290 3	SEALING ADHES.MS-P GREY 435G	e 25
6880 9 290 4	SEALING ADHES.MS-P BLACK 435G	e 25
6880 9 600 2	SEALING ADHES.MS-P WHITE 900G	12
6880 9 600 3	SEALING ADHES.MS-P GREY 900G	12

Sealing Glue MS-P transparent

- High-quality neutral 1K adhesive and sealant on MS polymer base
- Permanently elastic and weather-resistant
- Can be painted and varnished (not with alkyd resin varnish)
- Neutral odour
- Free from isocyanate, silicone, and solvents
- With fungicide

Usage instructions:

- Contact surfaces must be sustainable, clean and free from grease and oil
- It may be necessary to pretreat porous substrates with silicone primer or system primer
- Push together the materials to be glued or smooth the seal joint with smoothing agent during the skin formation period

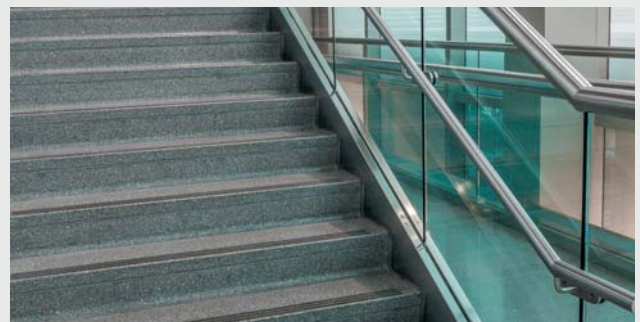


Your Advantage / Benefit

- Hardens crystal clear, is therefore especially suitable for seals or bonding in visible locations
- Broad bonding spectrum, even without primer
- Will not corrode metals
- Possesses ISEGA food grade certification
- Tested in accordance with DIN EN ISO 846 process A and C (ILH Berlin)

Application

- Adheres very well to wood, metal, concrete, various synthetic materials, polystyrene, ceramics, glass, stone, etc.
- In wood, metal, and glass construction, in climate control and ventilation, catering areas, electronic installations, coachwork, and vehicle manufacture
- Suitable for indoor and outdoor applications*
- Not suitable for use on PP, PE, PTFE, neoprene, bitumen, and natural stone as well as for underwater and outdoor building construction joints



Technical Data

Raw material base:	MS-polymere
Density:	1.06 g / ml
Skin formation:	10 min
Hardening:	approx. 2 – 3 mm / 24 h
Shore A-hardness:	38
Movement absorption capacity:	25 %
Coating compatibility:	yes
Processing temperature:	+5 °C to +40 °C
Temperature resistance:	-40 °C to +90 °C
Shelf life (from +5 °C to +20 °C):	12 months from manufacturing

Article No.	Article Description	QTY
6880 9 290	SEALING ADHES.MS-P TRANSP.295G	e 25

*If continuously subjected to UV radiation or if not exposed to enough interior light, discolouration/yellowing, or even brittleness may occur

Window Sealant

- Solvent-free firm special-polymere-paste for adhesion of FÖRCH window tapes
- For the secure connection of window tape to the structure as per RAP and EnEV 2002
- Certified by the Institute for Material Testing NRW
- Smooths out uneven surfaces

Applications:

- Suitable for surfaces such as brickwork, concrete, porous concrete, plaster and wood
- Suitable for metal, wood and plastic windows, both for new buildings as well as renovations

Processing instructions:

- Adhesive surfaces have to be clean, dry, free of ice and frost, stable and grease-free
- Very large cavities or recesses in the structure have to be filled in beforehand
- We recommend a primer made up from a mixture of window sealant with 3 parts water for heavily porous and priming surfaces
- Let primer evaporate/dry
- Apply adhesive as 10 mm thick seam without any gaps on the surface
- Press on the tape - do not press to hard
- Consider movement loop
- Adhesions are only fully resilient once fully dry
- During and after hardening, rain and wetness may have a negative effect on performance when using dispersion based sealants
- In case of doubt, make a contact test

Technical Data

Basis:	polymer dispersion
Colour:	white
Consistency:	paste-like, no running
Skin formation:	approx. 10 - 15 minutes (depending on temperature, humidity and surface)
Hardening:	about 2 - 3 mm/24 hours (at 20°C/50 % humidity)
Temperature resistant:	-30°C to +80°C
Processing temperature:	+5°C to +40°C
Shelf life:	12 months (cool, dry, frost-free)



Article No.	Article Description	QTY
6880 8 310	C(310ML)WINDOW SEALANT	e 25
6880 8 600	B(600ML)WIND.SEALANT	12

Adhesive EPDM

- For adhesion of FÖRCH EPDM-sealing webs to almost all standard surfaces such as concrete, brick, plaster, natural stone, aluminium, steel, zinc, copper, wood, tiles, styrodur etc.

- Elastic
- Stable
- Reduced level of solvent

Processing instructions:

- Adhesive surfaces have to be clean, dry, stable, dust- and grease-free
- Apply the EPDM-adhesive on the surfaces using putty knife
- Adhere the EPDM-web and roll on carefully (using a pressure roll)
- Not suitable for sealants, against pressing water as well as for surfaces made from PTFE, PE and PP
- We recommend to carry out some tests on bitumen webs or bitument paint surfaces due to the different systems available and to also secure the web mechanically

Article No.	Article Description	QTY
6880 1 600	B(600ML)SEALING GLUE EPDM	12



Technical Data

Build. mat. class acc. to DIN 4102-1:	B2
Basis:	special polymer
Colour:	black
Skin formation time:	60 mins
Hardening:	about 2 mm/24 hrs
Processing temperature:	+5 to +35°C
Temperature resistant:	-30 to +80°C
Shelf life:	12 months

Power Adhesive PU Plus

- Solvent-free, gap filling, all-purpose polyurethane assembly adhesive with particularly fast response time resulting in a viscoelastic joint
- Bubble-free and homogeneous structure
- Achieves with wood / wood bonding acc. to DIN EN 204 the stress group D4 (tested by IFT Rosenheim) and acc. to DIN EN 14257 (WATT 91) a thermal bond strength of approx. 7,6 N/mm² (tested at IFT Rosenheim)
- It has a high initial tack and is natural stone compatible, weathering resistant and can be grinded and painted over
- The adhesive shows an excellent adhesion on different wood and construction materials, ceramic, metals, duro- and thermoplastics

Fields of application:

- For the bonding of metals, wood, stone, concrete, plastic and insulation materials like PU-foam, PS-foam, rock wool and glass wool, as well as for sandwich constructions
- In the window and stair building, building trade amongst others for the fixation of supports for double floors, as well as in the assembling and various industrial fields, in specialized fields like acoustic construction, for baseboards, use of natural stones, laminate bonding, fixation of signs, etc.

Processing instructions:

- The surfaces to be bonded must be dry, dust and grease-free, remove possible parting agent residues
- Depending on the material and surface properties, sand the surfaces to be bonded
- The adhesive is moisture curing, that means, when bonding non-absorbent materials or materials with a moisture content

Technical Data

Basis:	Polyurethane
Density:	approx. 1.52 g/cm ³
Skin formation time:	2 min. (wet) - 5 min. (dry)
Functional consistency(at +20°C)	approx. 15 min.
Full hardenin:	approx. 24 hrs.
Processing temperature:	from +7°C to 30°C
Temperature resistance:	-30°C to 110°C
Film characteristic:	viscoplastic
Colour:	beige
Building material class (DIN 4104-T1):	B2
Shelf life:	12 months



Article No.	Article Description	QTY
6880 5 310 1	POWER ADHES.PU PLUS 310ML 5*	25

EasySeal Liquid Plastic FÖRCH★★★★

- 1C low-solvent liquid plastic for elastic and permanent detail waterproofing in accordance with DIN 18195
- Elastic and flexible at low temperatures
- Styrene-free
- Cures with atmospheric humidity
- Spreadable and rollable
- Alkali-resistant
- Water-pressure-tight
- Bitumen-compatible
- Can be plastered over with full-surface spreading of quartz sand



Technische Daten

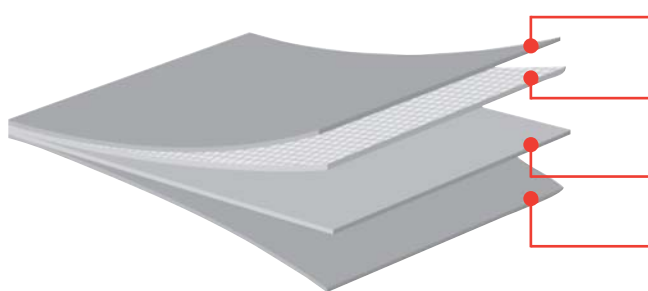
Colour:	grey
Sd value:	approx. 4 m
Rain-resistance	1 h
Coverage:	2.5 – 3.5 kg/m ²
Working temperature:	+5°C to +30°C
Elongation at fracture:	80 %
Packaging:	Metal bucket
Contents:	7.5 kg
Storage:	9 months

Your Advantage / Benefit

- Simple corner formation
- Easy to work with
- SD value: approx. 4 m
- Does not drip (high viscosity)
- Resistant to weather and UV

Application

- For sealing floor-to-ceiling windows and doors
- Creates a second water-deflecting layer underneath window sills
- Fillet sealing of component joints in basement construction and pre-cast concrete parts
- Edge joint seals on balconies and terraces
- Sealing of penetrations, light wells and skylights
- Fillet seals between metal, copper and plastic



EasySeal Liquid Plastic FÖRCH 5*
(Art.-No. 6880 40 75)

EasySeal System Matting
(Art.-No. 6880 40 110 100 / 200 / 350)

EasySeal Liquid Plastic FÖRCH 5*
(Art.-No. 6880 40 75)

EasySeal System Primer
(Art.-No. 6880 40 1000)

Article No.	Article Description	QTY
6880 40 75	7.5KG LIQUID PLAST.EASYSEAL 5*	1

Related Products

- **EasySeal System Matting**
Art.-No. 6880 40 110 100
Art.-No. 6880 40 110 200
Art.-No. 6880 40 110 350



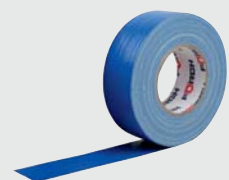
- **EasySeal System Primer**
Art.-No. 6880 40 1000



- **Flat brush solvent-containing ECO**
Art.-No. 5415 4 30



- **Adhesive textile tape, rugged**
Art.-No. 3745 2 50 1



EasySeal System Primer

- Special primer complements the EasySeal liquid plastic system
- For mineral substrates, metals, ceramic flooring and plastics
- Quick drying
- Low viscosity
- Ready to use
- Easily worked with a cloth



Technische Daten

Reworking:	After approx. 20 min
Working temperature:	+5°C to +30°C
Colour:	Transparent brown
Coverage	
Non-absorbent substrates:	30 – 50 ml/m ²
Absorbent and mineral substrates:	100 – 200 ml/m ²
Packaging:	Metal bottle
Contents:	1 l
Storage:	9 months



Article No.	Article Description	QTY
6880 40 1000	CN(1L)SYSTEM PRIMER EASY-SEAL	e 11

EasySeal System Matting

- Special alkali-resistant matting
- Complements the EasySeal liquid plastic system
- Increases the crack-resistance of the EasySeal liquid plastic seal
FÖRCH 5*



Technische Daten

Delivery:	single roll
Surface weight:	110 g/m ²
Traction (lengthwise / transverse):	165 / 150 (N/5 cm)
Air permeability:	1.300 l/m ² /s

Article No.	Article Description	QTY
6880 40 110 100	RO(100M)SYST.MATTING 0,1 X100M	1
6880 40 110 200	RO(100M)SYST.MATTING 0,2 X100M	1
6880 40 110 350	RO(50M)SYST.MATTING 0,35X100M	1



6880 40 110 100



6880 40 110 200



6880 40 110 350

Power Adhesive PU Plus **FÖRCH** ★★★★★

- Solvent-free, gap filling, all-purpose polyurethane assembly adhesive with particularly fast response time resulting in a viscoelastic joint
- Bubble-free and homogeneous structure
- Achieves with wood / wood bonding acc. to DIN EN 204 the stress group D4 (tested by IFT Rosenheim) and acc. to DIN EN 14257 (WATT 91) a thermal bond strength of approx. 7.6 N/mm² (tested at IFT Rosenheim)
- It has a high initial tack and is natural stone compatible, weathering resistant and can be grinded and painted over
- The adhesive shows an excellent adhesion on different wood and construction materials, ceramic, metals, duro- and thermoplastics

Applications:

- For the bonding of metals, wood, stone, concrete, plastic and insulation materials like PU-foam, PS-foam, rock wool and glass wool, as well as for sandwich constructions
- In the window and stair building, building trade amongst others for the fixation of supports for double floors, as well as in the assembling and various industrial fields, in specialized fields like acoustic construction, for baseboards, use of natural stones, laminate bonding, fixation of signs, etc.

Processing instructions:

- The surfaces to be bonded must be dry, dust and grease-free, remove possible parting agent residues
- Depending on the material and surface properties, sand the surfaces to be bonded
- The adhesive is moisture curing, that means, when bonding non-absorbent materials or materials with a moisture content <8%, the applied adhesive has to be sprayed with water (finely dispersed) to achieve a complete hardening
- Put the parts to be bonded together within the skin formation time and press together firmly until the functional strength is reached
- In case of doubts, perform contact tests

Technical Data

Basis:	Polyurethane
Density:	approx. 1.52 g/cm ³
Skin formation time:	2 min. (wet) - 5 min. (dry)
Functional consistency(at +20°C)	approx. 15 min.
Full hardenin:	approx. 24 hrs.
Processing temperature:	from +7°C to 30°C
Temperature resistance:	-30°C to 110°C
Film characteristic:	viscoplastic
Colour:	beige
Building material class (DIN 4104-T1):	B2
Shelf life:	12 months

Article No.	Article Description	QTY
6880 5 310 1	POWER ADHES.PU PLUS 310ML 5*	25



Super Adhesive PU

- Solvent-free, moisture hardening
1K-universal adhesive on polyurethane-basis
- For interior and exterior adhesive jobs, which require good filling and sealing
- Fast and strong screwless and plugless connections of a range of materials
- Paintable

Applications:

- Suitable for wood, stone, ceramics, concrete, plastics and a range of different metals
- Suitable for metal window constructions, acoustic structure, for natural stone working, for laminate laying, for stairs, skirting boards, window sills as well as general repair and assembly adhesion

Processing instructions:

- Adhesive surfaces have to be clean, dry, stable and grease-free
- PU-adhesive reacts to humidity, foams slightly. Fills and bridges uneven surfaces and irregularities
- Immediately fix the parts together after the glue is applied. Keep them fixed together until they reach full functionality (min. 2 to 3 hours). Reaction time depends on temperature as well as air and surface humidity.
- Make contact tests, if necessary

Cleaning:

- Fresh glue can be washed off with FÖCH-PU-cleaner. Hardened sealant can only be removed mechanically

Technical Data

Raw material base:	polyurethane
Density:	1.6 g/cm ³
Skin formation time:	2 min (wet) - 5 min (dry)
Functional hardness:	approx. 18 min
Hardening:	approx. 24 hours
Processing temperature:	7 °C to 30 °C
Temperatur resistance:	-30 °C to +100 °C
Colour:	beige
Water resistance class:	D4
Building material class (DIN 4104-T1):	B 2
Shelf life (cool and dry):	12 months



Article No.	Article Description	QTY
6880 5 310	C(310ML)PU-SUP.ADHESIVE	25

Adhesive sealant 1K-PUR K126

- Strong-gripping single-component adhesive and sealant with polyurethane base
- For permanent elastic bonding and sealing
- For primed and coated metals, aluminium, wooden materials, thermosetting plastics
- For car body, container and vehicle construction, ventilation and air-conditioning technology, metal construction, etc.



Article No.	Article Description	QTY
6630 6500	ADH.SEAL.1K-PUR BK. K126 310ML	ed 24
6630 6501	ADH.SEAL.1K-PUR WH. K126 310ML	ed 24
6630 6502	ADH.SEAL.1K-PUR GR. K126 310ML	ed 24

Replacement nozzle:

- Art.-No. 6015 8270

Your Advantage / Benefit

- Can be painted over after around 45 min
- Can be applied with a brush or trowel
- Temperature resistant from -40 °C to +90 °C, briefly up to +120 °C
- Meets the requirements of the German Foods, Consumer Goods and Feedstuffs Code (German Food and Feed Code LFGB)

Application

- Apply the material to the substrate. The coating thickness depends on the composition of the materials to be glued. The counter-material must be laid and pressed on within 10 min. We recommend clamping the bond in place until it hardens completely.
- The surface must be clean, dry, and free from grease
- The adhesion and compatibility with plastics and paints must be tested for the individual objects.



Related Products

- Disposable Gloves Latex FÖRCH
Art.-No. 5405 210 1 - 4



- Paints
AGR 6210



- Curved flat brush
Art.-No. 5418 71 5



Power Adhesive Hybrid FÖRCH*****

Characteristics:

- 1K-Power adhesive with extremely high initial tack and ultimate strength
- Very good adhesion on almost all usual construction substrates, also damp ones
- Quick hardening
- Odourless and non-corrosive to metals
- Elastic joint
- Natural stone compatible
- Can be painted over when cured
- Very good UV, weathering and seawater resistance
- Isocyanate, silicone and tin-free

Complies with the requirements of the following standards:

- GEV-Ecode EC 1 plus

Applications:

- **System component of the FÖRCH pre-wall installation system**
- Excellent adhesion to wood, metal, natural stone, concrete, duro- and thermoplastics, polystyrene, ceramic, glass, etc.
- Particularly suitable for various applications in vehicle constructions and vehicle bodies for the bonding of sandwich panels
- For vertical and overhead applications, as well as for the bonding of panels, wooden strips, window sills, etc.
- For container building, metal trade and mechanical engineering, plastic bonding, indoor and outdoor applications, mirror bonding, as well as for the working of natural stone, etc.
- No adhesion on PE / PP

Processing:

- The surfaces to be bonded must be sound, clean, as well as grease and oil-free
- Pre-treat porous substrates with silicone undercoat (Art.-No. 6830 8299) or primer system (Art.-No. 6880 1000)
- Put the materials to be bonded together within skin formation time

Technische Daten

Basis:	1K-STP
Colour:	white
Film characteristics:	elastic
Shore A hardness:	approx. 70
Viscosity (at +20°C):	highly viscous-pasty
Density (acc. to EN 542 bei +20°C):	approx. 1.47 g/cm ³
Tensile strength:	5 N/mm ²
Skin formation time (at +20 °C, 50 % rel. hum.):	approx. 5 min
Hardening speed (at +20 °C):	approx. 3 mm (in 24 h)
Min. processing temperature:	starting at 0 °C (short term up to +120 °C)
Temperature resistance:	-30 °C to +80 °C
Storage time (dry, betw. +15 °C and +25 °C):	12 months

Article No.	Article Description	QTY
6880 18 310	POWER ADHESIVE HYBRID 450G 5*	e 25
6880 18 600	POWER ADHESIVE HYBRID 870G 5*	10

Scope of delivery Art. No. 6880 18 600:

- Incl. cartridge tip adapter and nozzle with V-weld



Hybrid Construction Adhesive

Properties:

- Single-component, hybrid-based adhesive with high level of initial grip
- Diverse uses
- High final tensile strength
- For absorbent and non-absorbent substrates
- Can also be used without a primer
- Odourless, neutral
- Free from isocyanates, plasticisers, solvents and silicones

Areas of application:

- Suitable for bonding diverse materials, e.g., assemblies of stone, concrete, masonry, glass, mirrors, glazed surfaces, porcelain, epoxide and polyester sheets, hard PVC, polyurethane, stainless steel, anodised aluminium, copper, zinc, lead, lacquered wood and HPL sheets
- Not suitable for PE, PP, PC, PMMA, PTFE, soft plastics, neoprene, natural stone and bituminous substrates
- Not suitable for expansion joints, long-term exposure to water or chlorine

Usage:

- Contact surfaces must be firm, clean, dry, oil-free and grease-free
- Apply the adhesive in vertical strands
- Carrying out adhesion and compatibility tests before starting the work is recommended

Technische Daten

Basis:	1K-SMP
Colour:	white
Film property:	elastic
Viscosity (at +20 °C):	high viscosity, paste-like
Shore A hardness:	approx. 55
Density (according to EN 542 at +20 °C):	1,57 g/cm ³
Tensile strength:	2,20 MPa
Skin formation time (at 23 °C, 50 % rel. humidity):	approx. 15 min
Hardening speed (at 23 °C, 50 % rel. humidity):	2 – 3 mm / 24 h
Working temperature:	+5 °C to +40 °C
Temperature resistance (in hardened state):	-40 °C to +90 °C
Shelf life (dry, between +5 °C and +25 °C):	18 months



Article No.	Article Description	QTY
6880 19 310	C(450G)CONSTR. ADHESIVE HYBRID	e 25

Universal Adhesive

- **Solvent-free** compound adhesive on dispersion basis
 - Strong adhesion
 - Can be used universally
- Application with hand- or compressed air gun
 - For fitting without screws and plugs
 - Saves time and is cost-efficient
- Misture-proof when hardened
- For indoor and outdoor use
- For adhesion of skirting boards, mouldings, panels, chipboards, thresholds, hard PVC onto wood, plaster, concrete, porous concrete, steel, aluminium and plastic

Information for use:

- Not suitable for polystyrene, polyethylene, polypropylene, Bitumen, mirrors or other solvent sensitive substrates
- Not suitable for long-term exposure to water
- Process opened containers within 24 hours

Technical Data

Colour:	beige
Thermal stability:	-20 °C to +70 °C hardened
Processing temperature:	+5 °C to +30 °C
Hardening:	due to solvent evaporation
Full capacity of adhesion:	approx. 24 h at +20 °C (non-porous surfaces have longer setting times)
Shelf life:	12 month in unopened packaging if stored in a cool and dry place



Article No.	Article Description	QTY
6880 4 310	C(310ML)UNIVERSAL ADHESIVE	25

Universal Adhesive, Solvent-free

- **Solvent-free** compound adhesive on dispersion basis
 - Strong adhesion
 - Can be used universally
- Application with hand- or compressed air gun
 - For fitting without screws and plugs
 - Saves time and is cost-efficient
- Solvent-free
 - Environmentally-friendly
 - Overpaintable

Applications:

- For adhesion of skirting boards, mouldings, panels, chipboards, thresholds, hard PVC onto wood, plaster, concrete, porous concrete, steel, aluminium and plastic
- Can also be used for polystyrene

Information for use:

- Not suitable for mirror gluing, PP, PE, PTFE and bitumen as well as long-term exposure to water

Processing instructions:

- Contact tests recommended for universal adhesives (on neoprene-rubber and dispersion-basis)

Technical Data

Colour:	white
Thermal stability:	-20°C to +80°C
Processing temperature:	+5°C to +35°C
Hardening:	due to water evaporation
Full capacity of adhesion:	after approx. 168 hours (non-porous surfaces have longer setting times)
Shelf life:	18 months in unopened packaging if stored in a cool and dry place



Article No.	Article Description	QTY
6880 4 310 1	C(310ML)UNIV.ADH.SOLVENT-FREE	25

Acrylate Universal Adhesive

- **Solvent-free**, water based acrylate dispersion adhesive
 - Ready for use
 - Can be overpainted
 - Frost-proof after hardening
 - UV-resistant
- For the adhesion of tiles, Styrofoam, wooden panels, mouldings, window sills and foamed material etc. onto bricks, concrete, mortar and wood

Installation instructions:

- Not suitable for tar and bituminous substrates as well as untreated plaster and metals susceptible to corrosion and other plastics (e.g. PE and PP)
- Use tooth spatula for application

Processing instructions:

- For woods which are painted at one side (visible surface) the acrylate universal adhesive is sufficient. For unpainted surfaces (surface to be adhered) use primer.

Attention:

- Do not use in rain or fog. Water prevents the adhesion.



Article No.	Article Description	QTY
6880 12	BUCKET(12KG)ACRYLATE UNIV.ADH.	1
6880 13	BUCKET(5KG)ACRYLATE UNIV.ADHE.	1

Technical Data	
Colour	cream
Temperature resistance (cured)	-20°C to + 80°C
Processing temperature	+5°C to +40°C
Hardening	0.5 to 4 mm/day
Shore A hardness (DIN 53505)	30-50
Shelf life	24 months (dry and at +10 to +25 °C)

Adhesive for Metal 2K-PU

- 2-component reactive adhesive for bonding metal with very good adhesion to aluminium, wood, rigid-PVC and GRP
- Moisture and weather resistant
- Hard and tough

Applications:

- For bonding of aluminium corner angles and profiles in window, container and automotive industry
- For the production of sandwich elements with PS-, PU-, PVC rigid foam core

Processing:

- With duo-press gun 600 ml (Art.-No. 6010 0600 2) and static mixing tube (Art.-No. 6870 8703)
- The surfaces to be bond must be clean and dry, as well as dust- and grease-free
- Usually metals must be pretreated, may be sanded
- Apply adhesive evenly to the parts to be bonded and join together within the work time
- The bond can be slightly charged after 2 hours, final strength reached after 24 hours

Cleaning:

- Clean tools immediately after use with FÖRCH Alu Cleaner Type 60 (Art.-No. 6870 8705). Hardened material can only be mechanically removed.



Technische Daten

Colour:	beige
Tensile shear strength:	15 N/mm ²
Shore D Hardness:	approx. 65
Work time at 10°C / 20°C / 30°C:	approx. 80 min. / 45 min. / 25 min.
Processing temperature:	+15°C to +25°C
Shelf life (cool and dry):	9 months in unopened cartridge low temperatures e.g. +5° C or higher temperatures e.g. + 30° C reduces the shelf life to 6 months

Article No.	Article Description	QTY
6870 8706	ADHESIVE FOR METAL 2K-PU 600ML	e 10

Static Mixer

- Static mixer for 2K-PU metal adhesive

Article No.	Article Description	QTY
6870 8703	STATIC MIXER F.2K-METAL ADHES.	1



Duo cartridge press 600 ml

- lightweight magnesium frame
- rubberised handle for optimum grip
- specially hardened pusher block and push-rod
- corrosion-inhibiting, special black coating
- Pressure plates individually exchangeable for mixing ratios 1:1, 3:1, 10:1
- Transmission ratio 25:1

Article No.	Article Description	QTY
6010 0600 2	DUO CARTRIDGE PRESS 600ML	1



PVC Adhesive

- For constructive connections by solvent-welding of PVC hard parts of all types
- UV-resistant according to Xenon test DIN 53387
- Non-yellowing after expose to weather of more than 40 hours
- Good resistance against water, alcohol, oil and fuel
- No colour change at temperatures of up to +75 °C
- Physiologically harmless; with good chemical resistance

Fields of application:

- Especially profiled material such as drain strips, impact bars, sills and shutter parts. Also suitable for bonding ABS (pipes, plates, injection moulding parts). Not appropriate for PMMA and acrylic surfaces.

Processing:

- The parts to be treated must be dirt and grease free
- Cleaning with **FÖRCH PVC Cleaner Type 10 (Art.-No. 6870 8700)**
- Apply PVC adhesive one-sided. Join the parts together after 30 – 60 seconds at the latest and fix them for 2 – 4 minutes. Remove protruding adhesive after aeration using a scraper.

Technical Data	
Colour:	white
Density:	approx. 0.98 kg/l
Consumption:	approx. 250 – 400 g/m² surface application
Processing temperature:	+5°C to 40°C
Temperature resistance:	–25°C to +90°C
Storage:	In tightly closed container, not under +5°C and not longer than 24 months

Article No.	Article Description	QTY
6870 8704	TB(200G)PVC ADHESIVE WHITE	1 f



Residue Remover

- Device for emptying residue from tubes
- Scope of delivery: 10 pce

Article No.	Article Description	QTY
6870 8704 1	BT(10) RESIDUE REMOVER	1



Power Adhesive 2K-VA/AL K156

- Acrylic-based structural adhesive for many plated and unplated metals and technical plastics, **stainless steel, aluminium**, glass, ceramic, concrete etc...
- Replaces numerous mechanical connection and fastening methods e.g. riveting, welding and soldering etc...
- Application metals: aluminium, stainless steel, titanium, magnesium, light-metal alloys, steel, chrome steel, galvanised steel, copper, brass, bronze and painted metals etc...
- Application plastics: SMC/RTM, polyester and epoxy, laminates, phenol, resins, ABS, heavy PVC, polystyrene, PBT, PC, PMMA
- UV-resistant
- Temperature range -40 °C to +150 °C, short time to +170 °C
- High impact and racking resistance
- Working time: 6 to 10 mins. at +23 °C
- Do not process below 0 °C
- Resistant to diluted acids, alkaline substances, solvents, greases, oils and moisture
- For adhesive gaps of 0.1 mm to 2 mm

Application:

- Parts to be bonded must be clean and grease free. If necessary, roughen plastics prior to use.
- Open the seal and screw on the static mixing nozzle. Attach the plunger to the end of the cartridge and apply using a commercially available 'skeleton gun'. Join parts together immediately and fix in position. After use remove the nozzle and close the cartridge. The components must not contact each other!



Article No.	Article Description	QTY
6660 4283	SET POWER ADHES.2K-VA/AL K156	1
6660 4280	2K-VA/AL POWER ADHE.K156 150ML	e 12
6660 4281	MIX.NOZZLE F.2K-VA/AL POW.ADH.	e 10
6660 4282	PLUNGER FOR 2K-VA/AL POW.ADHE.	1

Scope of delivery, Art.-No. 6660 4283:

- 1x Art.-No. 6660 4280: 2K-VA/AL Power Adhesive K156, 150 ml
- 1x Art.-No. 6660 4281: Static Mixing Nozzle
- 1x Art.-No. 6660 4282: Plunger

Spray Adhes. Extra Strong K146 / Spray Adhes. K147

Art.-No. 6404 4000 Spray Adhesive Extra Strong K146:

- High-power adhesive with extremely high power instant adhesion
- Ideal for using on parts of the bodywork such as ceiling, covers, insulating boards etc.
- 6-way adjustable spray jet ranging from drop by drop to wide application, excellently adheres roof interiors, artificial leather / coverings, insulation sheets / mats, foam rubber, leather, cardboard, paper, vinyl, wood, glass, rubber and metal as well as painted surfaces
- **Not suitable for polystyrene**
- Colour: yellowish

Art.-No. 6400 4010 Spray Adhesive K147:

- Power adhesive with extremely high power instant adhesion
- Problem-free adhesion of internal roof linings, covers made out of plastic leather / fabric, insulating boards, textiles, foam rubber, leather, cardboard, polystyrene, vinyl, rubber etc.
- 6-way adjustable spray jet
- **Suitable for polystyrene**
- Colour: white

Article No.	Article Description	QTY
6400 4000	SPR.ADH.XTRA STRONG K146 400ML	ed 24
6400 4010	SPRAY ADHESIVE K147 400ML	ed 24



6400 4000

6400 4010

Rubber & Universal Contact Adhesive K142

- For long-term adhesion of rubber, rubber-metal connections, foam rubber, insulating material, PVC, textiles, paper, cardboard, wood, leather etc.
- Not suitable for polystyrene

Art.-No. 6400 4050:

- Tin with included brush

Article No.	Article Description	QTY
6400 4049	TB(90G)UNIVERSAL ADHESIVE K142	e 12
6400 4050	RUBB.&UNIV.CONT.ADH.K142 200G	e 6
6400 4055	UNIV.CONT.ADHESIVE K142 640G	1



Superglue K139

- Super fast high-strength cyanoacrylate adhesive
- For bonding metal, plastic and rubber parts
- With **NSF-P1-registration** for the bonding in food-contact applications

Technical Data

Colour:	transparent
Viscosity (20°C):	80 – 200 mPas
Temperature resistance:	-60 °C up to +80 °C
Max. Gap filling:	0,07 mm

Article No.	Article Description	QTY
6410 4100	BT CYANCRYLAT-ADH. K130 20G	1



2K K140 strong adhesive

- 2 component universal adhesive for easy and quick adhesion of virtually all materials to each other, apart from rubber and a few plastics
- Basis: Methacrylate



Article No.	Article Description
6660 4240	2K POWER BOND K140 50G
6660 4208	MIX. NOZZLE QUATTRO K140/K154
6660 4201	STANDARD GUN F.50ML CARTRIDGES

Your Advantage / Benefit

- Temperature-resistant from -55 °C to +120 °C
- Petrol resistant
- Short static mixing nozzle for low material loss
- Can even be reused after weeks by simply changing the static mixing nozzle
- Can be sanded after 45 mins and ready for painting
- For all adhesive application in industrial area such as vehicle building, wood industry, plastic industry, metal construction, lighting industry, electrics, machinery construction, fastening technology, conveyor technology, container building, heating and ventilation construction, industrialised building etc.

Application

- Parts to be stuck must be clean and free from grease
- Store cool and dry
- Note the processing temperature



Related Products

- **Silicone remover R507**
Art.-No. 6130 1571, 500ml tin
Art.-No. 6130 1570, 5l can



- **Disposable Gloves Latex FORCH**
Art.-No. 5405 210 1 - 4



- **Duo-Grip fine-knit gloves**
Art.-No. 5405 117 7 - 10



- **Standard Gun**
Art.-No. 6660 4201



PU adhesive Repair 2K-Speed K151

- PU synthetic 2-component adhesive anthracite
- For most synthetic plastics
- Very easy processing

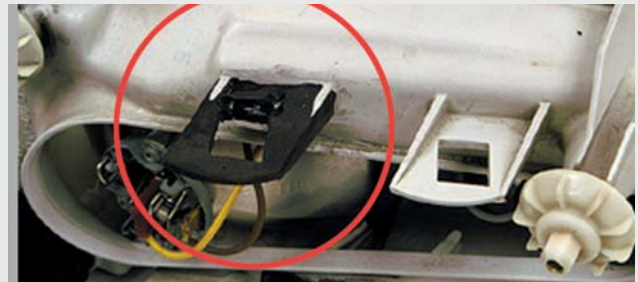


Your Advantage / Benefit

- Application possible with and **without primer**
- Extremely fast **drying time of 3-5 mins.**
- Can be ground after 10-15 min
- Stays flexible after hardening
- Overpaintable with all standard paints after 45-60 min
- Long-lasting heat resistance up to 90 °C
- Short fixed mixer nozzle for minimum loss of material
- Reusable, even after weeks, by simply exchanging the fixed mixer nozzle

Application

- Almost all plastics, fibre glass reinforced plastic (GRP) e.g. clips and supports on door panels, roof linings, interior panels, mirror casings, radiator grill, bumpers, spoilers, headlight casings, etc.
- Please take into consideration the product summary (2-component adhesive)



Technical Data

Fixed mixerLength (mm)	No. of mixing elements
80	16

Article No.	Article Description
6660 4254	2K-SPEED PU-ADH.ANTHR.K151 60G
6660 4205	MIXING NOZZLE F. 2K-(HI)-SPEED
6660 4201	STANDARD GUN F.50ML CARTRIDGES

Related Products

- Standard Gun
Art.-No. 6660 4201



- Glass / paint cleaner
1K-PUR R540 FORCH
Art.-No. 6110 1000



- Primer for plastic
adhesives K148
Art.-No. 6660 4255



- Repair mesh for
plastic repair
Art.-No. 6660 4256



Nut Lock Gel Blue - Medium Viscosity K118

- For securing and sealing of threaded connections
- Vibration resistant
- Outstanding media and heat resistance
- Hardening also in uncleaned locations, but the cleaner the surface, the stronger the connection will be
- Non-drip, high viscosity
- Medium strength, can be removed using Tools
- DVGW tested (DIN EN 751-1), not approved for gas domestic installations in accordance with DVGW-TRGI 2008



Technical Data

Viscosity (25°C):	2.000 – 7.500 mPas
Density (25°C):	1,05 g/cm ³
Temperature resistance:	from -55 °C to +150 °C
Max. gap filling:	0,25 mm
Breakaway torque:	17– 22 Nm
Shear strength (DIN 54452):	9 – 13 N/mm ²
Touchable consistency:	10 – 20 min
Functional consistency:	1 – 3 hrs
Final consistency:	4 – 8 hrs
Max. thread [metr]:	M36

Article No.	Article Description	QTY
6420 4153	HV-NUT LOCK GEL BLUE K118 50G	e 10

Nut Lock Blue - Medium Viscosity K120

- Super fast medium viscosity thread lock retainer
- Vibration resistant
- Excellent medium and heat resistance
- Curing even at unclean parts, but the cleaner the surface, the stronger the connection
- Medium-strength, can be disassembled with tools

Technical Data

Viscosity (25°C):	900 – 1,100 mPas
Density (25°C):	1.05 g/cm ³
Temperature resistance:	from -55 °C to +150 °C
Max. gap filling:	0,2 mm
Breakaway torque:	14 – 18 Nm
Shear strength (DIN 54452):	8 – 12 N/mm ²
Touchable consistency:	10 – 20 min
Functional consistency:	1 – 3 hrs
Final consistency:	5 – 10 hrs
Max. thread [metr]:	M24

Article No.	Article Description	QTY
6420 4150	NUT LOCK BLUE MS K120 50G	e 10
6420 4151	NUT LOCK BLUE MS K120 10ML	e 66



Wood Float

- Forms an ultra-fine, strong lubricating film well capable of creep neutralises resin
- Prevents sticking and smearing of wood processing machines with wood dust and shavings
- Cleans and lubricates catches, spindles, handwheels, retainer jaws, rods etc.
- Resistant to moisture and prevents corrosion of bare machine parts

Article No.	Article Description	QTY
6860 8500	WOOD FLOAT 5L	1
6860 8502	WOOD FLOAT 10L	1
6860 8503	WOOD FLOAT 30L	1
6860 8507	WOOD FLOAT 200L	1



Resin Remover Concentrate

- Can be diluted with water 1:2
- Removes resin deposits fast and residue-free from circular saw blades, band-saws, saw-chains, cutter heads, planer blades, augers etc

Processing advice:

- Resin remover concentrate may not be used in pressurised aluminium containers

Article No.	Article Description	QTY
6860 8550	RESIN-REMOVE-CONCENTR.5L	1

Suitable spout:

- 5 l: Art.-No. 6000 0023



Multi-Purpose Tray, Plastic

- Suitable for oil, petrol, different acids and chemicals
- With medium socket for small parts cleaning
- Pointed grommet for safe decanting

Technical Data

Volume:	9 l
Weight:	1.0 kg
Measurements HxLxW	15 x 32 x 32 cm
Material:	polyethylene

Article No.	Article Description	QTY
5421 9	MULTI-PURPOSE TRAY, PLASTIC 9L	1



Wood Cold Glue D2

- High-quality assembly adhesive in accordance with DIN/EN 204
 - High quality
- PVAC adhesive (polyvinyl acetate)
 - Free from formaldehyde, PCP, lindane, and solvents
 - Biodegradable
 - Easy disposal, not considered hazardous waste
- Short setting time for cold and hot bonding
 - Short open time
 - No unnecessary waiting times

Areas of application:

- Framework bonding
- Flat laminate bonding
- Assembly bonding
- Veneer joint and veneer bonding

Storage:

- Cold wood adhesive D2 can be stored in its original unopened packaging at +20°C for about 1 year
- Designed to be frost-resistant to -30°C
- Allow to come to room temperature and stir well before use

Note on usage:

- We recommend the use of an adhesive application tool for applying the adhesive, particularly when applying it to large surface areas
- AGR 5414 brushes are suitable for this purpose
- For covering surfaces, our plastic notched trowel, made from AGR 5422, is the perfect solution



Technical Data

Open time at +20 °C:	approx 10 min.
Pressure application period: Board joint bonding at +20 °C:	6 - 12 min.
Pressure application period: Board joint bonding at +80 °C with one side preheated:	2 - 5 min
Pressure application period: Board joint bonding in high frequency field:	20 - 25 min.
Pressure application period: Body bonding at +20 °C:	10 - 12 min.
Pressure application period: Veneer bonding at +20 °C:	12 - 15 min.
Pressure application period: Veneer bonding at +80 °C:	3 - 4 min.
Pressure application period: Surface bonding (HPL sheets) at +20 °C:	20 - 25 min.
Pressure application period: Surface bonding (HPL sheets) at +50 °C:	8 - 10 min.

Article No.	Article Description	QTY
6850 2 10	KG<10>WOOD-COLD-GLUE D2 BUCK.	10
6850 2 28	KG<28>WOOD-COLD-GLUE D2 BUCK.	28

Empty Bottle for Wood Cold Glue

Article No.	Article Description	QTY
6850 2 05 1	SPAREBOTTLE W. NOZZLE 0.5KG	1



Wood Cold Glue D3/D4

- Tested by the Institute for Window Technology in Rosenheim
 - Tested high quality, secure glueing
- Waterproof one component glue D3 according to DIN/EN 204
 - Universally applicable
- Can be increased to D4 glueing quality by adding 5% hardener for 24 hours
 - Once the drip time is over the quality regulates back to D3
- PVAC-glue (polyvinylacetate)
 - Free from formaldehyde, PCP, lindane and solvents
 - No unpleasant smell - Easy disposal, no toxic waste
- Short setting times for cold and warm glueing

Applications:

- Window, stairs and assembly glueing, surface glueing of HPL-boards, glueing of hard and exotic woods

Processing instructions:

- We recommend glueing machine to apply glue, especially for surface glueing, brushes are suitable from AGR 5414
- We recommend our plastic toothed scrapers from AGR 5422 for stripping of surfaces

Storage:

- Wood cold glue D3/D4 can be stored up to one year at +20°C in original unopened packaging
- Wood cold glue D3/D4 is frost-resistant up to -30°C
- Slowly defrost at room temperature and stir well prior to use



Technical Data

Drip-time only if D4 hardener is added:	up to 0 - 24 hrs
open period at +20°C:	6 - 10mins
Press time: Joint glueing at +20°C:	from 15 mins
Press time: Joint glueing at +50°C pre-warmed:	from 5 mins
Press time: Joint glueing at +80°C:	from 2 mins
Press time: Surface glueing (HPL-boards) at +20°C:	15 - 20 mins
Press time: Surface glueing (HPL-boards) at +50°C:	approx. 5 mins
Press time: Surface glueing (HPL-boards) at +80°C:	1 - 2 mins

Article No.	Article Description	QTY
6850 3 05	WOOD-COLD-GLUE D3/D4 0.5KG	e 12
6850 3 5	KG<5>WD-COLD-GLUE D3/D4 BUCK.	5
6850 3 10	KG<5>WD-COLD-GLUE D3/D4 BUCK.	10
6850 3 28	KG<28>WOODCOLDGLUE D3/D4 BUCK.	28

Glue Hardener D4

- When adding 5% hardener the wood cold glue D3/D4 is built-up to D4-adhesive application
 - Only need to store one product to have both D3- and D4-glue

Article No.	Article Description	QTY
6850 3 700	GLUEHARDEN.D4 700ML	e 12



Measuring Cup

- Plastic cup with scale to measure the hardener precisely

Article No.	Article Description	QTY
6850 3 701	GLUEHARDEN.-MEAS.CUP	1



Glue Holder

- For applying glue and paint
- Clean, convenient removal
- Contents remain fluid
- High resistance to chemicals
- Capacity: 0.9 l
- Incl. brush

Article No.	Article Description	QTY
6850 1 09	GLUE HOLDER 0.9 LTR	1



Glue Roller

- For applying glue evenly over large surface areas
- Incl. foam rubber roller and stand
- Foam rubber roller suitable for applying the following materials: White glue, glue containing hardener, paste and other types of water-dilutable glue or adhesive

Article No.	Article Description	QTY
6850 150	GLUE ROLLER 150MM	1
6850 150 1	MOSS RUBBER ROLLER GREY 150MM	1



Glue PU D4

- Air-tight cap
 - No drying out/hardening of PU-glue
 - Longer shelf life
 - Ideal dosing
- Tested by the Institute for Window Technology in Rosenheim
 - Tested high quality
 - Secure glueing
- Moisture-hardening one-component reaction adhesive on polyurethane-basis
 - Highly water and temperature resistant
 - Waterproof as per DIN/EN 204, D4
 - Universally applicable
- Solvent-free
 - No need to etch or corrode the surface to be glued
- Good water and weather resistance
 - Individually applicable even outdoors

Applications:

- Window and door glueing
- Layer glueing of wood and wood materials
- Joint glueing for outdoors
- Joint glueing of MDF-boards
- Glueing of mineral construction boards e.g. fibreboard, fermacell
- Glueing of ceramic materials, concrete materials and hard foams

Storage:

- The PU-glue D4 can only be stored at +20 °C and only in its original unopened container for 9 months
- Store cool and dry and protect against exposure to moisture
- Use opened containers quickly

Technical Data

Open period at +20°C:	approx. 20 - 35 mins
Press time at +20°C:	from 60 mins
Press time at +40°C:	from 30 mins
Press time at +60°C:	from 10 mins
Final setting time at +20°C:	2 - 3 hrs
Final hardness at +20°C:	24 hrs

The indicated press times depend heavily on the temperature and on the level of moisture.

Article No.	Article Description	QTY
6850 5 05	PU-GLUE D4 0.5KG	e 12



Gun-applied foam Mega FÖRCH *****

- Moisture-hardening single component PU-based filling and insulating foam
- Easy to use, due to handy 500 ml can
- Meets the requirements of the assembly handbook for RAL-Gütegemeinschaften Fenster und (RAL Quality Associations Windows and External Doors) as well as the ÖNORM B5320
- Tested and approved by building authorities

Usage instructions:

- Shake the can well before use (approx. 30x)
- Lightly moistening the surface improves adhesion and curing, as well as the cell structure of the foam
- Very good adhesion to nearly all structural substrates such as concrete, stone, plaster, metal, wood, polystyrene, PUR rigid foam, polyester, and rigid PVC
- Will not bond to PE, PP, PTFE, or silicone
- A primer must be used with porous or absorbent substrates



Your Advantage / Benefit

- Fine-celled foam structure
- Very high foam yield, up to 45 litres free-foamed
- Proven sound deadening of 61 dB
- Very low emissions EMICODE®-EC 1Plus

Application

- For sound deadening, filling and insulating window joints, window sill joints, pipe penetrations, wall openings, and cavities



Technical Data

Construction material classification according to DIN EN 13501-1:	Class E
Assessed joint sound deadening value:	61 dB
Thermal conductivity:	0.037 W/m*K
Tack-free:*	approx. 8 – 10 min
Cuttable:*	approx. 20 – 25 min
Working temperature for environment and substrate:	+0 °C to +30 °C
Working temperature for can:	+5 °C
Temperature resistance (cured):	-40 °C to +90 °C
Shelf life, upright at +5 °C to +25 °C:	12 months
Colour:	grey

* at 23 °C and 50 % relative humidity

Article No.	Article Description	QTY
6800 8500	GUN-APPLIED FOAM MEGA 5*	e 12

Comparison foam structure:



Gun foam Mega FÖRCH 5*



conventional 1K-PU foam

Joint Sealing Foam SOFT

Product description:

- Moisture-curing, one component, permanently elastic filling and insulation foam based on PU
- Safety acc. to RAL and also for reconstruction work
- Officially tested and approved

Processing instructions:

- Shake can well before use (approx. 30 times)
- Slightly moisten the surface - this improves adhesion and curing
- Very good adhesion on nearly all building substrates such as concrete, stone, plaster, metal, wood, polystyrene, polyurethane foam, polyester and hard PVC
- No adhesion on PE, PP, PTFE and silicone
- For porous and absorbent substrates, please, use a primer first



Your Advantage / Benefit

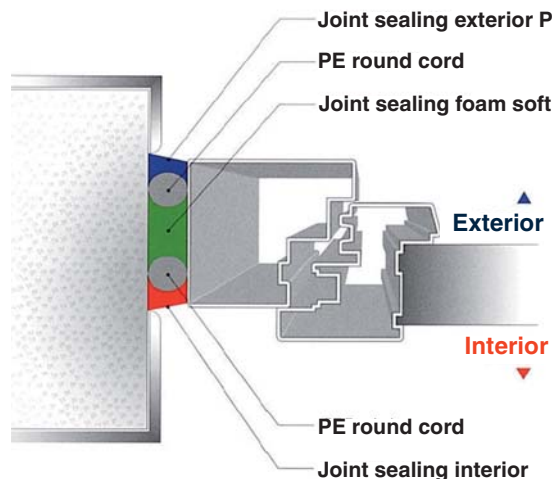
- Unique flexibility
- High movements of components are absorbed
- Prevents the risk of hairline cracks edge demolition
- Joint movement capacity up to 50 %
- Very low-emission EMICODE®-EC 1^{Plus}
- Type tested by ift Rosenheim
- Air permeability tested by ift Rosenheim

Application

- Specially adjusted for the sealing system in window installation, in connection with the products Joint Sealing INTERIOR (Art.-No. 6880 3 310 1) and Joint Sealing EXTERIOR (Art.-No. 6880 3 310 3)
- For the wind-tight connection of construction element joints difficultly accessible in the complete roof area



System Configuration



Technical Data

Foam yield:	approx. 30 l
Tack-free surface:	approx. 6 min (30 mm foam line length)
Suitable for cutting:	ca. 20 min (30 mm foam line length)
Ambient temperature:	-10°C to +40°C
Processing temperature:	+5°C to +35°C (can and adhesive surface temperature)
Temperature resistance:	-40°C to +90°C
Shelf life, upright at +5°C to +25°C:	12 months
Building material class:	B2
Water vapour permeability:	20 µ
Acoustic insulation of joints:	60db
Heat conductivity:	0.0345 w/m*k

Article No.	Article Description	QTY
6800 8160	1K-PU-JO.SEAL.FOAM SOFT 750ML	e 12

Gun Foam 1K 500 Plus SV

- Moisture-hardening 1-component polyurethane foam for damming, filling and soundproofing of window and window sill connections, tubular feedthrough, wall connection, wall penetration and cavities
- Easy to handle due to compact can
- Extremely large foam yield: approx. 45 l of foam
- Approved by building inspection authorities
- High sound insulation value: 61 dB

Processing instructions:

- Shake can well before use (approx. 20x)
- Slight moistening/spraying of surfaces improves the adhesion and hardening as well as the cell structure
- Adhesion on concrete, stone, metal and wood. No adhesion on polyethylene, silicone, PTFE and grease
- Use primer if surface is porous or priming
- Carry out contact tests

Technical Data

according to DIN 4102, part 1:	B2
Evaluated joint sound insulation:	61 dB
Foam yield:	approx. 40 l
Non-adhesive:	after approx. 10 mins
Can be cut:	after approx. 15 - 30mins
Processing temperature	
Environment and surface:	approx. -5°C to 30°C
Tin:	+5°C to +25°C
Temperature resistant (hardened):	-40°C to +90°C
Shelf life:	12 months
Colour:	yellow

* at 20 °C and 60 % relative humidity

Article No.	Article Description	QTY
6800 8154	1K-PU-VOLUMEFOAM.500 PLUS SV	16



Foam Package 500 Plus SV

Contents:

Article-No.	Article Description	Quantity
6800 8151	PU-UNIVERSALCLEANER SV 500ML	2
6800 8152	1K-PU-VOLUMEFOAM.METAL SV	1
6800 8154	1K-PU-VOLUMEFOAM.500 PLUS SV	32



Article No.	Article Description	QTY
6800P 500 1	FOAM PACKAGE 500 PLUS SV	1

Universal Cleaner PU SV

- PU-cleaner with fast-closing-adapter-system removes fresh PU-foam-dirt reliably and cleans gun
- Combi-tin with spray head for the conventional use as a spray as well as with adapter-system to clean the PU-foam gun

Article No.	Article Description	QTY
6800 8151	PU-UNIVERSALCLEANER SV 500ML	e 12



Foam Gun SV

- High-quality gun with especially screw adapter
- The foam cans can be screwed securely and quickly with just half a turn, due the quick-adapter system
- With PTFE inner coating

Article No.	Article Description	QTY
6800 8152	1K-PU-VOLUMEFOAM.METAL SV	1



Gun Foam 1K-PU 500 plus

- Moisture-hardening one-component-polyurethane-foam to insulate and fill window joints, window sill joints, pipe feedthroughs, wall joints, wall breakthroughs and hollow spaces
- Easy to handle due to short compact can
- Extremely large foam yield: approx. 45 l of foam
- General building authority approval
- High sound insulation value: 61 dB
- Complies with the requirements laid down in the specifications for installation of the RAL-Quality Association for Windows and House Doors e.V. and ÖNORM B5320
- Very low-emission Plus EMI CODE®-EC 1^{Plus}

Processing instructions:

- Shake can well before use (about 20x)
- Slight moistening/spraying of surfaces improves the adhesion and hardening as well as the cell structure
- Adhesion on concrete, stone, metal and wood. No adhesion on polyethylene, silicone, PTFE and grease
- Use primer if surface is porous or priming
- Carry out contact tests
- Water has to be added if temperatures are below freezing point

Technical Data

Building material class	B2
acc. to DIN 4102, part 1:	B2
Evaluated joint sound insulation:	61 dB
Foam yield	approx. 40 l
Non-adhesive:	after approx. 10 mins.
Can be cut:	after approx. 15 - 30 mins.
Processing temperature	-5 °C bis +30 °C
for can, environment and surface:	-5°C to +25°C
Temperature resistant (hardened):	-40°C to +90°C
Shelf life:	12 months

* at 20 °C and 60 % relative humidity

Article No.	Article Description	QTY
6800 8106	1K-PU GUN FOAM 500+GREY	16
6800 8108	1K-PU GUN FOAM 500+WHITE	16



Foam Package 500 Plus

Contents Art.-No. 6800P 500:

Article-No.	Article Description	Quantity
6800 8102 1	1K-PU-FOAM GUN ECO	1
6800 8106	1K-PU GUN FOAM 500+GREY	32
6800 8120	PU-UNIVERSAL CLEANER 500ML	2

Contents Art.-No. 6800P 500 2:

Article-No.	Article Description	Quantity
6800 8102 1	1K-PU-FOAM GUN ECO	1
6800 8108	1K-PU GUN FOAM 500+WHITE	32
6800 8120	PU-UNIVERSAL CLEANER 500ML	2

Article No.	Article Description	QTY
6800P 500	FOAM PACKAGE 500 PLUS GREY	1
6800P 500 2	FOAM PACKAGE 500 PLUS WHITE	1



1K-PU spray gun foam, 500 plus **VAROBOXX**

Contents Art.-No. 9003P 6800 8106:

Article-No.	Article Description	Quantity
6800 8104	1K-PU-FOAM GUN METAL	1
6800 8106	1K-PU GUN FOAM 500+GREY	16
9003 4	VAROBOXX SIZE:4 EMPTY	1
9004 4 1	THERMO INSERT VAROBOXX4	1

Contents Art.-No. 9003P 6800 8108:

Article-No.	Article Description	Quantity
6800 8104	1K-PU-FOAM GUN METAL	1
6800 8108	1K-PU GUN FOAM 500+WHITE	16
9003 4	VAROBOXX SIZE:4 EMPTY	1
9004 4 1	THERMO INSERT VAROBOXX4	1

Article No.	Article Description	QTY
9003P 6800 8106	VAROBOXX 1K-PU GUN FOAM GREY	1
9003P 6800 8108	VAROBOXX 1K-PU GUN FOAM WHITE	1



Gun Foam 1K-PU „S“

- Hardly inflammable, moisture-hardening one-component-polyurethane foam
- General building authority approval
- Drip-free and precise dosing with mounting gun
- CFC-free

Processing instructions:

- Shake can well before use (approx. 20x)
- Slightly moistening/spraying of surfaces improves the adhesion and hardening as well as cell structure
- Adhesion on concrete, stone, metal and wood. No adhesion on polyethylene, silicone, PTFE and grease
- Use primer if surface is porous or priming
- Contact tests are recommended

Technical Data

Build. mat. class acc. to DIN 4102, part 1:	B2
Val. joint sound-damp. dosage:	57 dB
Max. foam volume:	approx. 40 l
Foam up:	approx. 150 %
Non-stacky:	after appr. 10 mins
Can be cut:	after appr. 40 mins
(Ascertained at +20°C, 60% humidity)	
Processing temperature	+5 °C bis +25 °C
for can, environment, underground:	+5°C to +25°C
Temperature resistant (hardened):	-40°C to +90°C

* at 20 °C and 60 % relative humidity

Article No.	Article Description	QTY
6800 8101	1K-PU GUN FOAM "S" 750ML	16



PU-Universal Cleaner

- Removes PU-foam dirt reliable and cleans the mounting gun
- Combi-tin with spray head for the conventional use as a spray as well as with screw thread to clean the PU-foam gun
- Easily biodegradable, AOX-free

Article No.	Article Description	QTY
6800 8120	PU-UNIVERSAL CLEANER 500ML	ed 24



Foam Gun **FÖRCH*******

- Newly developed PU-dosing gun
- Special coating increases the temperature of the gun barrel which enables very fine foaming
- Threaded adapter with anti-adhesive coating
- With 3-fold gasket set
- Gun can be dismantled into single parts and can be cleaned
- All single parts available

Article No.	Article Description	QTY
6800 8103	1K-PU FOAM GUN METAL 5*	1



Foam Gun Accessories **FÖRCH*******

Article No.	Article Description	QTY
6800 8103 1	GASKET SET	1
6800 8103 2	THREADED NIPPLE	1
6800 8103 3	DOSING NEEDLE	1
6800 8103 4	GUN BARREL	1
6800 8103 5	GUN HANDLE	1



Applicator Gun Accessories

Art.-No. 6800 8050 1:

- Extension tube attachment for applicator gun

Art.-No. 6800 8050 2:

- Cone end attachment for applicator gun

Art.-No. 6800 8050 3:

- Tube attachment for narrow joints for applicator gun
- For narrow and difficult joint measures (5 mm)
- Flexible up to 90 degrees

Article No.	Article Description	QTY
6800 8050 1	BTL(50)TUBES FOR GUN	1
6800 8050 2	BTL(50)TIPS FOR GUN	1
6800 8050 3	BTL(50)NARROW JOINT TUBES	1



Metal Foam Gun

- High quality metal dosing gun
- Adaptor and needle are PTFE-coated
- Tapered extrusion tube for high stability
- Smoothly dosage needle adjusting screw
- Optimal handling
- Rubberized handle for secure grip

Article No.	Article Description	QTY
6800 8104	1K-PU-FOAM GUN METAL	1
6800 8140	REPLACEMENT TIP F.METAL GUN	1



Foam Gun **ECO**

- Light-weighted plastic / metal gun
- With metal trigger
- Big adjusting screw for excellent justification
- Ergonomic soft-rubberized handle

Article No.	Article Description	QTY
6800 8102 1	1K-PU-FOAM GUN ECO	1



Foam Handheld 1K-PU

- Moisture-hardening one-component-polyurethane foam to fill and insulate window joints, window sill joints, pipe feedthroughs, wall joints, wall breakthroughs and hollow spaces
- General building authority approval
- CFC-free

Processing instruction:

- Shake can well before use (approx. 20x)
- Moistening/spraying of surfaces improves the adhesion on and hardening as well as the cell structure
- Adhesion on concrete, stone, metal and wood. No adhesion on polyethylene, silicone, PTFE and grease.
- Use primer if surface is porous or priming
- Contact tests are recommended

Technical Data

Build.mat.class acc. to DIN 4102, part 1:	B2
Max. foam volume:	approx. 40 l
Foam up:	approx. 150 %
Non-adhesive*:	after approx. 10 min
Can be cut*:	after approx. 40 min
Processing temperature for tin, environment and surface	+5 °C to +25 °C
Temperature resistance (hardened)	-40 °C to +90 °C
Shelf life:	12 months

* at 20 °C and 60 % relative humidity

Article No.	Article Description	QTY
6800 8105	1K-PU FOAM HANDHELD 750ML	12



Well Foam 1K-PU

- To seal and connect wells or concrete well casings
 - Saves time-consuming mortar setting
 - Faster, time-efficient working
- Resistant against fuel, oil, water and bacteria and acids found in soil
 - individual range of use
- CFC-free
 - Environmentally-friendly
- Test certificate for water tightness

Processing instructions:

- May not be used for construction above ground

Technical Data

Fire class acc. to DIN 4102, part 1:	B3
Foam yield:	approx. 40 l of foam
Non-adhesive:	after approx. 10 min
Can be cut:	after approx. 40 min
Processing temperature for tin, Environment and surface:	+5 °C to +25 °C
Temperature resistance (hardened):	-40 °C to +90 °C (+120 °C max. 1 h)
Shelf life:	12 months

Article No.	Article Description	QTY
6800 8132	1K-PU WELL FOAM G.A. 750ML	12
6800 8133	1K-PU WELL FOAM - PIPE 750ML	12



Gun foam 1K-PU B1

- Flame resistant, moisture-hardening 1-component polyurethane foam
- General building authority approval
- Can be dosed exactly without drips from the assembly gun
- Hardly inflammable between massive mineral or metallic materials, joint depth and width up to 40 mm

Processing instructions:

- Shake can well before use (approx. 20x)
- Slight moistening / spraying of surfaces improves the adhesion and hardening as well as the cell structure
- Adhesion on concrete, stone, metal and wood. No adhesion on polyethylene, silicone, PTFE and grease
- Use primer if surface is porous or absorbent
- Contact tests are recommended

Technical Data

Build. mat. class acc. to DIN 4102, part 1: B1

Foam yield: approx. 45 l

Can be cut: after approx. 40 mins.

Processing temperature for can, environment and substrate): +5°C to +25°C

Temp. resistant (hardened): -40°C to +90°C

Colour: pink

Shelf life: 12 months

* at 20 °C and 60 % relative humidity

Article No.	Article Description	QTY
6800 0538	1K-PU GUN FOAM B1 750ML	12



Perimeter adhesive foam

- 1-part polyurethane adhesive foam for mounting rigid PS foam boards as perimeter insulation in basements
- Excellent heat insulation
- Exceptional dimensional stability
- Exceptional adhesion of insulation panels to conventional surfaces, such as concrete, bitumen sheeting or bitumen thick coatings
- Quick and easy delivery and handling with a foam gun

Usage instructions:

- Contact surfaces must be sound, clean, dry, dust-free and grease-free
- Screw the can onto the gun with the valve facing upwards and shake vigorously
- Place the bottom row of insulating panels on a firm surface
- Apply lines of adhesive vertically, spaced approx. 25 cm apart, on the wall or panel
- Allow adhesive to sink in (between 2 and 10 min), firmly press panel onto basement wall
- Seal open joints in the insulation with adhesive
- The final strength of the adhesive is achieved by the pressure applied by the backfilled soil. The backfilling should take place within 14 days of applying the adhesive.
- Not suitable for applications in groundwater areas (due to pressing water)

Technical Data

Construction material class in accordance with DIN 4102 Part 1: B2

Basis: Polyurethane

Colour: Mint green

Tack-free time of surface: After approx. 10 min

Cutttable: After approx. 30 min

Coverage: Approx. 13 m² wall area

Working temperature: +5 °C to +35 °C

Temperature resistance: -40 °C to +90 °C

Shelf life: 12 months



Article No.	Article Description	QTY
6800 8109	INSULAT.BOARD-ADHESIVE750ML	e 12

Platform Roof Adhesive Foam

- Moisture-curing 1K-PU adhesive foam for efficient, clean, economical, durable and safe bonding of thermal insulation boards
- Tested acc. to the requirements of ETAG-006-guideline
- Can be processed from -5°C ambient temperature and +5°C can temperature
- Reduced post-expansion
- No mechanical fixing required
- Also for vertical and overhead bondings
- Economical in use (approx. 14 m²/800-ml-can)
- Ideal for the bonding of polystyrene (EPS+ XPS) and PIR / PUR rigid foam panels for flat roofs and perimeter area, facade insulation, as well as for dry construction, basement ceiling insulation, and the bonding of non-bearing gas-concrete blocks
- Suitable for most building substrates such as sanded bitumen sheets, corrosion-protected steel sheets, fiber cement panels, gas-concrete, chipboards, hard PVC, stone, plaster, wood, bitumen thick coatings and emulsion paints
- Thermal conductivity of 0.035 W / (m x K) as ideal complement to the thermal insulation of insulation boards when doing the joint filling

Processing instructions:

- Refer to the instructions of the insulation material manufacturers
- Please refer to our technical data sheet on foerch.com/datasheets



Your Advantage / Benefit

- Time savings up to 30 %
- Clean processing
- Universal adhesive range with high Initial tack
- Evens out unevenness in an optimum way
- Ideal for bonding polystyrene (EPS + XPS) and PIR / PUR rigid foam

Application



Technical Data

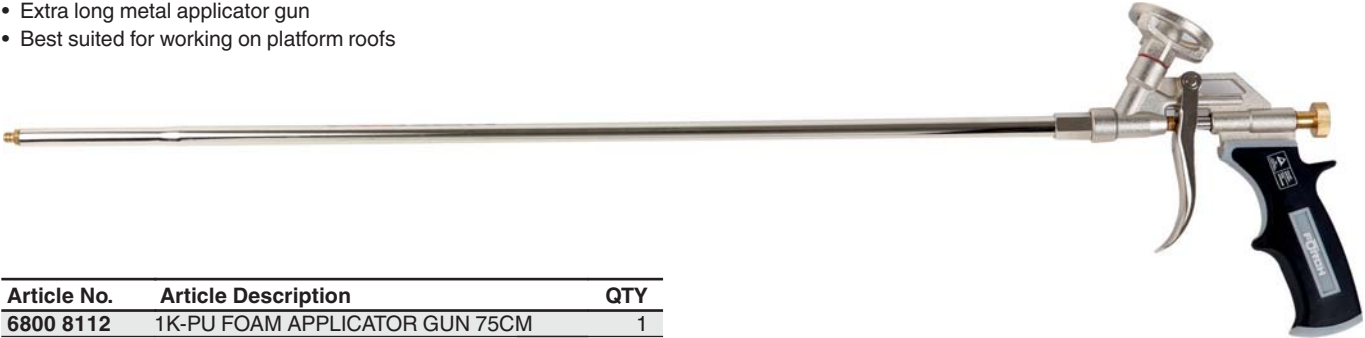
Basis:	1K-polyurethane
Tack-free surface:	approx. 8 min (30 mm foam line length)
Fully chargeable:	approx. 12 h (30 mm foam line length)
Heat conductivity (DIN 52612):	approx. 0.035 W/(m x K)
Tensile strength (DIN EN 1607):	0.19 N/mm ²
Shear strength (DIN EN 12090):	0.142 N/mm ²
Shear modulus (DIN EN 12090):	0.489 N/mm ²
Temperature resistance:	-40 °C to + 90 °C (short term +120 °C)
Processing temperature:	-5 °C to +35 °C (adhesive surface) +5 °C to +25 °C (can)
Building material class (DIN 4102 part 1):	B 1 (flame resistant)
Shelf life:	12 months
Colour:	orange

Article No.	Article Description	QTY
6800 8110	PLATFORM ROOF ADH. FOAM 800ML	e 12

Roof area height in m	Number of adhesive strand per m ²			
	Interior	Inner edge region	Outer edge region	Corner area
Wind zone 1 - all area categories				
up to 12 m	3	3	4	5
Wind zone 2 - area categories 2 to 4				
up to 12 m	3	3	4	5
12 up to 20 m	3	3	5	6
Wind zone 3- area categories 2 to 4				
up to 12 m	3	3	5	6
12 up to 20 m	3	4	6	7

Foam Applicator Gun 1K-PU XL, 75 cm

- Extra long metal applicator gun
- Best suited for working on platform roofs



Article No.	Article Description	QTY
6800 8112	1K-PU FOAM APPLICATOR GUN 75CM	1

Tube for PU Foam

Art. No. 6800 8051 1:

- Tube suitable for FÖRCH assembly foam1K-PU (Art No. 6800 8105) and FÖRCH well foam 1K-PU (Art No. 6800 8133)

Art. No. 6800 8051 2:

- Tubes suitable for FÖRCH 2K frame foam (Art. No. 6800 8130)

Article No.	Article Description	QTY
6800 8051 1	BAG(10)TUBES FOR PU FOAM	1
6800 8051 2	BAG(10)TUBES FOR 2K PU FOAM	1



6800 8051 1

6800 8051 2

Express Window Sealant FÖRCH*****

- Ready for use, single-component polyurethane adhesive foam for sealing gun
- For quick and easy bonding of mud-covered window and facade sealing tapes
- Meets the requirements of the installation guidelines for the RAL-Community of Goods Window and Entry Door e.V.

Installation instructions:

- FÖRCH 5* Express Window Sealant is applied in beads on the base surface or the window tape.
- For optimum adhesion, the mud-covered window tape is pressed into the adhesive coat about 3 to 5 minutes after application of the adhesive
- The window tape to be applied is pressed into the pre-cured adhesive foam using a PE or wooden spatular
- The window tape must adhere completely to the wall surface (min. 75 % contact)
- Ud-covered window tape with FÖRCH 5* Express Window Sealant can be glued down to a substrate temperature of -5 °C. At temperatures below 0 °C there may be a reduction in the flow rate and curing of the foam adhesive is delayed
- Suitable cleaner: FÖRCH Universal Cleaner PU (Art-No. 6800 8120)



Technical Data

Basic material:	Polyurethane, single component green
Colour:	
Building material class as per DIN 4102 – part 1:	Class E
Application rate	approx. 30 linear metres depending on base surface after approx. 10 min.
Tack-free:	approx. 60 min., depending on temperature and ambient
Curing time:	
Processing temperature (ambient and base surface):	-5 °C to +35 °C / ideally 20 °C
Processing temperature tin:	min. +5 °C to +25 °C

Article No.	Article Description	QTY
6800 8230	EXPRESS WIND.SEAL. 500ML 5*	e 16

Your Advantage / Benefit

- Significant time and cost savings
- Each can yields foam for 30 linear metres
- Short drying time of approx. 60 min
- Workable down to -5 °C substrate temperature
- Suitable for bonding to slightly damp surfaces
- Easy to work due to handy 500 ml can
- Excellent adhesion to almost all mineral base surfaces
- Very low emission: EMICODE®-EC 1 Plus

Application



Related Products

- Window Tape Vario
Art.-No. 8804 20 70



- Window Tape I-Basic/A-Basic
Art.-No. 8804 8 70
Art.-No. 8804 9 70



- Plastic Contour Spreader
Art.-No. 6260 2799



- Foam Gun FÖRCH*****
Art.-No. 6800 8103



Frame Foam 2K-PU

- Ready-to-use, self-expanding 2K polyurethane quick foam
- Hardens extremely quickly without compressive and tensile stress, regardless of air humidity
- Exceptionally stable, i.e. no volume shrinkage and no elongation after it has fully cured
- One can contains enough for about 2 - 3 door frames
- Exceptional adhesion to almost any construction substrate (other than PE, PP, PTFE and silicone)
- After hardening, it can be covered by plaster, painted, or taped
- Low emissions: EMICODE®-EC 1

Note on usage:

- Will bond to virtually any of the standard construction substrate materials such as concrete, brickwork, stone, plaster, wood, corrosion-protected metal, polystyrene (EPS and XPS), PIR / PUR rigid foam, polyester, and rigid PVC
- Will not bond to PE, PP, PTFE and silicone
- Contact surfaces must be sustainable, clean, dry, dust-free, and grease-free
- It is recommended that you perform an adhesion and compatibility test on every substrate before application
- **Do not dampen the bond surfaces and foam!**
- Please observe the information our technical and safety data sheet

Technical Data

Non-adhesive surface:	approx. 5 min (30 mm foam line)
Can be cut:	approx. 13 min (30 mm foam line)
Can be spread:	approx. 45 min (30 mm foam line)
Fully resilient:	approx. 4 h (30 mm foam line)
Processing temperature adhes. surface, Environment and tin:	+10 °C to +30 °C (ideal approx. 20 °C)
Heat conductivity (DIN 52612):	0,035 W/(m•K)
Volume change (DIN EN ISO 10563):	≤ 5%
Temperature resistance:	-40 °C to +90 °C (+120 °C max. 1 h)
Foam yield:	max. 10 l of foam
Building material class:	B2
Shelf life:	12 months



Article No.	Article Description	QTY
6800 8130	FRAME FOAM 2K-PU 400ML	e 12

Flexible Foam Knife 290 mm

- Extremely flexible and multi-purpose knife
- Ideally suitable for the cutting of hardened foam
- Blade: stainless steel
- Handle: plastic
- Total length: 425 mm



Article No.	Article Description	QTY
4762 290	FLEXIBLE FOAM KNIFE 290MM	1

Assembly Foam 2K-Duo-Press

- 2K-Duo-Press assembly foam for the fast and durable assembly of wooden door frames. Also suitable for window insulation and many other assembly, fill and insulation jobs
- General building authority approval
- Fuel gas and CFC-free
 - Environmentally-friendly
- Extreme fast hardening due to second hardening component
 - No dependence on humidity
 - No moistening of the surface necessary
 - Short assembly times, resilient after only a few minutes
- No noxious substances leak once hardened
- Very strong adhesion
 - Adhesion to all building materials. Exception: plastic-foil, polypropylene, silicone and PTFE containing surfaces. Use primer when working with plaster and gas concrete
- Easy-to-use 210 ml cartridge
 - Fixing of up to two door frames with only one cartridge possible
 - Easy to dose
- Specifically constructed static mixer nozzle
 - Ideal mixing of hardener and PU component

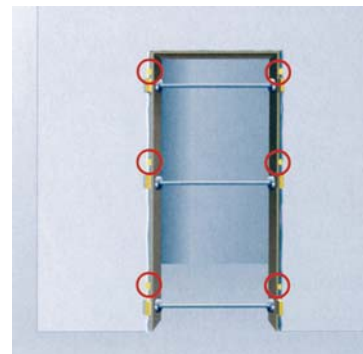
Contents:

- 16 x static mixer nozzle
- 16 x extension tubes
- 16 x cardboard strips as assembly aid

Technical Data

Basis:	2K-polyurethane
Capacity:	210 ml cartridge
Foam yield:	approx. 5.5 l of foam
Starting time:	about 6 - 8 seconds
Skin formation:	after approx. 1 mins
Can be cut:	after 3 - 5 mins
Despreadable:	after appr. 15-18 mins
Processing temperature:	+10°C to +30°C
Fire class according to DIN 4102, part 1:	B2
Colour:	yellowish
Shelf life:	approx. 9 months if stored in cool and dry environment in unopened original container

Article No.	Article Description	QTY
6800 8122	2K-DUO-PRESS EXPAND.FOAM 210ML	e 16
6800 8123	STAT.MIXERJET FOR DUO-PRESS	1



Cartridge Gun Duo

- For use with 2K-Duo-Press assembly-foam
- For exactly dosed foaming
 - Fast and clean filling of frame
- Ergonomic to use
 - Easy and economical to use

Article No.	Article Description	QTY
6800 0011	DUO-PRESS-GUN ECO	1
6800 0012	DUO-PRESS-GUN HANDYMAX	1



6800 0011



6800 0012

Step Adhesive

- 2-component polyurethane expansion adhesive for fast and safe step mounting
- It is also suitable for the adhesion of door and window sills
- Acts sound-absorbing and can be loaded after only approx. 20 minutes
- Safety adhesion of various materials, fills intermediate spaces with a fine-porous foam structure
- With one cartridge up to 2 step fixations are possible

Applications:

- Adhesion without visible connection on wood, stone, metal, plaster and gas concrete, linoleum and PVC

Processing instructions:

- The contact surfaces must be clean, dry, free of dust and grease as well as free of loosen parts. Prime plaster and gas concrete using the Primer. In case of steps which are coated with PVC or linoleum, remove waxes and oils - and grind the cleaned surface. Painted steps must be ground to get a solid compound the surface.
- Adjust the steps, window and door sills to the spacer. The spacer enables an expansion-seam of approx. 5-15 mm.
- Cut off both tops of the cartridge using a knife and put on the mixing nozzle. For narrow or deep seams use the small extension tube.
- Insert into customary dual-cylinder-gun and apply the adhesive
- The application of the adhesive is possible in two different ways:
 - remove the pre-adjusted structure component. Apply lengthwise or crossways as stripes and make sure to have a distance between the stripes from approx. 8 cm. Immediately re-put the workpiece onto the spacer
 - bring the adhesive in the expansion seam between workpiece and underground. Make sure to keep the distance of approx. 8 cm between the adhesive stripes.
- Structure components such as steps, window and door sills should be loaded with 2 weights each 12 kg per spacer (approx. 80 kg/m²)



Technical Data

Basis:	2K-polyurethane
Filling quantity:	250 g
Foam yield:	approx. 3.3 l free-foaming
Start time:	approx. 2 mins.
Hardening time:	after approx 3.5 mins.
Can be cut:	after 8 – 10 mins.
Loadable:	after 20 mins.
Processing temperature:	from +10°C to +30°C
Colour:	yellowish
Shelf life:	approx. 9 months

Article No.	Article Description	QTY
6800 8121	STEP ADHESIVE 250G	e 16
6800 8123	STAT.MIXERJET FOR DUO-PRESS	1



Spray Primer

- Highly effective, sprayable synthetic rubber primer
- For the preparatory treatment of loose, absorbent, fibrous or sandy substrates such as soft fibre, composite wood and gypsum fibreboards, plaster, brickwork, porous concrete and concrete
- For the efficient and professional bonding of FÖRCH window strips, air and windproofing products or sealants based on polyacrylate, synthetic and butyl rubber
- Rotary spray head for horizontal or vertical tasks
- Quick application straight from the can
- Short drying times

Usage instructions:

- Adhesion surfaces must be clean, dry and free of grease, ice and frost
- Cover the adjacent surfaces and the floor
- In order to prevent the valve feed tube or the spray head from becoming clogged with adhesive residues, after each spraying process turn the can on its head and spray until only blowing agent escapes
- Wipe any adhesive from the outlet nozzle

Technical Data

Basis:	Synthetic rubber
Colour:	Colourless
Contents:	400 ml
Drying time*:	5 – 15 min
Recommended working temperature:	+10 °C to +20 °C
Maximum working temperature:	+5 °C to +30 °C
Temperature resistance:	-20 °C to approx. +90 °C (momentarily up to 100 °C)
Shelf life:	24 months

*Depending on the temperature and air humidity

Article No.	Article Description	QTY
6880 400	SPRAY PRIMER 400ML	e 12



System Primer

- Solvent-free high-performance primer with depth effect; provides for optimum adhesion on sandy, fibrous and absorbent substrates like soft fibre boards, beaverboards and drywalls, plaster, masonry and concrete
- Matched to all window sealing tapes, as well as to airtight and windtight products System Adhesive Tape UDB and Klimastar
- Can also be used to enhance the adhesion of PU-foams and Window Tight
- Processing temperature: +5 to +35° C
- **Recommended paint-brush: Art.-No. 5415 4 70**

Article No.	Article Description	QTY
6880 1000	DS(1KG) SYSTEM PRIMER	e 4



PVC Cleaner Type 10

- Light etching cleaner for profiles made of PVC-hard-white in plastic window areas
- Removes rough surface dirt such as markings, adhesive residues etc.
- Ideal to clean surfaces prior to adhesion
- With UVA-additive

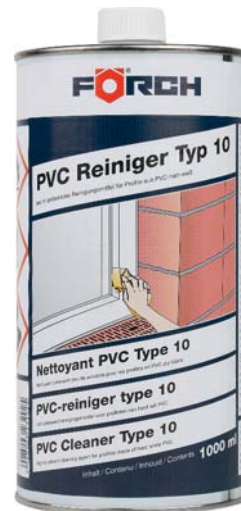
Usage instructions:

- The surface to be cleaned must be dry of free of dust
- Only use colourfast cloth
- Only use during dry weather

Technical Data

Minimum working temperature	+5 °C
Ignition temperature	+460 °C
Density (as per EN542 at +20°C)	0.850 g / cm ³
Shelf life (cool and dry, in unopened original packing)	24 months
Preferably	20 °C, ±5 °C

Article No.	Article Description	QTY
6870 8700	C(1L)PVC CLEANER TYPE 10	1 z



PVC Cleaner Type 20

- Non-etching cleaning for profiles for white and coloured profiles in plastic window areas
- Removes light surface dirt such as dust, grease etc.
- With antistatic effect (dust-repellent)
- With UVA-additive

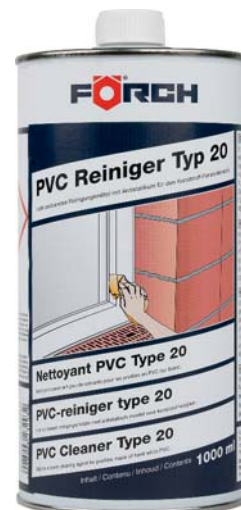
Usage instructions:

- The surface to be cleaned must be dry and free of dust
- Only use colourfast cloth

Technical Data

Minimum working temperature	+5 °C
Ignition temperature	>514 °C
Density (as per EN542 at +20°C)	0.720 g / cm ³
Shelf life (cool and dry, in unopened original packing)	24 months
Preferably	20°C, ±5 °C

Article No.	Article Description	QTY
6870 8701	C(1L)PVC CLEANER TYPE 20	1 z



Alu Cleaner Type 60

- Cleaner for powder-coated and anodised aluminium profiles
- Low-odour
- Fast drying

Usage instructions:

- The surface to be cleaned must dry and free of dust
- Only use colourfast cloth
- Contact tests are recommended

Technical Data

Minimum working temperature	+5 °C
Ignition temperature	>514 °C
Density (as per EN542 at +20°C)	approx. 0.700 – 0.739 g/cm ³ at 15°C
Shelf life (cool and dry, in unopened original packing)	24 months
Preferably	20 °C, ±5 °C

Article No.	Article Description	QTY
6870 8705	C(1L)ALU CLEANER TYPE 60	1 z



Universal Nitro Thinner R505

- Lacquer solvent and cleaning thinner
- A universal cleaning and thinning agent for painting works

Article No.	Article Description	QTY
6130 1580	UNIVERS.NITRO THINNER R505 5L	1
6130 1582	UNIVERS.NITRO THINNER R505 20L	1
6130 1586	UNIVERS.NITRO THINNER R505 60L	1

Suitable spout:

- 20 l: -
- 60 l: Art.-No. 6000 0016



6130 1580

6130 1582

6130 1586

Synthetic Resin - Paint Thinner R506

- For cleaning purposes and adjusting the viscosity of synthetic resin products

Article No.	Article Description	QTY
6130 1590	SYNTH.RESIN PAINT THIN.R506 5L	1



Acrylic Paint Thinner R508

- For cleaning purposes and adjusting the viscosity of paint products

Article No.	Article Description	QTY
6130 1595	ACRYLIC PAINT THINNER R508 5L	1



Industry Cleaner R551

- High-quality special cleaner for removal of glue residues, adhesive tapes, labels, foil stickers and preservation protection as well as stubborn dirt as wax, rubber abrasion, silicone residues, oil and fat
- Acting quickly and distributing a pleasant aroma

Article No.	Article Description	QTY
6130 1577	INDUSTRY CLEANER R551 500ML	ed 24
6130 1578	INDUSTRY CLEANER R551 5L	1



6130 1577



6130 1578

Food Industry Safe - Machinery Cleaner R509

- Cleans, maintains and protects in one action
- Also suitable for stainless steel surfaces
- Leaves a water-repellent protective film
- NSF-A7 registration
- Antistatic
- Economical in use
- Carefreely applicable without rubbing

Article No.	Article Description	QTY
6130 1860	FOOD SAFE MACH.CLEA.R509 400ML	ed 24



Compressed Air / Freezer Spray Combination

Compressed Air:

- Removes loose dust, lint, paper abrasion etc. from all objects, cracks, joints and holes
- Ideal for use with electrical/electronic as well as fine mechanical elements
- No condensation

Cold:

- To locate failures in case of thermal overload
- Fast cooling down of engine parts for diagnostically purposes e.g. checking cold starting devices
- Mounting aid due to cold shrinking
- Cools down to -55 °C depending on spraying duration

Article No.	Article Description	QTY
6710 0885	COMPR.AIR/FREEZER SPRAY 400ML	ed 24



Brake Cleaner R500

- Professional brake cleaner with acetone is a highly concentrated cleaner for use throughout the industry, trade, repairs and assembly



6110 0913

6110 0915



6110 0930

Article No.	Article Description	QTY
6110 0913	BRAKE CLEANER PROF.R500 500ML	eh 30
6110 0915	BRAKE CLEANER PROFESS.R500 5L	1
6110 0930	BRAKE CLEANER PROFESS.R500 30L	1

Suitable dispensing valves:

- 5 l: Art.-No. 6000 0020
- 30 l: Art.-No. 6000 0025

Suitable metal ball valve for 30 litre canister:

- 30 l: Art.-No. 6000 0027

Usable spray bottle:

- Art.-No. 6000 0031

Your Advantage / Benefit

- Avoids stirring up of brake dust
- Works without residue
- No residual layer
- Cleans deep
- Degreases and removes resin
- Results in spotless surfaces
- Free from silicone and PTFE

Application

- Remove oils, fats, resins, adhesive residues, clutch and brake wear
- Clean of engine parts, springs, electrical systems, starters, bearings and guides
- Remove stubborn stains on upholstery and textiles
- For plastics, rubber, paints, textiles and upholstery, test beforehand on hidden area to check compatibility



Related Products

- Roll of Cleaning Cloth-3 Layer
Art.-No. 5413 10



- Fine Knitted Glove
Polyurethane
Art.-No. 5405 91 7 - 11



- Compressed-Air
Atomizer
Art.-No. 6000 0031



Brake Cleaner Premium R510

- Brake cleaner premium without acetone for the usage in the industry, trade, repair work and mounting



6110 0914



6110 0951



6110 0952



6110 0960

Article No.	Article Description
6110 0914	BRAKE CLEANER PREM.R510 600ML
6110 0951	BRAKE CLEANER PREMIUM R510 5L
6110 0952	BRAKE CLEANER PREMIUM R510 30L
6110 0960	(60L)BRAKE CLEAN.PREMIUM R510
6110P 0914	FR/PCK(90)BRAKE CL.R510 600ML
9448 6110 0914	BRAKE CLEANER PREM.R510 600ML

Suitable dispensing valve:

- 5 l: Art.-No. 6000 0020
- 30 l: Art.-No. 6000 0025
- 60 l: Art.-No. 6000 0016

Suitable metal ball valve for canister:

- 30 l: Art.-No. 6000 0027

Suitable metal ball valve for tank:

- 60 l: Art.-No. 6000 0024

Your Advantage / Benefit

- High cleaning performance
- Aerosol content 600ml with ball valve: can be sprayed in any position
- Filled with environmentally friendly propellant gas
- Brake cleaner is free of HCFCs, CFCs, cadmium, lead, corrosive substances

Application

- Spray soiled parts
- Leave the dirty mixture to drain and catch in a container
- Allow treated area to dry
- Wipe with a cloth if necessary
- Repeat for heavy dirt
- Check compatibility with rubber, plastic and painted parts in hidden area



Related Products

- Roll of Cleaning Cloth-3 Layer
Art.-No. 5413 10



- Fine Knitted Glove Polyurethane
Art.-No. 5405 91 7 - 11



- PPS Brake Cleaner
Art.-No. 6000 0954



Rapid Cleaner Safety R504

- Safety cleaner for metal, glass, ceramic etc.
- Increased application safety with the same performance
- Fast and thorough removal of grease, oil, dust etc.
- Optimum cleaning of brakes, tools, machines, mounting and add-on parts
- With TÜV-approved fire and explosion behaviour according to testing method TPS PPP 53285
- Free of acetone, AOX and silicone

Application:

- Spray on parts to be treated until dirt and grease are rinsed
- If necessary, finish using a brush, cloth or cleaning paper
- Repeat the process in case of stubborn dirt
- Do not spray on hot parts
- Preliminary tests on painted surfaces, plastic and rubber parts are recommended

Article No.	Article Description	QTY
6110 0953	RAPID CLEAN.SAFETY 500ML R504	ed 24



Rapid Cleaner R501

- Degreasing agent for the thorough cleaning of contaminated and dirty metal, glass and many more substrates
- Ideal for cleaning assembly parts prior to assembly

Article No.	Article Description	QTY
6110 0950	RAPID CLEANER R501 500ML	ed 24



Bond Break R581

- Removes paper labels, stickers, residues of balancing weights, trim adhesive etc.
- AOX-free

Article No.	Article Description	QTY
6490 4610	BOND BREAK R581 300ML	ed 24



Multi Cleaner Concentrate R550

- Liquid, phosphate-free, highly concentrated cleaner for pre-cleaning metal, plastic and other materials
- Dissolvable
- Silicone-free
- NTA-free
- Alkaline, pH-value undiluted: 11.0
- Colour: green



6100 1770

6100 1775



6100 1776

Article No.	Article Description	QTY
6100 1770	MULTI CLEANER R550 500ML	ed 24
6100 1775	MULTI CLEAN R550 5L	1
6100 1776	MULTI CLEAN R550 25L	1

Suitable spout:

- 5 l: Art.-No. 6000 0020
- 25 l: Art.-No. 6000 0025 / 6000 0029

Your Advantage / Benefit

- Pleasant fragrance
- Easily dissolves vegetable and animal fats
- Old insect residues are completely dissolved
- Removes slight metal oxidation
- Restores original shine to metal, glass etc.
- Does not negatively affect functioning of separation systems as per DIN 1999

Application

- Cars, tank trucks, chassis, trucks, silo vehicles, containers, vehicle superstructures, tarpaulins, plastic and machine parts etc.
- Interior cleaning of vehicles, rolling stock and buses
- Can be used as a wheel rim cleaner, for washing engines, for cleaning industrial premises and workshops
- Depending on degree of contamination and application to be diluted with water to a ratio of 1:1 up to 1:10 and apply
- Depending on application, clean off with a cloth, brush or pressure washer



Related Products

■ Nitrile Gloves Blue



Art.-No. 5405 5 200 7 - 10



■ Washing Brush S-Form

Art.-No. 5417 101



■ Suction Feed Spray Gun Tornador Foam

Art.-No. 3945 16



■ Cleaning Sponge

Art.-No. 5410 67



Active Foam Cleaner Plus 5 R560

- Removes even stubborn dirt such as oil, grease and tar stains from a variety of surfaces

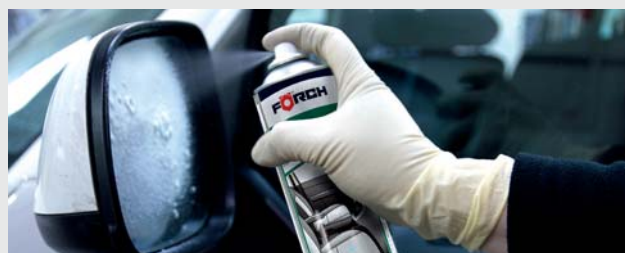
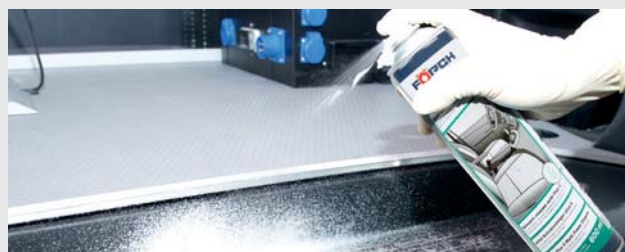


Your Advantage / Benefit

- Carefully matched mixture of solvents and cleaning agents
- Effortlessly cleans all glass, chrome, plastic and paint surfaces
- For carpets, windows, window frames, fitting, tiles, upholstery, fabrics, interior trim, headliners etc.
- Removes insects, greasy marks and dirt film from bodywork and windscreen
- Can also be used for engine and parts cleaning
- Biodegradable
- Silicone-free

Application

- Shake container thoroughly
- Apply the Active Foam Cleaner plus 5 from a distance of about 25 cm to the area to be cleaned and leave briefly to take effect
- Clean off with a damp sponge or chamois leather, in case of heavy contamination process needs to be repeated
- Ensure sufficient ventilation and extraction when cleaning



Article No.	Article Description	QTY
6100 1660	ACTIVE+5 FOAM CLEAN.R560 600ML	esh 30

Related Products

- Nitril Gloves Blue FORCH**
Art.-No. 5405 5 200 7 - 10



- Cleaning Sponge**
Art.-No. 5410 67



- Chamois - Window Cloth**
Art.-No. 5410 80



- Microfibre Cloth**
Art.-No. 5410 75



General Information on Cleaning

- Selecting the correct cleaning agent for the contamination at hand is half the job
- For every type of contamination there is an appropriate cleaner
- Be sure to test that the cleaner will not harm the surface being cleaner. In order to do so you may want to test the material in an inconspicuous location
- The exposure time and the dilution ratio of the cleaning agents depend on the degree of dirt
- Please adhere to technical and safety data sheet

Types of contamination

Inorganic

Examples: Rust limescale boiler scale urine scale milk scale concrete cement residue brake dust iron deposits soap residues etc.

Neutral

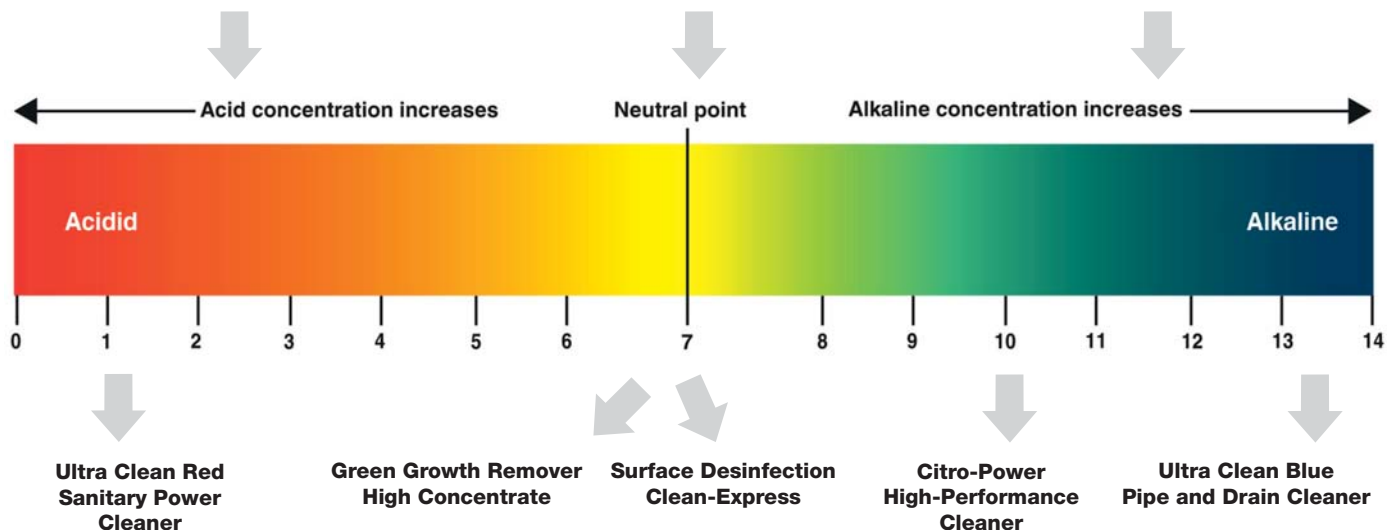
Examples: Bacteria fungi lichen odours algae moss mould spores etc.

Organic

Examples: Oils fats coal blood resin soot protein waxes insects cooking residue etc.

Choosing the right cleaner depending on the contamination!

In general, the correlation between the pH value and type of contamination should be taken into account. The pH value is a value expressing the concentration of an acidic or alkaline aqueous solution.



6890 1 210



6890 1 510



6890 1 710



6890 1 605



6890 1 425

Ultra Clean Red

- Strongly acidic and highly active cleaning concentrate with exceptional limescale, rust, and cement release capability
- Effortlessly removes extremely persistent mineral, inorganic contamination, such as limescale deposits, cement residue, boiler scale, urine scale, milk scale, rust deposits, patina, brake dust, soap residue, and light tarnishing on metals
- Red in colour with a pleasantly fruity smell
- pH value: 1

Usage instructions:

- Shake or stir well before use and check its compatibility with the material being cleaned
- Depending on the area of application and level of contamination, spray the diluted solution on the surface to be cleaned, allow it to stand for a short time, rub it in with a brush if necessary, and then wash it away thoroughly with water
- **Proportion recommendation with water:** Pure to 1:10 for persistent contamination; up to 1:30 for routine cleaning; about 1:50 for use on metallic surfaces



6890 1 325



6890 1 301

6890 1 310

Article No.	Article Description	QTY
6890 1 301	BT(1L) ULTRA CLEAN RED	e 15
6890 1 310	CA(10L) ULTRA CLEAN RED	1
6890 1 325	CA(25L) ULTRA CLEAN RED	1

Your Advantage / Benefit

- Its special way of working and its high level of dilution capability mean that even a small amount of the cleaner can be effective, allowing it to last a long time
- The high quality raw materials being used make it possible to flow under encrustations and reliably dissolve them

Application

- For use in a variety of industries, including construction, agriculture (dairies, slaughterhouses etc.), in government offices, and public establishments (hospitals, swimming pools, fire stations etc.), in factories, commercial kitchens, filling stations etc.
- Suitable for use on all waterproof and acid-resistant surfaces, such as glass, tiles, porcelain, synthetic materials etc.
- Suitable for manual cleaning, spray cleaning, and high pressure devices and cleaning machines



Ultra Clean Blue

- Strongly alkaline cleaning concentrate with a very high grease, oil and dirt dissolving power
- Quickly and effectively removes all types of strong organic dirt such as oil, grease, soot, resin, wax, insects, soap residues, food deposits etc.
- Provides thorough cleaning results whilst preserving the material
- With blue colour and pleasant scent
- pH value: 9.5

Usage instructions:

- Stir or shake well before use and test material for compatibility
- Depending on the area and degree of dirt, spray a diluted amount of cleaner onto the surface that needs to be treated, leave to soak for a short time, rub in with a brush where necessary and subsequently rinse thoroughly with water
- Do not leave the cleaner to dry
- **Suggested dosages with water:**
1:3 in case of stubborn dirt ; 1:20 for routine cleaning and plastics



6890 1 425



6890 1 401

6890 1 410

Article No.	Article Description	QTY
6890 1 401	BT(1L) ULTRA CLEAN BLUE	e 15
6890 1 410	CAN(10L) ULTRA CLEAN BLUE	1
6890 1 425	CAN(25L) ULTRA CLEAN BLUE	1

Your Advantage / Benefit

- Effective and powerful cleaning
- Extremely efficient thanks to its concentration
- Can undercut and completely dissolve even the most stubborn dirt

Application

- Perfect for use in the areas of crafts and trades, industry, catering, household cleaning, gardening, automotive industry, train and bus services
- Suitable for use on all water and alkaline-resistant surfaces such as metal, wood, ceramics, plastic, tiles, rubber, industrial flooring, aluminium etc.
- Suitable for manual cleaning, spray cleaning and high-pressure devices and cleaning machines



Green Growth Remover, Highly Concentrated

- Highly concentrated self-acting special cleaner for the effective removal of all kinds of green growths and lichens
- With long-term effect and visible protection against new cases of green growths such as algae, moss, lichens and mould
- Suitable for surfaces such as stone, wood, clinker, brick, concrete, etc.
- Non-toxic for aquatic organisms so also ideal for treatment near the shore
- pH-value: 7

Usage instructions:

- Base surface must be completely dry before use
- Dilute with water to a ratio of 1:35 or use it pure depending on the level of dirt and evenly spray, spread or pour onto the surface. Leave to soak.
- **Do not rinse the surface being treated with water for the next 24 hours**
- The cleaning process will begin on its own just a short time after application
- You do not need to pre-dilute the substance when using the automatic dosing feeder

Use biocides safely. Always read the label and product information before use.

Your Advantage / Benefit

- Extremely efficient
- With a self-cleaning and efficient effect
- Provides deep cleaning results and maximum protection of the material treated

Application

- Can be used in indoor and outdoor areas, for example in swimming pools, sewage treatment plants and conservatories, on house walls and on windowsills, terraces and pavements on which a dangerous layer of slippery green growth has developed
- Also suitable for treatment close to banks



6890 1 502

6890 1 510

Article No.	Article Description	QTY
6890 1 502	CAN(2,5L)GR.GROWTH REM.H.CONC.	1
6890 1 510	CAN(10L)GR.GROWTH REM.H.CONC.	1

Surface Disinfection Clean-Express **FÖRCH*******

- High quality wipe disinfection with a broad spectrum and very short exposure time due to a micro-biocidal agent on an inorganic basis
- Free of aldehydes, alcohols, phenols, ammonia, peracetic acid, fragrances and preservatives
- Safe disinfection result in all areas
- pH-value: 6.7

Usage instructions:

- Apply diluted or undiluted on the surface to be treated and leave on
- At a dilution of 1:1 with distilled water the exposure time is doubled

NOTE: Use biocides safely. Always read the label and product information before use.

Use the product within one month after opening! The older the product the longer the soak time.

Your Advantage / Benefit

- High level of work safety, efficient microbial reduction and a broad efficiency spectrum
- Short exposure time of less than 5 minutes
- Bacteria, viruses, fungi and spores are reliably inactivated
- Has a virucidal, bactericidal, fungicidal, levurocidal and sporicidal effect
- VAH/DGHM certified and listed

Application

- In food processing plants and public areas such as canteens, kitchens, bakeries and butchers, schools, sports facilities, saunas, solariums, care establishments and hospitals, human medicine, dentistry and veterinary medicine



6890 1 701

6890 1 710

Article No.	Article Description	QTY
6890 1 701	BT(1) SURF.DISINF.CLEAN-EXP.5*	e 15
6890 1 710	C(10L)SURF.DISINF.CLEAN-EXP.5*	1



Citro-Power High-Performance Cleaner

- High-quality special cleaning concentrate based on natural ingredients
- Contains orange terpenes
- Suitable for a wide variety of applications on all washable or water-resistant surfaces such as glass, plastic, ceramic, metal, wood etc. and on textiles, carpets and upholstery
- Suitable for routine cleaning with cleaning machines or for manual cleaning
- pH-value: 10

Your Advantage / Benefit

- For effective removal of greases, paint and adhesive residues, resin, wax, tar and oil soiling etc.
- Can also be used for the effective removal of chewing gum, ink, pencil and pen stains and rubber scuff marks on flooring
- Removes unpleasant odours
- Can also be used on textiles

Application

- **Undiluted use:** Outstanding for the removal of extremely stubborn dirt. When used on textiles, textiles must be dry. Apply the cleaner, leave to soak for a short time and then treat with water or wash
- **Diluted use:** Use a dilution ratio of 1:20 to 1:50 depending on the degree of dirt. Suitable for routine cleaning in all areas, for example trade and craft, industry, catering, household cleaning, garden, automotive industry, kitchens, bathrooms, boats, caravans etc.
- **Spray can:** Apply the cleaner to the area that needs treating, leave to soak for a short time and then wipe off with a cloth
- **Attention:** Avoid direct sunlight and keep away from sources of heat!



6890 1 603

6890 1 605



Article No.	Article Description	QTY
6890 1 603	TIN(500ML)CITRO-POW.H.P.SPRAY	e 12
6890 1 605	CAN(5L)CITRO-POWER H.P.CLEANER	1

Sanitary Power Cleaner

- Highly acidic cleaning concentrate for effective, fast removal of stubborn, clinging dirt and for diluted use on routine cleaning in sanitary areas
- Removes lime deposits, gray stains, rust, soap and dirt residues from all acid-resistant surfaces
- Basic ingredient: Phosphoric acid
- pH value: 1

Usage instructions:

- Stir or shake well before use and test material for compatibility
- Depending on the area and degree of dirt, dilute with water at ratio of 1:5 to 1:25 and spray on the surface to be treated: allow to act briefly, if necessary rub and then rinse thoroughly with water



6890 1 201

6890 1 210

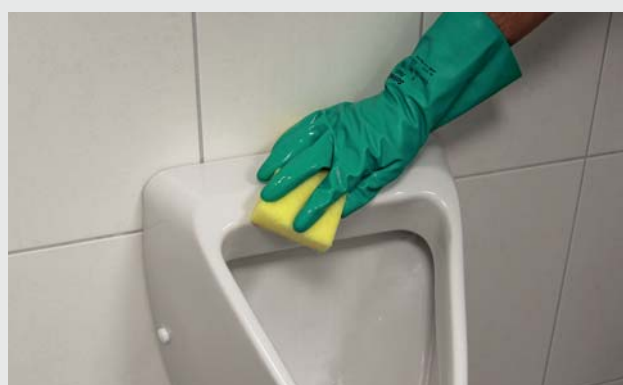
Article No.	Article Description	QTY
6890 1 201	BT(1L)SANITARY POWER CLEANER	e 15
6890 1 210	CAN(10L)SANITARY POWER CLEANER	1

Your Advantage / Benefit

- Leaves hygienic cleanliness and shiny finish
- Liquid: red with pleasant orange scent

Application

- On all washroom surfaces
- For tile (except for natural stone), wash basins, fittings, toilet, shower, bath and whirlpool tubs, glass and plastic surfaces etc.
- Also suitable for fully biological sewage treatments plants



Pipe and Drain Cleaner

- Highly alkaline cleaner for effective removal of stubborn pipe blockages
- Easily dissolves away hair, cotton, wool, scraps of paper, soap residues, food residues, grease blockages etc.
- The cleaner spreads evenly in the pipe and outlet, dissolves residues completely while eliminating unpleasant odours
- Basic ingredient: Potassium hydroxide
- pH value: 13

Usage instructions:

- Pour about 200 ml of undiluted pipe and drain cleaner into the sink outlet
- The effect is multiplied by immediately adding approx. 200 ml of hot water
- Allow to act for approx. 1/2 hours and rinse with warm water
- When stubborn increase the dosage eventually
- For prevention and odour elimination pour approx. 40 – 50 ml weekly into the outlet and let take effect
- **Attention: Not to be mixed with other acidic products!**



Your Advantage / Benefit

- Reliably removes organic blockages
- Pipes and seals are left undamaged
- Due to its high density, the cleaner is heavier than water and penetrates easily as far as the blockage

Application



Article No.	Article Description	QTY
6890 1 101	BT(1L)PIPE AND DRAIN CLEANER	e 15

Rust Solvent Black Magic S411

- Dissolves quickly seized screw connections and bolts
- Extreme pressure resistance due to graphite content
- Maintains and preserves
- Compatibility with sealing gaskets
- Capable of creep, displaces and infiltrates
- Synthetic rust solvent - graphite based
- Safety spray head with ball valve
- Resistant / pressure-resistant



Technical Data

Basis:	synthetic oil with graphite content
Colour:	anthracite
Water-soluble:	insoluble

Article No.	Article Description	QTY
6700 0048	BLACK MAGIC S411 400ML	ed 24

Your Advantage / Benefit

- Graphite ensures long-lasting dry lubrication
- Overhead spraying (360°)
- No unintentional actuation of spray head
- Preserves and protects the sprayed surfaces against humidity, moisture and salt water

Application

- Suitable for application on spring suspensions, plugs and injection nozzles, all seals and mounting parts, exhaust systems, turbo chargers, nuts and screws, Bowden cables, chain drives, wire rope roists, control instruments, wiper axis, brake linkages etc.



Related Products

- **Hand-Wire Brush**
Art.-No. 5850 4



- **Twist Drill Cobalt DIN 338**
HSS-E
AGR 5502



- **Nitrile Gloves Blue**
FORCH
Art.-No. 5405 5 200 7 - 10



- **Power Spot**
Art.-No. 5482 60



Maintenance Oil S407

- Long-lasting lubrication for locks, hinges, Bowden cables, attachment and clamping devices
- Temperature-resistant from -30 °C to +150 °C



6520 5750

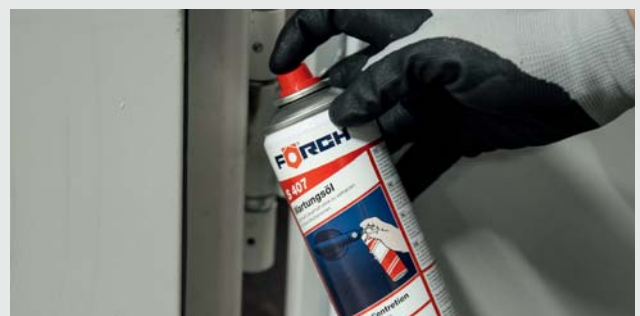
6520 5755

Your Advantage / Benefit

- Guaranteed resin-free, hydrated white oil
- Colourless, will not stain
- Loosens resin deposits, makes movable parts run smoothly
- Prevents freezing of locks
- Can be used as a lubricant for drill hammer shafts and for weapons
- Can also be used as gun oil
- Silicone-free, acid-free

Application

- For lubrication of drill hammer shafts, door locks, rodding, window and door hinges, attachments, holding brackets for metal-processing machines etc.



Article No.	Article Description	QTY
6520 5750	MAINTENANCE OIL S407 300ML	ed 24
6520 5755	CAN(5L)MAINTENANCE OIL S407	1

Related Products

- **Duo-Grip Fine-Knit Gloves**
Art.-No. 5405 117 7 - 10



- **Pressure Pump Spray 1 l**
Art.-No. 6000 0065



- **Hand Spray Neutral**
Art.-No. 6000 0015



- **Rapid Cleaner Safety R504**
Art.-No. 6110 0953



High Performance PTFE Oil S408

- High Quality lubricant with PTFE added



Technical Data

Colour: yellowish
Temperature resistance: -30 °C to +250 °C

Article No.	Article Description	QTY
6520 5575	HP PTFE OIL S408 500ML	ed 24

Your Advantage / Benefit

- Extremely capable of creep into tightest tolerances
- Pressure-resistant and emergency running lubrication
- Resistant to water, salt, diluted acids and alkalis
- Highly adhesive on areas treated, leaves a non-greasy lubricating film
- Prevents coking, friction, squeaking and creaking

Application

- All lubricated areas which are exposed to the weather, temperature fluctuations, pressure and soiling such as door hinges, linkages, chains and locking cylinders, frame joints etc.



Related Products

- Nitrile Gloves
Blue FORCH.....
Art.-No. 5405 5 200 7 - 10



- Spunlace Cleaning Cloth
Art.-No. 5413 15



- Rapid Cleaner
Safety R504
Art.-No. 6110 0953



Silicone Spray / Oil S420

- Plastic parts are high-gloss and do not become brittle
- Rubber parts are maintained, do not become brittle, do not freeze or stick
- With wide and narrow spray nozzle



6530 1500

6530 1505



6530 1506

Article No.	Article Description	QTY
6530 1500	SILICONE SPRAY LUBE S420 500ML	ed 24
6530 1505	CAN(5L)SILICONE OIL S420	1
6530 1506	CAN(20L)SILICONE OIL S420	1

Your Advantage / Benefit

- Temperature-resistant from -40 °C to +250 °C
- Silicone lubricant with an extremely high silicone content
- Maintains, preserves, impregnates and prevents static loading (antistatic)
- For vehicle interiors and exteriors

Application

- Spray onto clean surfaces from a distance of 20 – 30 cm and rub in with a clean, soft cloth
- Assembly aid, e.g. for pipe connections



Related Products

- Duo-Grip Fine-Knit Gloves
Art.-No. 5405 117 7 – 10



- Microfibre Cloth
Art.-No. 5410 75



Flowable Adhesive Grease S401

- Adhesive grease with long-term lubrication, resistant to extreme pressures
- Temperature-resistant from -35 °C up to +200 °C
- Loosens screws and bolts which have rusted in place even when thread is defective
- Prevents cold welding on thread



Your Advantage / Benefit

- With emergency lubricating characteristics
- Works into all gaps and forms a high-pressure resistant lubricant film
- Resistant to salt water, dilute acids & other aggressive media
- High adhesion, also penetrates into chain pin bearings
- Dissolves resins
- Biodegradable > 90% as per CEC L-33-T-82

Application

- Rollers and ball bearings, also chain inner bearings, spur and worm gears
- All kinds of joints and couplings, machinery and precision parts etc.
- Suitable for loosening and lubricating all chains and wire ropes
- Door locks, door hinges, sliding rails, brake rods etc.



Article No.	Article Description	QTY
6500 5550	FLOWABLE ADH.GREASE S401 500ML	ed 24

Related Products

- **Duo-Grip Fine-Knit Gloves**
Art.-No. 5405 117 7 - 10



- **Wiping and Cleaning Cloths**
Art.-No. 5413 4



Heavy Duty PTFE Grease S404

- High quality adhesive grease with PTFE
- Extremely temperature-resistant from -30 °C up to +250 °C tested in endurance test, also extremely pressure resistant
- Emergency lubrication via PTFE particles
- Extremely rapid creeping capacity
- Loosens all screw connections, also for cold welding
- Provides optimal lubricating effect with a very good corrosion protection of the treated parts
- Centrifuge-resistant and resin-losing

Article No.	Article Description	QTY
6500 5580	HD PTFE GREASE S404 500ML	ed 24



Heavy Duty PTFE Chain Grease S405

- Extremely adhesive chain grease with PTFE
- Temperature-resistant up to +250 °C
- O-ring tested
- Centrifuge-resistant
- Weatherproof and displacing moisture
- Long-life grease for motorbike chains, leaf springs, hinges, joints, bearings etc.
- Silicone-free

Article No.	Article Description	QTY
6500 5500	PTFE CHAIN GREASE S405 500ML	ed 24



Service Spray S400

- Cleans and protects
- Eliminates squealing
- Loosens rusted parts
- Releases loosened lock mechanisms
- Resistant to moisture
- Silicone-free
- Temperature range from -50 °C to +80 °C
- Aerosol with ball valve can be used in any position
- With safety spray nozzle

Application:

- Removes coloured pen stains, grease, tar, rubber, adhesive and lime residues
- Provides a protective layer against rust and corrosion for e.g. bicycles, prams, chromed parts, motorcycles and tools
- Penetrates into threads and lubricates hinges, rollers, springs, water taps, window and door handles, pedals, office chairs etc.
- Penetrates deeply and loosens rusted, corroded and seized nuts, screws, switches, cables etc.
- Loosens and lubricates jammed door locks, zip fasteners, sewing machines, typewriter keys, switches, cables etc.
- Eliminates water from metal surfaces e.g. electrical contacts, ignitions, tools, motorcycles, outboard engines etc

Article No.	Article Description	QTY
6520 5760	SERVICE SPRAY S400 400ML	ed 24
6520 5761	CAN(20L)FULL-SERVICE S400	1



6520 5760



6520 5761

High Power-OMC² Spray Grease S477

- Dirt-repellent, highly viscous EP spray grease (extreme pressure) with long-term effect and OMC² (Organo Metal Compound)
- With special additives for extreme load stress
- Temperature-resistant from -30°C up to +125°C
- NLGI-grade 2
- Colour: green



Your Advantage / Benefit

- **High resistance to salt water**
- Does not run off horizontal and vertical surfaces (reserve lubrication)
- Good sealing against water and dirt penetration
- Smooth surface due to OMC² technology, thus minimal wear and longer lubrication intervals
- Does not bind dirt
- Weather-resistant and resistant against weak acids and alkalines
- Silicone- and acid-free

Application

- Lubrication of vehicles, industrial, construction and agricultural machines, winter service vehicles, industrial robots, machines used for marine applications
- Suitable for lubrication of open systems exposed to high dirt levels and weather conditions, e.g. gears, steel cables, chains, spring balancers, sliding bearings etc.



Article No.	Article Description	QTY
6500 5610	OMC ² SPRAY GREASE S477 500ML	ed 24

Related Products

- **Duo-Grip Fine-Knit Gloves**
Art.-No. 5405 117 7 - 10



- **Spunlace Cleaning Cloth**
Art.-No. 5413 15



- **Rapid Cleaner Safety R504**
Art.-No. 6110 0953



Multi-Purpose Grease S490

- Temperature-resistant from -30 °C to +120 °C
- Lithium base saponification
- Classification according to DIN 51 825 / 51 502: K 2 K-30
- NLGI class / DIN 51 818: 2
- Colour: bright yellow

Art. No. 6550 5781:

- ideally suitable for the two-hand grease gun (Art. No. 2909 60)

Article No.	Article Description	QTY
6550 5780	MULTI PURPOSE GREASE S490 400G	e 24
6550 5781	MULTI PURPOSE GREASE S490 500G	e 20
6550 5782	MULTI PURPOSE GREASE S490 25KG	1



6550 5780

6550 5781

6550 5782

Multi-purpose grease with graphite S491

- Temperature-resistant from -35 °C to +130 °C
- Lithium base saponification
- Classification according to DIN 51 502: KPF 2 K-30
- NLGI class / DIN 51 818: 2
- Colour: black

- Also suitable as chisel grease

Art. No. 6550 5786:

- ideally suitable for the two-hand grease gun (Art. No. 2909 60)

Article No.	Article Description	QTY
6550 5785	MULTI P.GREA.W.GRAPH.400G S491	e 24
6550 5786	MULTI P.GREA.W.GRAPH.500G S491	e 20



6550 5785

6550 5786

Long Life Grease S492

- Long life grease – a clear, almost fully translucent, saltwater-resistant, special high-pressure grease with strong adhesive quality. Also prevents bearing wear under extreme stress, resistant against washing out of the bearings and sliding spots.
- Temperature range from -30 °C to +110 °C
- Certification according to DIN 51 502: KP 2 G-30
- NLGI grade / DIN 51 818: 2
- Colour: green-fluorescent

Article No.	Article Description	QTY
6550 5790	LONG LIFE GREASE S492 400G	e 24



Long-Life Grease S493 **TRUCKline**

- High-pressure grease
- Salt water resistant
- Extremely adhesive
- Ideally suitable for Trucks
- Corrosion and wear protection
- Temperature range -30 °C to +120 °C, short-time up to +130 °C
- Certification according to DIN 51 502: KP 2 K-30
- NLGI grade / DIN 51 818: 2
- Colour: yellow-green

Article No.	Article Description	QTY
6550 5793	TRUCK LO.LIFE GREASE S493 500G	e 20



Drilling and cutting paste

- Lubricates and cools cutting tools for machining metals, and clamping and cutting operations
- Improved surface quality through optimum lubrication of the tools
- Free of chlorine and heavy metals

Your Advantage / Benefit

- Extends the tool life while drilling, thread cutting, lathing, milling, sawing etc.
- Machining on vertical surfaces
- Good corrosion protection

Application

- Also suitable for the machining of difficult to cut steels (VA, titanium, manganese etc.)



Article No.	Article Description	QTY
6580 5820	C(500G) DRILLING-CUTTING PASTE	1
5416 2	ENAMEL VARNISH BRUSH 2	e 12

Related Products

- „Beta“ Protective Goggles
Art.-No. 5400 902 1



- Enamel Varnish Brush 2
Art.-No. 5416 2



- Magnetic Chip Lifter
Art.-No. 4755 10



Drilling and Cutting Oil

- Extends the service life of clamping and cutting tools
 - Can be used while drilling, thread cutting, sawing, turning or milling
- Art.-No. 6580 5800:**
- Cutting oil spray with an environmentally-friendly propellant



6580 5800



6580 5805

Article No.	Article Description	QTY
6580 5800	DRILL. AND CUTTING FLUID 500ML	ed 24
6580 5805	DRILLING&CUTTING FLUID 5L	e 4

Art.-No. 6580 5805:

- Suitable dispensing tap Art.-No. 6000 0023
- Suitable plastic case Art.-No. 6000 0065 / 6000 0080

Your Advantage / Benefit

- Penetrates into the tightest installations
- Cools and protects against corrosion
- Silicone-free

Application

- Suitable for all materials – such as stainless steel, acid-resistant steels, spring steel, cast iron, also non-ferrous metals such as aluminium, titanium, bronze, copper



Related Products

- „Beta“ Protective Goggles
Art.-No. 5400 902 1



- Coolant Hose Basic Set
Art.-No. 5595 12 1 / 5595 14 1



5595 12 1



5595 14 1

- Magnetic Chip Lifter
Art.-No. 4755 10



Drilling and Cutting Foam

- Highly adherent cutting oil foam for targeted application to the area to be worked on
- Lubricates and cools tools while drilling, tapping and threading, lathing, milling, sawing etc.
- Extends tool life
- For work on vertical surfaces and overhead
- Compatible with all water-miscible cooling lubricants
- Soluble in water, can be washed off with clean water
- Free of chlorine, sulphur and mineral oils
- Biodegradable
- For machining all alloyed and non-alloyed metals and cast irons, as well as copper, copper alloys and all stainless steel alloys

Article No.	Article Description
6580 5815	DRILL AND CUTTING FOAM 400ML



Drilling and Cutting Emulsion - Water Soluble

- EP Cooling lubricant that can be mixed with water (EP = Extreme Pressure for heavy duty machining)
- High performance cutting and cooling emulsion
- Greater corrosion-protection
- Extremely resistant against microorganisms
- Longer tool life
- Application concentration: 5 – 20%
- Silicone-free
- Also suitable for use in CNC machines

Application:

- Preparation of operation emulsion: carefully add and stir the emulsion to drinking water or use a automatic mixing device.

Article No.	Article Description
6580 5810	(5L)DRILLING&CUTT.EMULSION WS



Suitable spout:

- 5 l: Art.-No. 6000 0023

Thread-Cutting Oil DVGW

- DVGW approved
- Mineral oil-free, for potable water pipes
- Compatible with all commercially available thread-cutting machinery, even at high cutting speeds
- Also suitable as a spray oil for drilling, tapping, turning, milling, etc.
- Colour: red

Article No.	Article Description
6580 5851	THREAD-CUT.FLUID DVGW 300ML
6580 5855	THR.CUT.FLUID-M. WAT.SAFE 5L

Suitable spout:

- 5 l: Art.-No. 6000 0023



6580 5851



6580 5855



Boiler Cleaner Oil

- For problemfree, fast cleaning of oil-powered boilers
- Cleans even stubborn, non-combustible coatings such as sulphate
- Lessens the corrosion sensitivity and the creation of new coatings
- Improves the heat transfer and so saves energy

Usage instructions / general information:

- Slightly foaming
- Do not spray on burner and electrical components
- Ensure sufficient chimney draught during use
- Store frostfree

Application:

1. Switch off burner and open boiler room
2. Spray the dirty inner surfaces of the boiler with **FÖRCH Oil Boiler Cleaner** and allow to react for a short time. Then heat the boiler well. This process will have removed the most stubborn soot and sulphate coatings.
3. Once the boiler cooled down, open the boiler room again and Hoover the remaining residue

Article No.	Article Description	QTY
6890 410	BOILER-CLEANER OIL 500ML	e 12
6620 6091	AEROSOL-ADAPTER 60CM	1



Boiler Cleaner Gas

- For problemfree, fast cleaning of gas-powered boilers
- Cleans even stubborn, non-combustible coatings such as sulphate
- Lessens the corrosion sensitivity and the creation of new coatings
- Improves the heat transfer and so saves energy

Usage instructions / general information:

- Slightly foaming
- Do not spray on burner and electrical components
- Ensure sufficient chimney draught during use
- Store frostfree

Application:

1. Switch off burner and open boiler room
2. Spray the dirty inner surfaces of the boiler with **FÖRCH Oil Boiler Cleaner** and allow to react for a short time. Then heat the boiler well. This process will have removed the most stubborn soot and sulphate coatings.
3. Once the boiler cooled down, open the boiler room again and Hoover the remaining residue.

Article No.	Article Description	QTY
6890 610	BOILER-CLEANER GAS 500ML	e 12
6620 6091	AEROSOL-ADAPTER 60CM	1



Zinc Particle - Repair Colour L232

- High zinc-containing repair colour
- For repairing weld seams and damaged parts at zinc surfaces
- Zinc gleam finish
- Greater than 90% metallic particles in pigment
- Heat-resistant corrosion protection up to +300 °C
- Hardening:
 - Dust dry: approx. 15 min
 - Touch-proof: approx. 45 min
 - Hardened: approx. 2 – 3 days

Application:

- The substrate must be dry, dust and grease-free
- Apply zinc repair colour in 2 – 3 layers. Allow short flash off time between coats.

Article No.	Article Description	QTY
6200 2102	ZC PARTICLE REP.COLOUR 1000ML	e 6



Zinc Spray - Bright L244

- For optimum repair, improvement and protection against corrosion of metallic surfaces
- Active corrosion resistance according to DIN 50021
- Salt spray test at 528 hrs according to DIN 20021
- Corrosion resistant zinc coating in hot-dipped colouring
- Weather-resistant and protects against rust and salt
- For aftertreatment of damaged hot-dipped galvanised parts
- Can be spot-welded
- Overpaintable with commercially available plastic resin paint systems. Test spraying is recommended.
- Temperature resistant up to +400 °C
- Zinc contents of pigments more than 98 %
- Zinc contents dry film approx. 70 %
- Parts to be treated must be clean, dry, free of grease and rust
- Shake aerosol vigorously for approx. 2 minutes after mixing ball is heard
- Cross spray from a distance of approx. 20 – 30 cm. One coat usually sufficient. For additional coats allow 5 minutes between coats.
- Not suitable for over-laying with fillers
- Not suitable as undercoat for PU, MS-polymer and hybrid sealing compounds

Article No.	Article Description	QTY
6200 2104	ZINC SPRAY - BRIGHT L244 400ML	esd 24



Zinc-flake spray L228

- Highly effective thin layer of zinc
- Ideal for subsoil structures or as a stable surface
- Long-term corrosion protection with additional barrier protection due to zinc flakes and nano particles
- Ideal as excellent metal primer for original manufacture and repair of damaged zinc phosphate layers
- Quick-drying, can be spot-welded and levelled over, good functionality in conjunction with PU and MS polymer sealants, can be over-painted using commercial 1K and 2K topcoat systems (prior compatibility testing recommended)
- Temperature resistant up to +240°C
- Drying:
 - bone-dry: approx. 15 min
 - grip-dry: approx. 30 min
 - completely dry: approx. 10 – 12 hrs
 - may be painted on after approx. 12 hrs

Application:

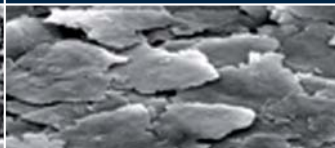
- The parts being treated must be clean, dry, grease and rust-free
- Shake the can for at least 2 minutes before opening
- Spray thinly from a distance of approx. 15 – 20 cm (1 spray = approx. 20 µm). There should be a second spray For metals with greater surface roughness
- Allow to dry for approx. 5 min when sprayed several times

Advantages of zinc flakes:

- Contact, conductivity and the cathodic corrosion protection remain even when the zinc flakes are being moved as the pigments lie closely on top of one another, improved ability to weld
- Better resistance against environmental influences due to the long diffusion paths, the penetration of water and moisture is made considerably more difficult as the flakes have a great hydrophobic (water-repellent) surface
- Surface of the layer is smoother and stronger, better grip and better layer strength



Comparative Chart

Former zinc sprays: (zinc dust)	Former zinc sprays: (Thin zinc)
	
spherical zinc pigments and a relatively large layer thickness formed the basis for protection against corrosion.	platelet shaped zinc pigments with a large specific surface geometry form a very high barrier effect with regards to low layer thickness and therefore a much better protection against corrosion.
spherical	thin zinc
large layer thickness formed the basis for protection against corrosion	low layer thickness and therefore a much better protection against corrosion
high proportion of zinc in the dry film	low proportion of zinc in the dry film
active cathodic corrosion protection	active cathodic corrosion protection
–	passive corrosion protection by barrier effect

Article No.	Article Description
6200 2108	ZINC-FLAKE-SPRAY L228 400ML

Zinc Spray - Grey L240/241

- Active corrosion protection according to DIN 50021
- Protects from rust and salt
- Suitable for re-galvanising of welding and cutting points
- Smooth, pore-free film
- Overpaintable
- Can be spot welded also in dry condition

L240: professional

- Zinc contents of pigments more than 98.5 %
- Zinc contents in the dry film more than 92 %
- Coverage 1.7 sqm at 30 µm dry layer thickness
- Salt spray test at 480 hrs according to DIN SS-50021
- Temperature resistant up to +600 °C

L241: premium

- Zinc contents in dry film more than 90 % zinc
- Coverage 1.4 sqm at 30 µm dry layer thickness
- Temperature resistant up to +500 °C

Article No.	Article Description
6200 2100	ZINC RICH SPR.PROF. L240 400ML
6200 2101	ZINC SPR.PREM.GREY L241 400ML



Alu Zinc Spray L242

- Long-lasting corrosion protection according to DIN 50021
- Colour: light silver, shiny
- Enhances zinc-plated and hot-dipped galvanised parts due to its colouring and corrosion protection
- Combines the lighter colouring of aluminium with the corrosion protection and abrasion-resistance of the zinc spray
- Conductive and heat-resistant up to +500 °C
- Can be spot welded
- Fast drying, overpaintable after 15 – 30 min

Article No.	Article Description	QTY
6200 2110	ALU ZINC SPRAY L242 400ML	ed 24



Rust Stop Primer Dark Red L239

- Colours: red-brown and grey
- Ideal as a rust stop primer on steel and iron, for car repairs etc.
- Especially suitable for rusty surfaces
- Forms a smooth, pore-free film
- Overpaintable after drying (from approx. 30 mins to 5 hours)
- Long-lasting heat resistance up to +80 °C, for a short time up to +120 °C
- Weather-resistant (outdoors) without top coat for at least 6 months

Article No.	Article Description	QTY
6200 0500	RUST STOP PRIM.D.-R.L239 400ML	ed 24
6200 0510	RUST STOP PRIM.GREY L239 400ML	ed 24
6200 0501	RUST STOP PRIM.D.-R.L239 750ML	e 6
6200 0502	RUST STOP PRI.D.-R.L239 2500ML	1



6200 0500



6200 0510



6200 0501



6200 0502

Rust Stop Primer Premium Dark Red L236

- Ideal as a rust stop primer on metal (iron, steel plate)
- Fast drying
- Corrosion resistance
- Excellent final performance and adhesion
- Smooth, glossy, strong-adhesive painting surface
- Overpaintable after approx. 1 – 2 hrs, even with water-based paint

Article No.	Article Description	QTY
6200 0505	RUST ST.PR.PREM.D-R.L236 400ML	ed 24



Multi System Filler L270

- Universally adhesive polyester filler
- Fast drying, sandable after 20 min
- Colour: beige
- Guaranteed adhesion on all sanded, metallic substrates e.g. aluminum, zinc plate, steel as well as zinc plated surfaces and GRP
- Creamy viscosity allows high build filling and pore-free application

Applications:

- Universal filler for all applications

Article No.	Article Description	QTY
6260 2700	MULTI SYSTEM FILLER L270 1000G	1
6260 2705	MULTI SYSTEM FILLER L270 2000G	1



6260 2700



6260 2705

Filler L271

- Standard and basic filler
- Enables very smooth filling
- Fast drying, sandable after 25 – 30 min
- Colour: grey

Applications:

- For the filling of deep dents and holes in car bodies, truck and railway sectors, also suitable for wood
- Roughly sand the surface prior to application

Article No.	Article Description	QTY
6260 2710	FILLER L271 1000G	1
6260 2715	FILLER L271 2000G	1



6260 2710



6260 2715

Paint - Standard Colours

- Fast drying
- Overpaintable after 10 – 15 min with 1 and 2 component paints
- Temperature resistant from -35 °C to +100 °C
- Adheres to standard primers
- Fuel, weather and corrosion-resistant

Article No.	Article Description	QTY
6210 2500	PT.BLACK MATT R9005 L213 400ML	esd 24
6210 2501	PT.BLACK SF R9005 L214 400ML	esd 24
6210 2502	PT.BLACK HG R9005 L215 400ML	esd 24
6210 2510	PAINT WHEEL SILVER L216 400ML	esd 24

HG = High Gloss, SF = Satin Finish



6210 2500

6210 2501

6210 2502

6210 2510

Marker Colour Premium L298

- With 360° spraying valve
- Not lockable cap
- For marking on vertical and horizontal surfaces
- Neon-luminous paint
- Applicable for most surfaces

Article No.	Article Description	QTY
6280 2030	MARK.CLR.PREM.YELL L298 500ML	e 15
6280 2031	MARKER CLR.PREM.RED L298 500ML	e 15
6280 2032	MARK.CLR.PREM.BLUE L298 500ML	e 15
6280 2033	MARK.COL.PREM.GREEN L298 500ML	e 15
6280 2034	MARK.COL.PREM.WHITE L298 500ML	e 15
6280 2035	MARK.COL.PREM.ORANGE L298 500ML	e 15
6280 2036	MARK.COL.PREM.BLACK L298 500ML	e 15



6280 2030

6280 2031

6280 2032

6280 2033



6280 2034

6280 2035

6280 2036

Marker Colour - Fluorescent L299, 500 ml

- With bottom-up valve
- Lockable cap
- For floor- and street marking
- Fluorescent particles provide strong brilliance
- Suitable for all surfaces

Article No.	Article Description	QTY
6280 2020	MARK.COLOUR YELLOW L299 500ML	ed 24
6280 2021	MARKER COLOUR RED L299 500ML	ed 24
6280 2023	MARKER COLOUR WHITE L299 500ML	ed 24
6280 2024	MARKER COLOUR GREEN L299 500ML	ed 24



6280 2020

6280 2021

6280 2023

6280 2024

Marker Colour - Fluorescent L299, 400 ml

- With standard valve
- For marking walls, trees and other vertical surfaces
- Fluorescent particles provide strong brilliance
- Suitable for all surfaces

Article No.	Article Description	QTY
6280 2012	MARK.COLOUR YELLOW L299 400ML	ed 24
6280 2014	MARKER COLOUR BLUE L299 400ML	ed 24



6280 2012

6280 2014

Marker Colour - Neon L297

- With bottom-up valve
- Lockable cap
- For street- and floor marking
- Neon-luminous paint
- Suitable for almost all surfaces

Article No.	Article Description	QTY
6280 2040	MARK.CLR.NEON.YEL.L297 500ML	e 12
6280 2041	MARK.CLR.NEON.RED L297 500ML	e 12
6280 2042	MARK.CLR.NEON.BLUE L297 500ML	e 12
6280 2043	MARK.CLR.NEON.GREEN L297 500ML	e 12
6280 2044	MARK.CLR.NEON.WHITE L297 500ML	e 12



6280 2040

6280 2041

6280 2042

6280 2043

6280 2044

Construction Marker L200 **FÖRCH*******

- High-quality markers with very high opacity and luminosity
- Adhesion to the substrate >9 months
- Transport-safe cap with 1-hand operation
- 360°-valve, spraying in every position possible
- Coverage: approx. 60 - 90 meters per can
- Can be used with the 1-wheel marker stick (Art. No. 6280, 5099)



Article No.	Article Description	QTY
6280 5010	CON.MARK.YELLOW L200 500ML 5*	ed 24
6280 5011	CON.MARK.RED L200 500ML 5*	ed 24
6280 5012	CON.MARK.BLUE L200 500ML 5*	ed 24
6280 5013	CON.MARK.GREEN L200 500ML 5*	ed 24
6280 5014	CON.MARK.ORANGE L200 500ML 5*	ed 24
6280 5015	CON.MARK.PINK L200 500ML 5*	ed 24



6280 5010



6280 5011



6280 5012



6280 5013



6280 5014



6280 5015

1-Wheel Marker Stick

- For ground marking over a longer distance
- Length: approx. 100 cm
- Only compatible with Construction Marker L200 and Marker Colour Premium L298



Article No.	Article Description	QTY
6280 5099	1-WHEEL MARKER STICK	1



Line Marker L204

- Durable, abrasion-resistant line marker
- Designed specifically for long-lasting marking of parking places, for example, or in warehouses etc.
- High degree of resistance to ageing and weathering
- Adhesion to the substrate: at least 12 months
- Coverage: approx. 100 - 120 meters per can
- Can be used with the line marker trolley (Art. No. 6280, 6099)

Article No.	Article Description	QTY
6280 6010	LINE MARKER WHITE L204 750ML	e 6
6280 6011	LINE MARKER YELLOW L204 750ML	e 6



6280 6010



6280 6011

Line Marker Trolley

- Sturdy construction for quiet running while marking
- For precise, straight line marking in car parks, warehouses, etc.
- The can can be clamped centrally or on the left or right hand side
- The marking width can be regulated by adjusting the height of the can being sprayed
- Height of handle is adjustable
- Reserve magazine for up to 6 cans
- Compatible only with the L204 line marker (Art. No. 6280 6010)



Article No.	Article Description
6280 6099	LINE MARKER TROLLEY



Quick Cement

- Free from chloride - no corrosion with the used materials – universally applicable
- Setting time 3 – 5 minutes – fast assembly with fast resilience – saves time
- Mineral compound quickcement - ready mixed formulation
- Suitable to cement and fix of:
door frames, ornament and security grills, radiators, awnings, shutters, toilet and bidet pedestals, garage doors, letterboxes, banisters and supports, outdoor lights, fences, fuel pumps, drains both interior and exterior, intercom, pipes, lines, chimney surrounds etc.

Storage:

- Quick cement when stored dry can keep up to 12 months in original unopened packaging.

Usage instructions:

- Wet the surface sufficiently. Mix the quickcement with clean water to a plastic compound. Once mixture hardens stop adding water.

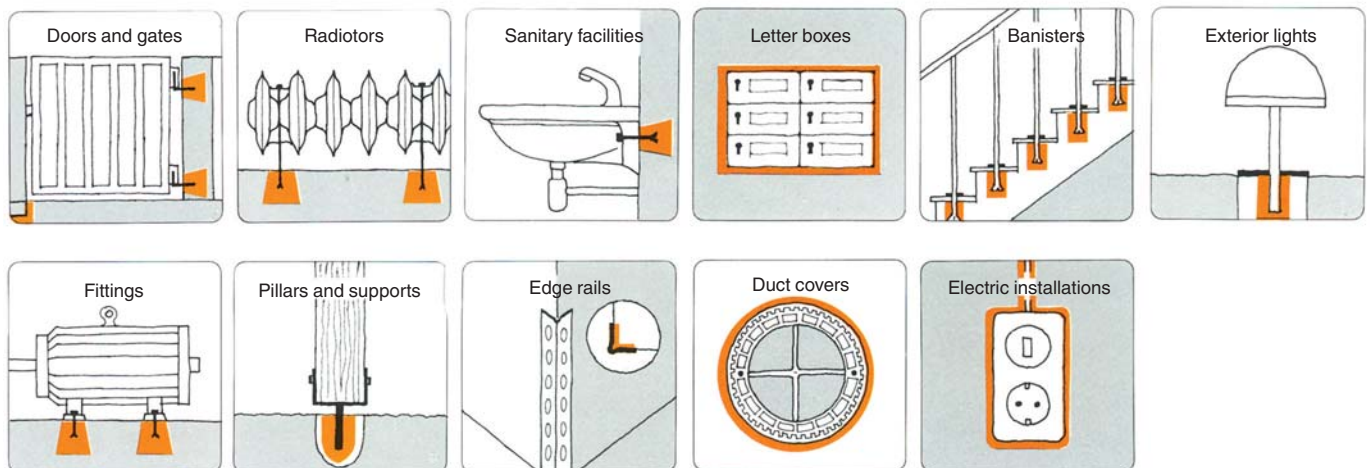
Technical Data

Drip-time:	1 – 2 minutes
Setting period:	approx. 3 minutes
Handling temperature:	not below 5°C do not use if ground frost is expected
Water requirement:	approx. 0.3 l/kg = 1/3 water and 2/3 quickcement



Colour sample

Applications



Article No.	Article Description	QTY
6880 5	KG<5>QUICKCEMENT IN BUCKET	5
6880 15	KG<15>QUICKCEMENT IN BUCKET	15
6880 5 1	KG<5>QUICKCEMENT BUCKET 5X1KG	5

Formwork Release Oil

- A high-quality, semi-synthetic and non-water-soluble universal release agent
- Does not stain concrete surfaces and is economical to use and therefore particularly cost-effective
- Free of waxes, silicones and solvents
- Environmentally friendly and readily biodegradable

Applications:

- Used for all types of formwork common in concrete factories and structural engineering: for non-absorbent or slightly absorbent formwork (phenolic resin formwork facing etc.) and for solid plastic and plastic-coated formwork facing
- Suitable for timber, metal and plastic formwork and can also be used for heated formwork up to a temperature of +80 °C

Technical Data

Appearance: clear
Density (15 °C DIN 51 757): 860 kg/m³

Article No.	Article Description	QTY
6880 26 30	CAN(30L)FORMWORK RELEASE OIL	1
6880 26 1000	1000 L FORMWORK RELEASE OIL	1



Formwork Release Oil Sprayer 3585P 10 Litres

- Can be worn on the back
- Inspection glass enables you to check the oil level
- Polyester-coated steel container
- Flexible 2.5 m long spiral hose with safety latch
- Spray and extension pipe holder
- Brass spray pipe, 50 cm, 360° rotatable
- Precision flat spray nozzle with a fine nozzle
- Large filling opening with funnel cover

Technical Data

Filling volume: 10.0 l
Overall volume: 13.0 l
Operating pressure: 6 bar
Operating temperature: max. 40 °C
Empty weight: 5.5 kg

Article No.	Article Description	QTY
5422 3	FORMW.REL. OIL SPR.3585P 10L	1



Asphalt Paving

- An innovative, newly developed, reactive, curing, high-performance-cold asphalt for repairing road and parking areas, made of concrete or asphalt for all load classes
- Hardens very quickly and has very good adhesion to existing asphalt and concrete surfaces, even when wet
- 100 % free of solvents and once cured is fully recycable just like conventional hot mixes
- Particularly suitable for smoothing potholes and frost buckling, filling of drill holes after sampling, creating ramps and levelling out bumps
- For levelling up road fixtures such as manhole covers or access covers



Technical Data

Particle size:	0/4 mm
Colour:	black
Ambient temperature:	-15 °C to + 40 °C
Material temperature:	+2 °C to +25 °C
Application rate:	see coverage table in Technical Data Sheet

Article No.	Article Description	QTY
6880 25	KG<25> ASPHALT PAVING	25

Your Advantage / Benefit

- Very easy to work and immediately fit for traffic
- Once installed has very high durability comparable to that of conventional hot mix asphalt
- Can be processed at temperatures below 0 °C
- Especially suitable for repair of heavy-duty traffic areas

Application

- The substrate must be stable and free of loose particles, coarse dirt, standing water and ice
- The damaged area should be dry or may be slightly damp
- Pour the cold asphalt directly from the bucket into the area to be repaired, with 5 – 10 % extra, spread and compact with a suitable device (tamper, vibrating plate compactor, roller etc)
- After compacting, sprinkle with sand, to prevent spoiling the colour of the traffic area



Related Products

- Concrete rammer
Art.-No. 5417 20



- Alu-Tar Distr. Hollow pro 70ml
Art.-No. 5417 700 1



- Nitrile Gloves Yellow Partly Coated
Art.-No. 5405 21, size 8
Art.-No. 5405 22, size 9
Art.-No. 5420 23, size 10



Boiler Cleaner Oil

- For problemfree, fast cleaning of oil-powered boilers
- Cleans even stubborn, non-combustible coatings such as sulphate
- Lessens the corrosion sensitivity and the creation of new coatings
- Improves the heat transfer and so saves energy

Usage instructions / general information:

- Slightly foaming
- Do not spray on burner and electrical components
- Ensure sufficient chimney draught during use
- Store frostfree

Application:

1. Switch off burner and open boiler room
2. Spray the dirty inner surfaces of the boiler with **FÖRCH Oil Boiler Cleaner** and allow to react for a short time. Then heat the boiler well. This process will have removed the most stubborn soot and sulphate coatings.
3. Once the boiler cooled down, open the boiler room again and Hoover the remaining residue

Article No.	Article Description	QTY
6890 410	BOILER-CLEANER OIL 500ML	e 12
6620 6091	AEROSOL-ADAPTER 60CM	1



Boiler Cleaner Gas

- For problemfree, fast cleaning of gas-powered boilers
- Cleans even stubborn, non-combustible coatings such as sulphate
- Lessens the corrosion sensitivity and the creation of new coatings
- Improves the heat transfer and so saves energy

Usage instructions / general information:

- Slightly foaming
- Do not spray on burner and electrical components
- Ensure sufficient chimney draught during use
- Store frostfree

Application:

1. Switch off burner and open boiler room
2. Spray the dirty inner surfaces of the boiler with **FÖRCH Oil Boiler Cleaner** and allow to react for a short time. Then heat the boiler well. This process will have removed the most stubborn soot and sulphate coatings.
3. Once the boiler cooled down, open the boiler room again and Hoover the remaining residue.

Article No.	Article Description	QTY
6890 610	BOILER-CLEANER GAS 500ML	e 12
6620 6091	AEROSOL-ADAPTER 60CM	1



Burner Cleaner

- To clean heavily soiled burner parts residue-free, e.g. pressure plates, burner nozzles, fan wheels and ignition electrodes, burner and boiler casing
- Removes oil, fat and wax from all bare metal surfaces
- Due to cleaning with FOERCH burner cleaner it also works as corrosion protection

Usage instructions / general information:

- Slightly foaming
- Spraying of conducting parts has to be avoided

Application:

- Switch off burner and boiler at main switch.
- Spray on burner components which require cleaning and leave to rest for a moment.
- Dry with an absorbing cloth, e.g. Art.-No. 5413 10 3-ply blue to remove residue.

Article No.	Article Description	QTY
6890 400	BURNER-CLEANER 500ML	e 12



Expansion Tank Filling Gas

- Special gas for correction and completion of the pressure cushion in the diaphragm type expansion tank (DTET) at heating, pressure water and oil providing facilities
- Prevents the corrosion in the DTET

Usage instructions:

- Screw the adapter (Art.-No. 6890 4010) to the can valve, then clamp the filling valve to the expansion tank and check the pressure value on the manometer
- By turning the ball cock restore the correct nominal pressure
- Shut off the burner during the filling process
- Ventilate sufficiently after filling
- Always keep can upright during the filling process

Article No.	Article Description	QTY
6890 4000	DS(400ML)TANK FILLING GAS	e 12



Connection Adapter For Tank Filling Gas

- Adapter to connect the expansion tank filling gas can to the diaphragm type expansion tank (DTET)
- Hose length: 50 cm
- Pressure: max. 4 bar

Article No.	Article Description	QTY
6890 4010	CONNECTION ADAPTER F.TANK FILL	1



Leakage Finder Frost-Proof **FÖRCH*******

- For maintenance and control of gas and compressed air systems in the area of production, refinery, heating technique, hospital technique, refrigeration engineering etc.
- Suitable for cryogenic gases
- Even the smallest leaks are indicated reliably by bubble formation
- Allows punctual spraying by controlled actuation of the spray head
- DVGW tested
- Non-inflammable propellant, non-corrosive, pH-neutral
- Suitable up to -15 °C

Article No.	Article Description	QTY
6890 500	LEAK.FIND.FROST-PROOF 400ML 5*	e 12



Leak Detector

- Reliable detection of leaks in compressed air and gas systems
- Non-corrosive
- DVGW approval

Art.-No. 6730 0800:

- With ball valve, usable in all positions

Article No.	Article Description
6730 0800	LEAK DETECTOR 400ML
6730 0805	LEAK DETECTOR 5L



6730 0800



6730 0805

Enkolit Metal Cold Glue

- For adhesion of metal profiles and sheet metal made from titaanzinc, copper, aluminium, stainless steel, lead etc. onto a range of building materials
 - Universally applicable
- Durable adhesive compound
 - No running of adhesive on vertical surfaces
 - Ideal for adhesion of window sills, vergeboards and rainwater pipes as well as metal casings
- All-over adhesion
 - No cavity
 - Prevents nesting of insects and drumming noises caused by rain
 - Prevents corrosion damage due to moisture on the underside of the sheet
- Complies with DIN 1055 „design load for buildings (wind load)“
- Corresponds to the report regarding adhesive strength after 30 years by Richard Gruen Institute

Processing instructions:

- For adhesion from sheet metal on sheet metal an additional, mechanical fixing has to be applied
- The consumption herefore may not exceed 1.5 kg/m²

Laying on horizontal surfaces:

- A 10 cm wide sheet has to be adhered on wall, attic or balustrade cladding which consist of several components
- An expansion compensation has to be created for continuous metal profiles

Laying on sloping or vertical surfaces:

- In order to prevent sliding of the freshly fitted metal sheets, it is necessary to apply mechanical fix points
- Enkolit metal cold glue has to be applied on both sides for vertical application
- Pressure has to be applied when fixing the components together
- Porous and priming surfaces have to be primed

Important:

- When applying Enkolit on both components parts which need to be fitted together, then it is important that the grooves run in the same direction
- If the adhesion surfaces are more than 30 cm wide, then Enkolit has to be applied on both sides
- This does not mean to apply double quantities, but to apply the designated quantity of Enkolit equally on both sides

Following surfaces are not suitable for Enkolit metal cold glue:

- Roof sheeting, bituminous surfaces, plastic foils as they are used for roofing, non-mineral insulating materials e.g. polystyrole, silicone, butyl, Thiokol, acrylic and polyurethane-adhesives



Technical Data

Colour:	black
Handling temperature: (environment and surface)	+5°C to +30°C
Consumption even surface:	approx. 2-3 kg/m ²
Adhesive range:	max. 60 min after application

Article No.	Article Description	QTY
6880 11	ENKOLIT METAL-COLDGLUE 11KG	1
6880 11 4	ENKOLIT METAL-COLDGLUE-SO 11KG	1
6880 11 5	ENKOLIT METAL-COLDGLUE-WI 11KG	1
6880 11 1	ENKOLIT METAL-COLDGLUE 310ML	12

- Art.-No. 6880 11: spring / autumn quality
- Art.-No. 6880 11 4: summer quality
- Art.-No. 6880 11 5: winter quality
- Art.-No. 6880 11 1: applicable universal all-season



right



wrong

Repair Kit, Hard and Soft Wax

- For the removal of scratches, holes, indentations and flaking
- Ideal for laminate and varnished surfaces such as parquet, stairs, furniture, cork, doors etc.
- The hard wax is very resilient, melts easily and can be painted
- The enclosed protective varnish (seamless finishing lacquer) protects the repaired area from dust and dirt
- High-grade tools make repair very easy
- The colours can be mixed together
- Use only the transparent hard wax for indentations
- All materials for good and permanent repairs are contained in the kit
- Simple handling

Article No.	Article Description	QTY
6881 1	REPAIR KIT HARD AND SOFT WAX	1

Scope of delivery:

- 30 sticks of melting filler size 01, sorted
- 10 sticks of soft wax size 01, sorted
- 10 touch-up sticks with valve system, sorted
- 1 can of finishing lacquer satin finish seamless 150 ml
- 1 plastic spatula with teeth and comb for cleaning
- 1 gas melter with gas refill
- 1 cleaning cloth and non-woven abrasive



Hard Wax Set, 20 pcs.

- Moderately hard repair kit for heavily loaded surfaces such as parquet or laminate flooring, cork floor covering, furniture, synthetic resin surfaces, kitchens, windows etc.
- Use a gas or battery melter to liquefy and apply the hard wax
- Then use the plastic spatula to scrape off the excess material
- The colours can be mixed together
- Always work with several colours for inconspicuous repair

Article No.	Article Description	QTY
6881 3	HARD WAX SET 20-PCE	1

Scope of delivery:

- 20 piece melting filler set, sorted
 pine 105, birch 107, natural oak 111, medium oak 112, bog oak 113, light cherry wood 114, dark cherry wood 115, medium beech 117, dark beech 118, light walnut 119, Elm 143, muted beech 155, ash sapwood 159, pine sapwood 167, pine heartwood 168, bird's eye maple 173, spruce 176, white glazed spruce 177, black 135, special white 142



Hard Wax



Article No.	Article Description	QTY
6881 3 101	HARDW-DUO PACK EGGSHELL WH 101	1
6881 3 105	HARDW-DUO PACK PINE 105	1
6881 3 107	HARDW-DUO PACK BEECH 107	1
6881 3 108	HARDW-DUO PACK LARCH 108	1
6881 3 109	HARDW-DUO PACK SPRUCE/PINE 109	1
6881 3 111	HARDW-DUO PACK OAK LIGHT 111	1
6881 3 112	HARDW-DUO PACK OAK MEDIUM 112	1
6881 3 113	HARDW-DUO PACK BOG OAK 113	1
6881 3 114	HARDW-DUO P. CHERRY WOOD WH101	1
6881 3 119	HARDW-DUO WALNUT LIGHT 119	1
6881 3 123	HARDW-DUO PACK MACORE 123	1
6881 3 124	HARDW-DUO PACK ASH OLIVE 124	1
6881 3 129	HARDW-DUO PACK MAHAGONY 129	1
6881 3 134	HARDW-DUO PACK EBONY 134	1
6881 3 135	HARDW-DUO PACK BLACK 135	1
6881 3 136	HARDW-DUO PCK MOTH.O.PEA.136	1
6881 3 139	HARDW-DUO PACK GREY RAL7035139	1
6881 3 150	HARDW-DUO PACK LINEN 150	1
6881 3 157	HARDW-DUO PACK IROKO 157	1
6881 3 159	HARDW-DUO PACK ASH SAPWOOD112	1
6881 3 160	HARDW-DUO PACK ASH HEARTW. 160	1
6881 3 166	HARDW-DUO PACK ASH SAND 166	1
6881 3 168	HARDW-DUO P. PINE HEARTW. 168	1
6881 3 169	HARDW-DUO PACK PEARL GRAY 169	1
6881 3 173	HARDW-DUO P.BIRD'S EYE MAP173	1
6881 3 175	HARDW-DUO PACK BEECH 175	1
6881 3 176	HARDW-DUO PACK SPR.TRANS 176	1
6881 3 190	HARDW-DUO PACK RAL 9010 190	1
6881 3 191	HARTW-DUO PACK WH RAL 9016191	1
6881 3 209	HARDW-DUO PACK ALM.BEIGE 209	1

Scope of delivery:

- 2 in number in film pouch

Colour name	Colour No.	Colour representation*
eggshell white	101	
pine	105	
beech	107	
larch	108	
spruce / pine	109	
light oak	111	
medium oak	112	
bog oak	113	
light cherry wood	114	
light walnut	119	
macore	123	
olive ash	124	
mahagony	129	
ebony	134	
black	135	
mother-of-pearl	136	
grey RAL 7035	139	
linen	150	
iroko	157	
ash sapwood	159	
ash heartwood	160	
ash sand colours	166	
pine heartwood	168	
pearl grey	169	
bird's eye maple	173	
beech	175	
transparent spruce	176	
RAL 9010	190	
white RAL 9016	191	
almond beige	209	

*representation of colours not binding

Soft Wax Kit, 20 pce.

- Soft wax can be used to repair small cracks and damage to stained, frosted, glazed and coated wood and plastic surfaces.
- Good material malleability makes it easy and fast to work with
- The repaired areas do not fade and can be coated with wood varnishes
- Good adhesive strength
- For applications in interior construction

Article No.	Article Description	QTY
6881 2	SOFT WAX KIT 20-PCE	1

Scope of delivery:

- 20 piece soft wax kit, sorted
 pine 05, birch 07, natural oak 11, medium oak 12, bog oak 13, light cherry wood 14, dark cherry wood 15, medium beech 17, dark beech 18, light walnut 19, Elm 43, muted beech 55, ash sapwood 59, pine sapwood 67, pine heartwood 68, bird's eye maple 73, spruce 76, white glazed spruce 77, black 35, special white 42



Soft Wax



Article No.	Article Description	QTY
6881 2 11	SOFTW-DUO PACK NATURAL OAK 11	1
6881 2 12	SOFTW-DUO PACK OAK MEDIUM 12	1
6881 2 19	SOFTW-DUO WALNUT LIGHT 19	1
6881 2 35	SOFTW-DUO BLACK 35	1
6881 2 73	SOFTW-DUO P. BIRD'S EYE MA. 73	1
6881 2 75	SOFTW-DUO BEECH 75	1
6881 2 76	SOFTW-DUO SPRUCE TRANS 76	1
6881 2 77	SOFTW-DUO WHITE SPRUCE 77	1
6881 2 90	SOFTW-DUO WHITE 90	1
6881 2 91	SOFTW-DUO PURE WHITE 91	1

Scope of delivery:

- 2 in number in film pouch

Colour name	Colour No..	Colour representation*
natural oak	11	
medium oak	12	
light walnut	19	
black	35	
bird's eye maple	73	
beech	75	
transparent spruce	76	
white spruce	77	
white	90	
white RAL 9016	91	

*representation of colours not binding

Touch-up Pens

- With valve system
- For touch-up and repair of small damages in the surfaces or varnished wood surfaces, e.g. for sanded-through veneers
- For repaired veneer areas
- For matching sapwood to solid wood
- For retracing of grain or for transport damage to furniture



Article No.	Article Description	QTY
6881 4 08	TOUCH-UP PIN LARCH 08	e 5
6881 4 11	TOUCH-UP PIN OAK LIGHT 11	e 5
6881 4 14	TOUCH-UP PIN CHERRY W. LIGHT 14	e 5
6881 4 18	TOUCH-UP PIN ALDER 18	e 5
6881 4 19	TOUCH-UP PIN WALNUT 19	e 5
6881 4 29	TOUCH-UP PIN MOHAGONY 29	e 5
6881 4 35	TOUCH-UP PIN BLACK 35	e 5
6881 4 41	TOUCH-UP PIN SPRUCE 41	e 5
6881 4 42	TOUCH-UP PIN WHITE 42	e 5
6881 4 71	TOUCH-UP PIN BEECH LIGHT 71	e 5

Colour name	Colour No..	Colour representation*
larch	08	
natural oak	11	
light cherry wood	14	
alder	18	
walnut	19	
mahogany	29	
black	35	
spruce	41	
white	42	
light beech	71	

*representation of colours not binding

Gas Melter

- For the melting and application of hard wax to the damaged point
- The wireless gas melter can be used in a versatile manner
- Easy to handle pen shape
- Easy control of the processing temperature
- Operated with commercially available lighter gas

Article No.	Article Description	QTY
6881 5	GAS MELTER	1



Plastic Spatula

- For the application of soft wax to the damaged point
- Remove and plane off excess hard and soft wax
- The sharp-toothed inner comb is used to clean the plane

Article No.	Article Description	QTY
6881 6	PLASTIC SPATULA	1



Transparent Finishing Varnish

- The finishing varnish can be used to seamlessly match the repair point to its surrounding area without any unsightly transitions and restore the original surface gloss
- Optimal flow properties

Usage instructions:

- Shake the can before use and spray from a distance of 30 – 40 cm

Article No.	Article Description	QTY
6881 7	TRANSPARENT FINISH.VARNISH	1



Wood Cement

- Ready to use
- Used to repair wood
- To fill in, model and seal
- Connects with wood, metal, glas, leather etc.
- Shockproof, temperature resistant, waterproof and acid resistant
- Can be sawed, polished, nailed, etched and varnished

Article No.	Article Description	QTY
6881 20	WOODCEM. 200G PINE	1
6881 21	WOODCEM. 200G SPRUCE	1
6881 23	WOODCEM 200G OAK LIGHT	1
6881 24	WOODCEM 200G OAK RUSTIC	1
6881 26	WOODCEM 200G BEECH NATURE	1
6881 27	WOODCEM 200G BEECH MUTED	1
6881 28	WOODCEM 200G MAHOGANY MERANTI	1
6881 29	WOODCEM 200G MAPLE	1



Wood Cement - Special Solvent

- One component
- To create your own wood cement
- Fine sanding dust of the required wood type can be mixed with a special solvent to a dough like consistency

Article No.	Article Description	QTY
6881 31	WOODCEMENT-SPECIALSOL. 1L	1



Thinner for Wood Cement and Special Solvent

- To re-soften and thin wood cement and to clean tools

Article No.	Article Description	QTY
6881 50	THINNER F. WOODCEMENT 1L	1

