

# Miniflex®

## Patch Cables & Pigtails



### Features & Benefits

- ITU-T: G.657, & G.651
- Breakout products with pigtails & individual products
- Complies with IEC 60794-1-2
- REACH & RoHS compliant
- Low insertion and return loss with certification
- Multiple industry standard connector options
- Multi-fiber connectors
- Features Miniflex® bend limiting technology
- Ultra light-weight & high crush resistance
- Inherent kink resistance
- Customizable on request



### Overview

Miniflex® Patch cables and Pigtails are high performance cables suitable for use in all types of fiber networks. These PPC cables are manufactured using a state-of-the-art controlled manufacturing process to operate over the full range of single-mode and multi-mode wavelengths.

They incorporate the patented Miniflex grooving technology to give them added robustness while maintaining their inherent flexibility. PPC's Miniflex Patch Cables and Pigtails are terminated with high quality connectors, including the Balistix pushable connectors, which provide low insertion loss and high return loss. Each cable is supplied with a unique serial number for traceability. Miniflex Patch cables and Pigtails are available with all types of single-mode and multi-mode fibers.

### Applications

- FTTH / FTTX – Indoor & Outdoor
- FTTP and Campus Networks
- Telecoms
- Transport - Automotive
- Broadband Networks
- Data Infrastructure

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### Technical Data

#### Mechanical Performance

Fiber Count	Weight	O.D.	Sheath Thickness	Tension	Crush	Minimum Bend Radius	
						Installation	Operation
250 $\mu$ m	kg/km (lbs/km)	mm (in)	mm (in)	N (lb)	N (lb)	mm (in)	mm (in)
1, 2 & 4	~4 (~8.8)	2.2 (.08)	0.5 (.02)	100 (22.5)	950 (214)	11 (.4)	22 (0.9)
1 (900 $\mu$ m)	8.1 (5.4)	3.0 (.1)	0.8 (.03)	100 (22.5)	950 (214)	15 (.6)	30 (1.2)
1, 2, 4, 6, 8 & 12	7-8 (15.4-17.6)	3.0 (.1)	0.8 (.03)	100 (22.5)	950 (214)	15 (.6)	30 (1.2)

Material	Applications	Fire Rating	Color	Operating Temp	Crush
		EN / UL		$^{\circ}$ C ( $^{\circ}$ F)	N
PBT	Indoor-Outdoor	Eca / General	Black*	-40 to 80 (-40 to 176)	950N
PBIO	Indoor-Outdoor	Cca / Riser	White*	-30 to +70 (-22 to 158)	1500N

\*Other colors available upon request

#### Transmission Performance Specification

Item	Single-mode	Single-mode 900 $\mu$ m	Multi-mode
Specification	G657 A1	G657 A2	OM3
Attenuation (850 / 1300 nm)	n/a	n/a	3.5/1.5 dB/km
Attenuation (1310 / 1550 nm)	0.4/0.3 dB/km	0.4/0.3 dB/km	n/a
Attenuation at 1383nm	$\leq$ 0.32 dB/km	n/a	n/a
Attenuation at 1625 nm	< 0.24 dB/km	< 0.24 dB/km	n/a
Refractive Index at 1310nm, 1550nm	1.467, 1.468	1.467, 1.468	n/a
Refractive Index at 850nm, 1300nm	n/a	n/a	1.482, 1.477
Proof test	0.69 GPa (100 kpsi), 1% min.	0.69 GPa (100 kpsi), 1% min.	0.69 GPa (100 kpsi), 1% min.
Cladding diameter	125 $\pm$ 0.7 $\mu$ m	125 $\pm$ 0.7 $\mu$ m	125 $\pm$ 1.0 $\mu$ m
Coated diameter	235 $\mu$ m to 245 $\mu$ m	235 $\mu$ m to 245 $\mu$ m	237 $\mu$ m to 247 $\mu$ m
Core/Cladding concentricity error	$\leq$ 0.5 $\mu$ m	$\leq$ 0.5 $\mu$ m	$\leq$ 1.0 $\mu$ m
Coating concentricity error	$\leq$ 12 $\mu$ m	$\leq$ 12 $\mu$ m	$\leq$ 6 $\mu$ m
Macro bend loss	(1550 nm)	(1550 nm)	(850 and 1300 nm)
10 turns at 50mm diameter	$\leq$ 0.01 dB	n/a	$\leq$ 0.2 dB
10 turns at 15 mm diameter	$\leq$ 0.2 dB	$\leq$ 0.03 dB	n/a
1 turn at 10mm diameter	$\leq$ 0.2 dB	$\leq$ 0.10 dB	n/a
1 turn at 7.5mm diameter	n/a	$\leq$ 0.50 dB	n/a
Temp. range (operation)	max attenuation change		max attenuation change
-60 $^{\circ}$ C to 85 $^{\circ}$ C (-76 $^{\circ}$ F to 185 $^{\circ}$ F)	$\leq$ 0.05 dB/km		$\leq$ 0.1 dB/km
Coating Strip Force	1.3 to 8.9 N		1.3 to 8.9 N
Insertion Loss	$\leq$ 0.3 dB (SC, LC, FC, ST & E2000)		
Return Loss	$\leq$ 45dB (UPC); $\leq$ 60dB (APC)		

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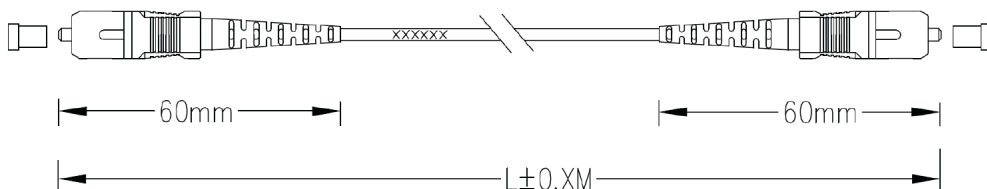
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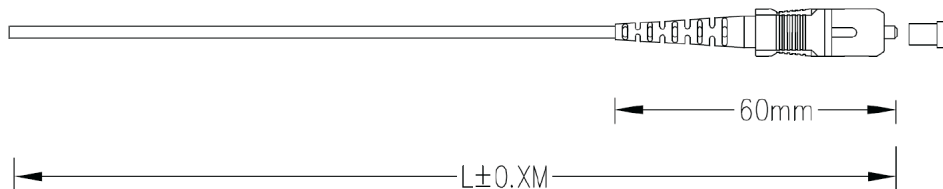


### Mechanical Drawings

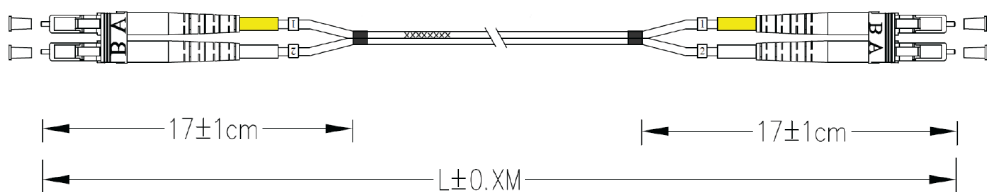
#### Simplex



#### Pigtail



#### Duplex



### Ordering Information

#### Example: MX13PBW22S3S510M

MX	1	3	PB	B	2	1	S3	S5	010	M
	Number of Fibers	Cable Diameter	Material	Color	Fiber Diameter	Fiber Type	Connector 1	Connector 2	Length	Unit of Measure
MX	1, 2, or 4	3 - 3mm	PB - standard PBT	B - black	2 - 250um	1 - G.657.A1	F3 - FC UPC		XXX	F - Feet
		2 - 2mm	RI - Riser	W - white	9 - 900um	2 - G.657.A2	F5 - FC APC			M - Meters
							L3 - LC UPC			
							L5 - LC APC			
							NC - no connector			
							S3 - SC UPC			
							S5 - SC APC			
							ST3 - ST UPC			
							ST5 - ST APC			

Other connector, fiber and cable color options available on request

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