

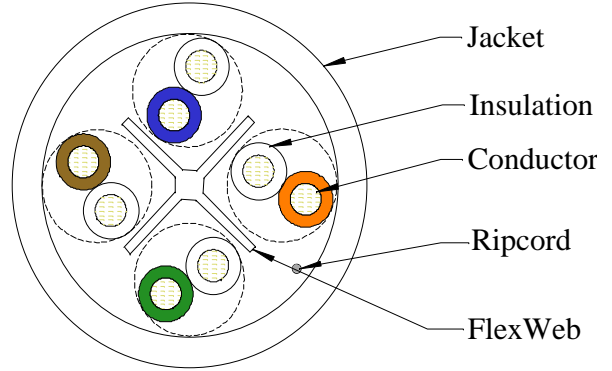
MASTER SPECIFICATION
AdvanceNet® CABLE
4 PAIR #23 AWG UTP CATEGORY 6e+ PLENUM

Design Number:
HT41192

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) ADVANCENET CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801 ed 2.2 (2011) CLASS E. THE CABLE EXCEEDS ANSI/TIA-568-C.2 AND ISO/IEC 11801 ed 2.2 (2011) CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR AND A RIPCORD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL OR BOX. SEE BELDEN.COM/P FOR ANY/ALL APPLICABLE PATENT DETAILS.

THE CABLE IS PLENUM RATED FOR USE IN AIR HANDLING DUCTS AND SPACES IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS ETL (USA) & cETL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262 (FT6 OR PREVIOUSLY UL 910 STEINER TUNNEL) TEST.



SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), IEEE 802.3af POE, IEEE 802.3at-2009 POE+, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, 550 MHz BROADBAND VIDEO AND ATM UP TO 2.4 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER
 DUAL INSULATION, FEP ON ALL 4 PAIRS

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER WITH A FLEXWEB CORE SEPARATOR

JACKET: NO LEAD PLENUM RATED THERMOPLASTIC
 JACKET COLOR: SEE TABLE 2
 NOMINAL CABLE OD: .238" (6.05 mm)

LISTINGS: C(UL)US CMP, (UL) CMP-LP (0.6A) OR CL3P-LP (0.6A)
 UL OR ETL VERIFIED CAT 6

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 30 lbs/1000ft (45/ kg/km)

BENDING RADIUS: 1" (25 mm) MIN (4 x CABLE OD)

PULLING TENSION: 25 lbf (110 N) MAX

OPERATING TEMP.: -20°C to +75°C (-4°F to +167°F)

STORAGE TEMP.: -20°C to +75°C (-4°F to +167°F)

***INSTALLATION TEMP.:** 0°C to +50°C (+32°F to +122°F)

TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
1	WHITE-BLUE	BLUE
2	WHITE-ORANGE	ORANGE
3	WHITE-GREEN	GREEN
4	WHITE-BROWN	BROWN

TABLE 2

MOHAWK PART NUMBER	MOHAWK DESIGN NUMBER	JACKET COLOR
M56905	HT39985	WHITE
M57193	HT41063	BLUE
M57194	HT41064	PINK
M57195	HT41065	YELLOW
M57196	HT41066	GRAY
M57197	HT41067	GREEN
M57198	HT41068	RED
M57199	HT41069	ORANGE
M57200	HT41070	BLACK
M57201	HT41071	VIOLET
M58512	HT53064	KELLEY GREEN
M58848	HT55328	BROWN
M58847	HT56828	LIME GREEN
M59049	HT57567	NAVY BLUE
M59127	HT57807	CITYSCAPE GRAY

* THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE CABLE WHILE BEING INSTALLED OR PULLED. DO NOT INSTALL BELOW 0°C (+32°F).



MOHAWK
 Cabling Excellence for Open Architecture

(978) 537-9961 Fax: (978) 537-4358
 (800) 422-9961 www.mohawk-cable.com

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Rev	Description	Date	Init.
BA	ADJUST DIAMETER	08/19/15	JS
BB	ADJUST ELECTRICALS	12/11/15	JS
BC	UPDATE FOOTER	02/03/17	JS
BD	UPDATE DESC, APPS, LISTINGS, TEMPS, STDS	09/01/17	JS
Date: 09/26/97		Page 1 of 2	
Orig:		Review:	
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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: EXCEEDS ANSI/TIA-568-C.2 CAT 6,
 ICEA S-116-732-2013 CAT 6,
 ISO/IEC 11801 ed 2.2 (2011) CLASS E &
 IEC 61156-5 CAT 6 HORIZONTAL CABLE

CONDUCTOR DCR: 9.38 Ω/100m (28.6 Ω/Mft) MAX

DCR UNBALANCE: 5% MAX

MUTUAL CAPACITANCE: 56 pF/m MAX

CAPACITANCE UNBALANCE PAIR/GROUND: 330 pF/100m MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 15% (1-250 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (10-100 MHz)
 100 Ω ± 22% (>100-250 MHz)

RETURN LOSS (RL): 20 + 5 log₁₀(f) dB MIN (1-10 MHz)
 25 dB MIN (>10-20 MHz)
 25 - 7 log₁₀(f/20) dB MIN (20-100 MHz)
 25 - 7 log₁₀(f/20) + 0.7 dB MIN (>100 MHz)

INSERTION LOSS: $1.76\sqrt{f} + .017f + \frac{.20}{\sqrt{f}}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): 76 - 15 log₁₀(f/.772) + 5 dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 74 - 15 log₁₀(f/.772) + 5 dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 70 - 20 log(f/.772) + 5 dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 67 - 20 log(f/.772) + 5 dB/100m MIN

PROPAGATION DELAY: 534 + 36 / √f ns/100m MAX

DELTA DELAY (SKEW): 45 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): 70%

WHERE f = FREQUENCY IN MHz from .772 to 250 MHz, except for ELFEXT and PS-ELFEXT from 1 to 250 MHz.

TABLE 3

REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)		NEXT (dB/100m)		ACR (dB/100m)	PS-NEXT (dB/100m)		PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	RL (dB)
	avg	max	avg	min		min	avg				
.772	1.6	1.8	90	81.0	79.2	83	79.0	77.2	-	-	-
1.0	1.8	2.0	88	79.3	77.3	81	77.3	75.3	72.8	69.8	20.0
4.0	3.5	3.7	79	70.3	66.6	72	68.3	64.6	60.7	57.7	23.0
8.0	4.9	5.2	75	65.8	60.6	68	63.8	58.6	54.7	51.7	24.5
10.0	5.6	5.8	73	64.3	58.5	66	62.3	56.5	52.8	49.8	25.0
16.0	7.1	7.4	70	61.3	53.9	63	59.3	51.9	48.7	45.7	25.0
20.0	7.9	8.3	69	59.8	51.5	62	57.8	49.5	46.8	43.8	25.0
25.0	8.8	9.3	67	58.4	49.1	60	56.4	47.1	44.8	41.8	24.3
31.25	10.0	10.4	66	56.9	46.5	59	54.9	44.5	42.9	39.9	23.6
62.5	14.3	15.0	61	52.4	37.4	54	50.4	35.4	36.8	33.8	21.5
100.0	18.4	19.3	58	49.3	30.0	51	47.3	28.0	32.8	29.8	20.8
200.0	27.0	28.3	54	44.8	16.5	47	42.8	14.5	26.8	23.8	18.7
250.0	30.5	32.1	52	43.3	11.2	45	41.3	9.2	24.8	21.8	18.0
300.0	33.9	35.6	51	42.1	6.5	44	40.1	4.5	23.3	20.3	17.5
350.0	37.0	38.9	50	41.1	2.3	43	39.1	0.3	21.9	18.9	17.0
400.0	40.0	42.0	49	40.3	-	42	38.3	-	20.8	17.8	16.6
450.0	43.0	45.0	48	39.5	-	41	37.5	-	19.7	16.7	16.2
500.0	45.5	47.9	48	38.8	-	41	36.8	-	18.8	15.8	15.9
550.0	48.2	50.6	47	38.2	-	40	36.2	-	18.0	15.0	15.6
600.0	50.7	53.3	47	37.6	-	40	35.6	-	17.2	14.2	15.4
650.0	53.2	55.9	46	37.1	-	39	35.1	-	16.5	13.5	15.1

SWEEP TESTED TO 650 MHz; VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.



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