MASTER SPECIFICATION

AdvanceNet® CABLE

4 PAIR #23 AWG UTP CATEGORY 6e+ NON-PLENUM

Design Number:
LT41193

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 RISER (NON-PLENUM) RATED FOR USE AS A VERTICAL RUN IN A SHAFT AND FOR GENERAL PURPOSE COMMUNICATIONS USE IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS ETL (USA) & cETL (CANADA) LISTED FOR THIS APPLICATION BY PASSING UL 1666 RISER CABLE FLAMMABILITY TEST. THE CABLE ALSO PASSES THE CSA FT4 VERTICAL FLAME TEST - CABLES IN CABLE TROUGH FROM CLAUSE 4.11.4 OF CSA C22.2 NO. 0.3.

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
INSULATION: THERMOPLASTIC POLYOLEFIN

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 FLAME RETARDANT THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .231" (5.87 mm)

LISTING: C(UL)US OR C(ETL)US TYPE CMR
UL OR ETL VERIFIED CAT 6

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 27 lbs/1000ft (40 kg/km)

BENDING RADIUS: 1" (25.4 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)

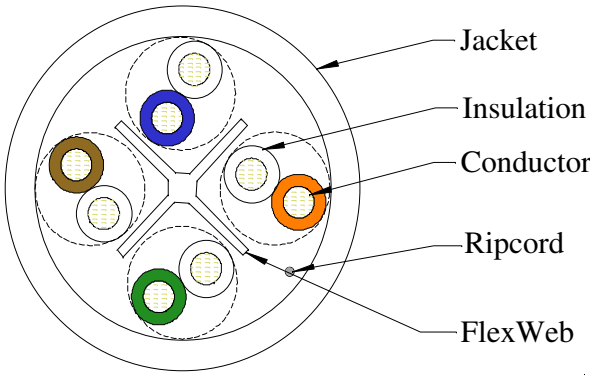


TABLE 1

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
M56889	LT39986	WHITE
M57202	LT41072	BLUE
M57203	LT41073	PINK
M57204	LT41074	YELLOW
M57205	LT41075	GRAY
M57206	LT41076	GREEN
M57207	LT41077	RED
M57208	LT41078	ORANGE
M57209	LT41079	BLACK
M57210	LT41080	VIOLET
M57979	LT46679	PASTEL VIOLET
M58699	LT54362	DK. BROWN

* THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE *CABLE* WHILE BEING INSTALLED OR PULLED.

RoHS

MOHAWK
Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
AZ	ADJUST DIAMETER	08/19/15	JS
BA	ADJUST ELECTRICALS	12/11/15	JS
BB	UPDATE FOOTER	02/03/17	JS
BC	UPDATE DESC, APPS, TEMPS, STDS	09/15/17	JS

Date: 09/26/97 Page 1 of 2

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This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

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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): $20 + 5 \log_{10}(f)$ dB MIN (1-10 MHz)
25 dB MIN (>10-20 MHz)
$25 - 7 \log_{10}(f/20)$ dB MIN (20-100 MHz)
$25 - 7 \log_{10}(f/20) + 0.7$ dB MIN (>100 MHz)

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

NEAR END CROSSTALK (NEXT): $76 - 15 \log_{10}(f/.772) + 5$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): $74 - 15 \log_{10}(f/.772) + 5$ 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: $534 + 36 / \sqrt{f}$ 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	min	min	min	min	min
.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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