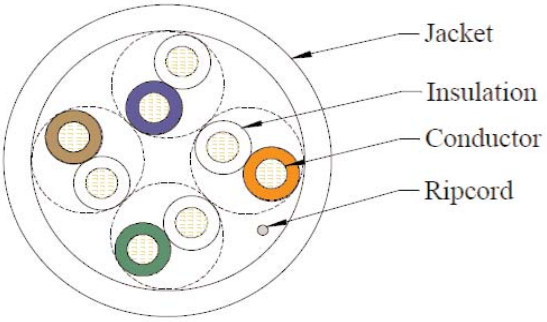
6 LAN™

4 Pair #23 AWG UTP
Category 6



DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) 6 LAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS E. THE CABLE MEETS ANSI/TIA-568-C.2 & ISO/IEC 11801:2002 CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A RIPCORD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL OR BOX. THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY US PATENT NO. 556337.

THE PLENUM RATED CABLE IS 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.

THE RISER (NON-PLENUM) RATED CABLE IS 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 UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING THE 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 802.3an 10GBASE-T (10 GIGABIT ETHERNET), 1000BASE-T (GIGABIT ETHERNET), 100BASE-T (FAST ETHERNET), AND IEEE 802.3 10BASE-T (ETHERNET), IEEE 802.3af POWER OVER ETHERNET FOR VoIP, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, ATM UP TO 1.2 Gbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 2.4 AND 4.8 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm PL, .5mm NP) SOLID BARE COPPER
INSULATION: PL: DUAL INSULATION, FEP ON ALL 4 PAIRS
NP: THERMOPLASTIC POLYOLEFIN

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER

JACKET: PL: NO LEAD PLENUM RATED THERMOPLASTIC
NP: NO LEAD FLAME RETARDANT THERMOPLASTIC
JACKET COLOR SEE TABLE 2
NOMINAL CABLE OD: PL: .220" (5.59 mm)
NP: .220" (5.59 mm)

LISTINGS: UL OR ETL VERIFIED TO TIA 568-B.2-1 CAT 6
PL: C(UL)US C(ETL)US TYPE CMP
NP: C(UL)US C(UL)US TYPE CMR

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

PLENUM		NON-PLENUM	
PART NUMBER	JACKET COLOR	PART NUMBER	JACKET COLOR
M58281	BLUE	M58292	BLUE
M58280	WHITE	M58291	WHITE
M58283	YELLOW	M58294	YELLOW
M58285	GRAY	M58295	GRAY
M58282	PINK	M58293	PINK
M58286	GREEN	M58296	GREEN
M58287	RED	M58297	RED
M58288	ORANGE	M58298	ORANGE
M58289	BLACK	M58299	BLACK
M58290	VIOLET	M58300	VIOLET

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL: 28 lbs/1000ft (42 kg/km)
NP: 24 lbs/1000ft (36 kg/km)

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

PULLING TENSION: 25 lbf (110 N) MAX

OPERATING TEMP.: -20ºC to +60ºC (-4ºF to +140ºF)

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

INSTALLATION TEMP.*: 0°C to +60°C (+32°F to +140°F)

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

PL = PLENUM
NP = NON-PLENUM

MOHAWK
Cabling Excellence for Open Architecture

RoHS

6 LAN™

4 Pair #23 AWG UTP Category 6

ELECTRICAL CHARACTERISTICS (REF TABLE 3)

CONDUCTOR DCR: 7.8 Ω/100m (23.8 Ω/Mft) MAX

DCR UNBALANCE: 3% MAX

MUTUAL CAPACITANCE: 46 pF/m (14 pF/ft) NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 66 pF/100m (200 pF/Mft) MAX

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

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
100 Ω ± 20% (>100-200 MHz)
100 Ω ± 25% (>200 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 MHz)

INSERTION LOSS: $1.808 \sqrt{f} + .017f + .20/\sqrt{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): $44.3 - 15 \log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS NEXT): $42.3 - 15 \log_{10}(f/100)$ dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): $27.8 - 20 \log_{10}(f/100)$ dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): $24.8 - 20 \log_{10}(f/100)$ dB/100 MIN

PROPAGATION DELAY: $534 + 36 / \sqrt{f}$ ns/100m MAX

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

NOMINAL VELOCITY OF PROPAGATION (NVP): 72% PL
68% NP

WHERE f = FREQUENCY IN MHz from .772 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	1.7	1.8	82	76.0	74.2	77	74.0	72.2	-	-	-
1.0	1.9	2.0	80	74.3	72.3	75	72.3	70.3	67.8	64.8	20.0
4.0	3.6	3.8	71	65.3	61.5	66	63.3	59.5	55.8	52.8	23.0
8.0	5.1	5.3	67	60.8	55.5	62	58.8	53.5	49.7	46.7	24.5
10.0	5.7	6.0	65	59.3	53.3	60	57.3	51.3	47.8	44.8	25.0
16.0	7.3	7.6	62	56.2	48.6	57	54.2	46.6	43.7	40.7	25.0
20.0	8.1	8.5	61	54.8	46.3	56	52.8	44.3	41.8	38.8	25.0
25.0	9.1	9.5	59	53.3	43.8	54	51.3	41.8	39.8	36.8	24.3
31.25	10.2	10.7	58	51.9	41.2	53	49.9	39.2	37.9	34.9	23.6
62.5	14.8	15.4	53	47.4	32.0	48	45.4	30.0	31.9	28.9	21.5
100.0	19.0	19.8	50	44.3	24.5	45	42.3	22.5	27.8	24.8	20.1
155.0	24.2	25.2	47	41.4	16.2	42	39.4	14.2	24.0	21.0	18.8
200.0	27.8	29.0	46	39.8	10.8	41	37.8	8.8	21.8	18.8	18.0
250.0	31.5	32.8	44	38.3	5.5	39	36.3	3.5	19.8	16.8	17.3
300.0	35.0	36.4	43	37.1	.07	38	35.1	-	18.3	15.3	16.8
350.0	38.2	39.8	42	36.1	-	37	34.1	-	16.9	13.9	16.3
400.0	41.3	43.0	41	35.3	-	36	33.3	-	15.8	12.8	15.9
500.0	47.0	48.9	40	33.8	-	35	31.8	-	13.8	10.8	15.2
550.0	49.7	51.8	39	33.2	-	34	31.2	-	-	-	14.9

VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY

MOHAWK
Cabling Excellence for Open Architecture

9 Mohawk Drive, Leominster, MA 01453
(978) 537-9961 • 1-800-422-9961 • FAX (978) 537-4358
info@mohawk-cable.com www.mohawk-cable.com