



MegaLAN™

4 Pair #24 AWG UTP Category 5E+ Cable

DESCRIPTION

ENHANCED UNSHIELDED TWISTED PAIR (UTP) MEGALAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER TIA/EIA 568-B. THE CABLE EXCEEDS CATEGORY 5e ELECTRICAL CHARACTERISTICS AND IS TESTED TO 400 MHz. THE CABLE CONSISTS OF #24 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 NOS. 5424491 & 5563377 (PL).

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 UL (USA) & cUL (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 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.

THIS CABLE COMPLIES WITH THE EU-RoHS DIRECTIVE 2002/95/EC (RESTRICTIONS ON HAZARDOUS SUBSTANCES) REGULATIONS.

SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, ATM UP TO 155 Mbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 622 Mbps & 1.2 Gbps.

INDUSTRY APPROVALS

STANDARDS: EXCEEDS TIA/EIA 568-B.2 CAT 5e & ISO/IEC 11801 CAT 5 HORIZONTAL CABLE

LISTINGS: PL: UL/cUL TYPE CMP
NP: c(ETL)us TYPE CMR

PERFORMANCE: ETL VERIFIED TO TIA/EIA 568-B.2 CAT 5e

CONSTRUCTION

PRIMARIES: CONDUCTOR: 24 AWG (.5 mm) 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: .190" (4.8 mm)
NP: .190" (4.8 mm)

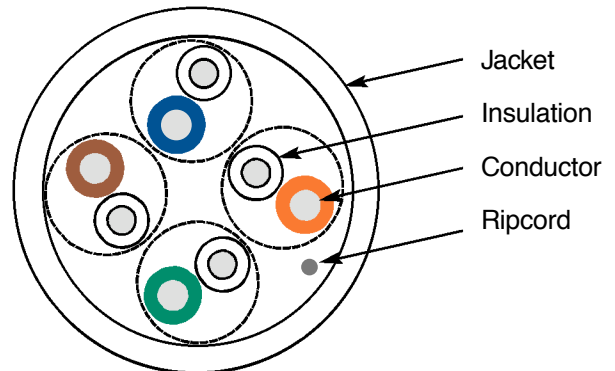


TABLE 1

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
M55988	WHITE	M55989	WHITE
M56168	BLUE	M56167	BLUE
M56092	PINK	M56094	PINK
M56093	YELLOW	M56095	YELLOW
M56882	GRAY	M56165	GREEN
M56166	GREEN	M57048	VIOLET
M56072	RED	M56954	ORANGE
M56876	ORANGE	M56670	RED
M56877	BLACK	M57129	BLACK
M56878	VIOLET	M56746	GRAY

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL: 24 lbs/1000ft (36 kg/km)
NP: 20 lbs/1000ft (30 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 +60°C (-4°F to +140°F)

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

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Cabling Excellence for Open Architecture



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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

CONDUCTOR DCR:	8.9 Ω /100m (27.1 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 $\Omega \pm 15\%$ (1-400 MHz)
INPUT IMPEDANCE:	100 $\Omega \pm 15\%$ (1-100 MHz) 100 $\Omega \pm 22\%$ (>100-200 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: (ATTENUATION) $1.97 f + .013 f + \frac{.050}{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): 40.3 - 15 $\log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 38.3 - 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/100m MIN

PROPAGATION DELAY: 506 + 36 / f ns/100m MAX

DELTA DELAY (SKEW): 25 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): 72% PLENUM
68% NON-PLENUM

WHERE f = FREQUENCY IN MHz from .772 to 350 MHz, except for ELFEXT and PS-ELFEXT from 1 to 250 MHz.

TABLE 3

REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m) (dB/mft)			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	max	avg	min	min	avg	min	min	min	min	min
.772	1.6	1.8	5.5	82	72.0	72.2	75	70.0	68.2	-	-	-
1.0	1.8	2.0	6.2	80	70.3	70.3	73	68.3	66.3	67.8	64.8	20.0
4.0	3.6	4.0	12.2	70	61.3	59.3	63	59.3	55.3	55.8	52.8	23.0
8.0	5.2	5.7	17.4	66	56.8	53.1	59	54.8	49.1	49.7	46.7	24.5
10.0	5.8	6.4	19.4	64	55.3	50.9	58	53.3	46.9	47.8	44.8	25.0
16.0	7.3	8.1	24.7	62	52.2	46.1	56	50.2	42.1	43.7	40.7	25.0
20.0	8.3	9.1	27.7	60	50.8	43.7	54	48.8	39.7	41.8	38.8	25.0
25.0	9.3	10.2	31.0	59	49.3	41.1	52	47.3	37.1	39.8	36.8	24.3
31.25	10.4	11.4	34.8	58	47.9	38.5	51	45.9	34.5	37.9	34.9	23.6
62.5	15.1	16.4	50	54	43.4	29.0	47	41.4	25.0	31.9	28.9	21.5
100.0	19.6	21.0	64	50	40.3	21.3	43	38.3	17.3	27.8	24.8	20.1
155.0	25.0	26.6	81	48	37.4	12.9	41	35.4	8.9	24.0	21.0	18.8
200.0	28.8	30.5	93	46	35.8	7.3	40	33.8	3.3	21.8	18.8	18.0
250.0	32.8	34.4	105	45	34.3	1.9	38	32.3	-	19.8	16.8	17.3
300.0	36.5	38.0	116	44	33.1	-	37	31.1	-	18.3	15.3	16.8
350.0	40.0	41.4	126	43	32.1	-	36	30.1	-	16.9	13.9	16.3
400.0	43.2	44.6	136	42	31.3	-	35	29.3	-	-	-	15.9

VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.

Mohawk reserves the right to change specification in the interest of product enhancement.