MASTER SPECIFICATION

MegaLAN® F/UTP CABLE

4 PAIR #24 AWG CAT 5E PLENUM

Design Number:
HT42470

DESCRIPTION

SCREENED TWISTED PAIR (F/UTP) MEGALAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C. 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 AN OVERALL FOIL SHIELD AND DRAIN, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0.

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 UL (USA) & cUL (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), 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.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 24 AWG (.5 mm) SOLID BARE COPPER
INSULATION: ALL FEP

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER

COLOR CODE: SEE TABLE 1

BARRIER: OVERALL POLYESTER TAPE, 25% OVERLAP

DRAIN: #24 AWG SOLID TINNED COPPER

SCREEN (SHIELD): OVERALL ALUMINUM/POLYESTER TAPE, ALUM SIDE FACING IN, 25% OVERLAP, 100% COVERAGE

JACKET: NO LEAD PLENUM RATED THERMOPLASTIC
NOMINAL CABLE OD: .235" (5.97 mm)

LISTING: C(UL)US OR C(ETL)US TYPE CMP
UL OR ETL VERIFIED CAT 5e

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 34 lbs/1000ft (51 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)

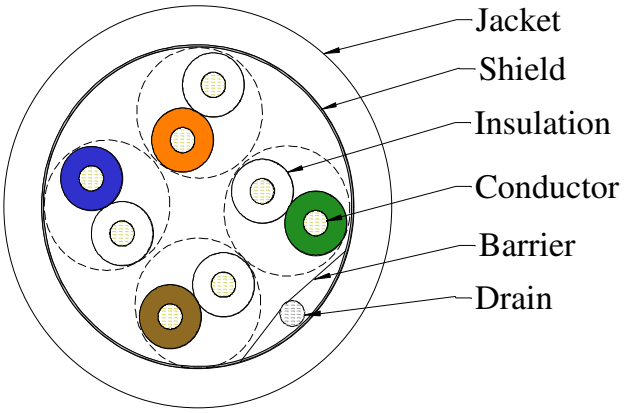


TABLE 1

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
M55986	HT32081	WHITE
M57360	HT42473	BLUE
M57322	HT42218	PINK
M57361	HT42474	YELLOW
M57362	HT42475	GRAY
M57363	HT42476	GREEN
M57364	HT42477	RED
M57365	HT42478	ORANGE
M57366	HT42479	BLACK
M57367	HT42480	VIOLET
M57368	HT42481	LT. GRAY

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

RoHS

MOHAWK
Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
T	UPDATE ELECTRICALS	03/16/10	JS
U	UPD HDR/FTR, DESC, STDS, ELECS; ADD SWEEP	05/16/14	JS
V	UPDATE DIA, WGT, TABLE 3	01/26/16	JS
W	UPDATE FOOTER	02/20/17	JS

Date: 06/02/98 Page 1 of 2

Orig: Review:

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Mohawk reserves the right to change any specification in the interest of product enhancement.
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 5e & ISO/IEC 11801:2002 CAT 5 HORIZONTAL CABLE

CONDUCTOR DCR: 8.9 Ω/100m (27.1 Ω/Mft) MAX

DCR UNBALANCE: 3% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 66 pF/100m MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 15% (1-400 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
100 Ω ± 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: $1.967\sqrt{f} + .023f + \frac{.050}{\sqrt{f}}$ 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: $534 + 36/\sqrt{f}$ ns/100m MAX

DELTA DELAY (SKEW): 30 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): 72%

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	1.6	1.8	82	72.0	70.2	75	70.0	68.2	–	–	–
1.0	1.8	2.0	80	70.3	68.3	73	68.3	66.3	67.8	64.8	20.0
4.0	3.8	4.1	70	61.3	57.2	63	59.3	55.2	55.8	52.8	23.0
8.0	5.4	5.8	66	56.8	51.0	59	54.8	49.0	49.7	46.7	24.5
10.0	6.0	6.5	64	55.3	48.8	58	53.3	46.8	47.8	44.8	25.0
16.0	7.6	8.2	62	52.2	44.0	56	50.2	42.0	43.7	40.7	25.0
20.0	8.6	9.3	60	50.8	41.5	54	48.8	39.5	41.8	38.8	25.0
25.0	9.7	10.4	59	49.3	38.9	52	47.3	36.9	39.8	36.8	24.3
31.25	10.9	11.7	58	47.9	36.2	51	45.9	34.2	37.9	34.9	23.6
62.5	15.8	17.0	54	43.4	26.4	47	41.4	24.4	31.9	28.9	21.5
100.0	20.5	22.0	50	40.3	18.3	43	38.3	16.3	27.8	24.8	20.1
155.0	26.2	28.1	48	37.4	9.4	41	35.4	7.4	24.0	21.0	18.8
200.0	30.2	32.4	46	35.8	3.4	40	33.8	1.4	21.8	18.8	18.0
250.0	34.8	36.9	45	34.3	–	38	32.3	–	19.8	16.8	17.3
300.0	38.5	41.0	44	33.1	–	37	31.1	–	18.3	15.3	16.8
350.0	42.0	44.9	43	32.1	–	36	30.1	–	16.9	13.9	16.3
400.0	45.2	48.5	42	31.3	–	35	29.3	–	15.8	12.8	15.9

SWEEP TESTED TO 400 MHz; VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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