

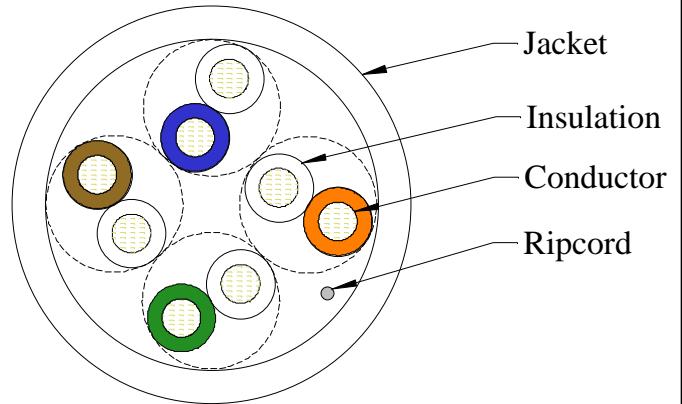
MASTER SPECIFICATION
6 LAN™ CABLE
4 PAIR #23 AWG UTP CATEGORY 6 NON-PLENUM

Design Number:
LT49443

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) 6 LAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801 ed 2.2 (2011) CLASS E. THE CABLE MEETS ANSI/TIA-568-C.2 & 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 RIPCORD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL OR BOX.

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 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 802.3 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 & 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

JACKET:

NO LEAD FLAME RETARDANT THERMOPLASTIC
 JACKET COLOR: SEE TABLE 2
 NOMINAL CABLE OD: .216" (5.49 mm)

LISTINGS:

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

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 24 lbs/1000ft (36 kg/km)

BENDING RADIUS: 1" (25 mm) MssIN (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
M58291	LT49444	WHITE
M58292	LT49445	BLUE
M58293	LT49446	PINK
M58294	LT49447	YELLOW
M58295	LT49448	GRAY
M58296	LT49449	GREEN
M58297	LT49450	RED
M58298	LT49451	ORANGE
M58299	LT49452	BLACK
M58300	LT49453	VIOLET
M59135	LT57866	BROWN
M59189	LT57958	LIME GREEN

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



MOHAWK
 Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
AB	ADD LIME GREEN JKT OPTION; UPD PATENT NOTE	04/09/15	JS
AC	UPDATE DIAMETER & ELECS; DELETE PATENT INFO	12/10/15	JS
AD	UPDATE FOOTER	01/27/17	JS
AE	UPD DESC, APPS, TEMPS, STDS	07/06/17	JS
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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

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

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

DCR UNBALANCE: 5% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 66 pF/100m 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 log₁₀(f) dB MIN (1-10 MHz)
 25 dB MIN (>10-20 MHz)
 25 - 7 log₁₀(f/20) dB MIN (>20 MHz)

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

NEAR END CROSSTALK (NEXT): 44.3 - 15 log₁₀(f/100) dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 42.3 - 15 log₁₀(f/100) dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 27.8 - 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 24.8 - 20 log₁₀(f/100) dB/100m MIN

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

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

NOMINAL VELOCITY OF PROPAGATION (NVP): 68%

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	16.3	42	39.4	14.3	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	0.7	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	--	13.0	10.0	14.9

SWEEP TESTED TO 550 MHZ; VALUES ABOVE 250 MHZ ARE FOR ENGINEERING INFORMATION ONLY.



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