



5e LAN™

4 Pair #24 AWG UTP Category 5e Cable

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) CATEGORY 5e CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS AS DESCRIBED IN ANSI/TIA/EIA 568-B. 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 (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.

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. REFERENCED ELECTRICALS ARE SWEEP TESTED TO 100MHz.

INDUSTRY APPROVALS

STANDARDS: TIA/EIA 568-B.2 CAT 5e HORIZONTAL CABLE

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

PERFORMANCE: ETL VERIFIED TO TIA/EIA 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 – .180" (4.57 mm)
NP – .183" (4.65 mm)

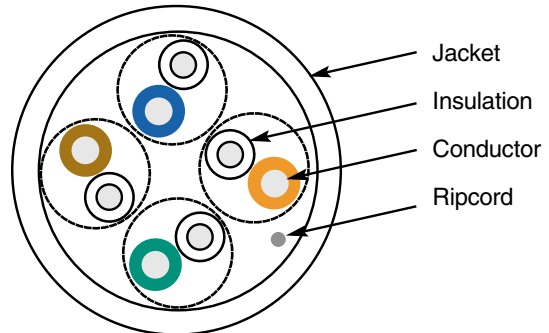


TABLE 1

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
M57545	GRAY	M57552	DEC 068 GRAY
M57546	BLUE	M57553	BLUE
M57547	WHITE	M57554	WHITE
M57548	PINK	M57555	PINK
M57550	YELLOW	M57556	YELLOW
M57551	LIME GREEN	M57557	GREEN
M57723	BROWN	M58007	VIOLET
M57761	VIOLET	M58008	RED
M57887	RED	M58009	ORANGE
M57924	ORANGE	M58010	BLACK
M57936	BLACK	M58234	LIME GREEN
M58069	KELLEY GREEN	M58312	DK. BROWN

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL: 23 lbs/1000ft (34 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.: PL: -20°C to +60°C (-4°F to +140°F)
NP: -34°C to +60°C (-30°F to +140°F)

STORAGE TEMP.: PL: -20°C to +75°C (-4°F to +167°F)
NP: -34°C to +75°C (-30°F to +167°F)

INSTALLATION TEMP.: PL: 0°C to +60°C (+32°F to +140°F)
NP: -20°C to +60°C (-4°F to +140°F)

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

PL = PLENUM
NP = NON-PLENUM

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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

CONDUCTOR DCR:	9.38 Ω/100m (28.6 ΩMft) MAX
DCR UNBALANCE:	5% MAX
MUTUAL CAPACITANCE:	46 pF/m (14 pF/ft) NOM
CAPACITANCE UNBALANCE PAIR/GROUND:	132 pF/100m (400 pF/Mft) MAX
CHARACTERISTIC IMPEDANCE:	100 Ω ± 15% (1-100 MHz)
INPUT IMPEDANCE:	100 Ω ± 15% (1-100 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)	$1.967\sqrt{f} + .023f + \frac{.050}{\sqrt{f}}$ dB/100m MAX
NEAR END CROSSTALK (NEXT):	36.3 - 15 log ₁₀ (f/100) dB/100m MIN
POWER SUM NEAR END CROSSTALK (PS-NEXT):	32.3 - 15 log ₁₀ (f/100) dB/100m MIN
EQUAL LEVEL FAR END CROSSTALK (ELFEXT):	23.8 - 20 log ₁₀ (f/100) dB/100m MIN
POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT):	20.8 - 20 log ₁₀ (f/100) dB/100m MIN
PROPAGATION DELAY:	534 + 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 100 MHz.

TABLE 3

REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	ATTENUATION (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	max	avg	min	min	avg	min	min	min	min	min
.772	1.6	1.8	5.5	79	68.0	66.2	70	64.0	62.2	-	-	-
1.0	1.8	2.0	6.3	77	66.3	64.3	68	62.3	60.3	63.8	60.8	20.0
4.0	3.8	4.1	13	68	57.3	53.2	57	53.3	49.2	51.7	48.7	23.0
8.0	5.4	5.8	18	64	52.8	47.0	54	48.8	43.0	45.7	42.7	24.5
10.0	6.0	6.5	20	62	51.3	44.8	52	47.3	40.8	43.8	40.8	25.0
16.0	7.6	8.2	25	60	48.3	40.1	50	44.3	36.1	39.7	36.7	25.0
20.0	8.6	9.3	28	58	46.8	37.5	48	42.8	33.5	37.7	34.7	25.5
25.0	9.7	10.4	32	57	45.3	34.9	47	41.3	30.9	35.8	32.8	24.3
31.25	10.9	11.7	36	56	43.9	32.2	46	39.9	28.2	33.9	30.9	23.6
62.5	15.8	17.0	52	52	39.4	22.4	42	35.4	18.4	27.8	24.8	21.5
100.0	20.5	22.0	67	48	36.3	14.3	38	32.3	10.3	23.8	20.8	20.1

*ACR - MINIMUM ATTENUATION TO CROSSTALK RATIO

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



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