

5e PowerSum

25 Pair #24 AWG UTP Category 5e Cable

PLENUM PART # M58142

NON-PLENUM PART # M58141

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) CATEGORY 5e CABLE FOR USE IN BACKBONE CABLING SYSTEMS AS DESCRIBED IN ANSI/TIA/EIA 568-B. THE CABLE CONSISTS OF #24 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO 25 TIGHTLY TWISTED PAIRS, WITH A RIPCORD, UNDER AN OVERALL JACKET. THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY PATENT NOS. 5821466 & 5424491.

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 OR FT-6 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 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.

THESE CABLES COMPLY 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.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 24 AWG (.5 mm) SOLID BARE COPPER
INSULATION:
PL – FEP
NP – FLAME RETARDANT POLYOLEFIN

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 25 PAIRS CABLED TOGETHER WITH FILLERS

JACKET: PL – GRAY FEP
NOMINAL OD: .430" (10.92 mm)

NP – GRAY NO LEAD FLAME
RETARDANT THERMOPLASTIC
NOMINAL OD: .470" (11.94 mm)

LISTING: PL – UL/cUL TYPE CMP
NP – UL/cUL TYPE CMR
ETL VERIFIED TO TIA/EIA CAT 5e BACKBONE

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL – 137 lbs/1000ft (204 kg/km)
NP – 119 lbs/1000ft (177 kg/km)

BENDING RADIUS: PL – 4.3" (109 mm) MIN (10 x CABLE OD)
NP – 4.7" (119 mm) MIN (10 x CABLE OD)

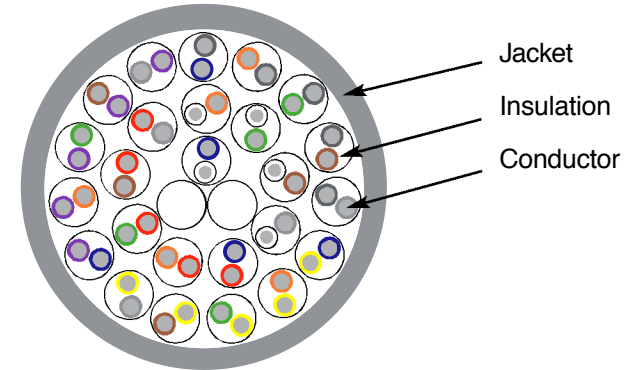


TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
1	WHITE-BLUE	BLUE-WHITE
2	WHITE-ORANGE	ORANGE-WHITE
3	WHITE-GREEN	GREEN-WHITE
4	WHITE-BROWN	BROWN-WHITE
5	WHITE-GRAY	GRAY-WHITE
6	RED-BLUE	BLUE-RED
7	RED-ORANGE	ORANGE-RED
8	RED-GREEN	GREEN-RED
9	RED-BROWN	BROWN-RED
10	RED-GRAY	GRAY-RED
11	BLACK-BLUE	BLUE-BLACK
12	BLACK-ORANGE	ORANGE-BLACK
13	BLACK-GREEN	GREEN-BLACK
14	BLACK-BROWN	BROWN-BLACK
15	BLACK-GRAY	GRAY-BLACK
16	YELLOW-BLUE	BLUE-YELLOW
17	YELLOW-ORANGE	ORANGE-YELLOW
18	YELLOW-GREEN	GREEN-YELLOW
19	YELLOW-BROWN	BROWN-YELLOW
20	YELLOW-GRAY	GRAY-YELLOW
21	PURPLE-BLUE	BLUE-PURPLE
22	PURPLE-ORANGE	ORANGE-PURPLE
23	PURPLE-GREEN	GREEN-PURPLE
24	PURPLE-BROWN	BROWN-PURPLE
25	PURPLE-GRAY	GRAY-PURPLE

PULLING TENSION: 150 lbf (660N) MAX

**OPERATING
TEMPERATURE:** -20°C to +60°C (-4°F to +140°F)

PL = PLENUM
NP = NON-PLENUM

MOHAWK
Cabling Excellence for Open Architecture



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ELECTRICAL CHARACTERISTICS (SEE TABLE 2)

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

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

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

CAPACITANCE UNBALANCE

PAIR/GROUND: 330 pF/100m (1000 pF/Mft) MAX

CHARACTERISTIC

IMPEDANCE: 100 $\Omega \pm 15\%$ (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: $1.967 f + .023 f + \frac{.050}{f}$ dB/100m MAX

POWER SUM NEAR END CROSSTALK

(PS-NEXT): 32.3 - 15 $\log_{10}(f/100)$ 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): 45 ns/100m MAX

NOMINAL VELOCITY OF 72% PLENUM

PROPAGATION (NVP): 68% NON-PLENUM

WHERE f = FREQUENCY IN MHz from .772 to 100 MHz

TABLE 2
REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS			PS-NEXT		PS-ACR*	PS-ELFEXT	RL
	(dB/100m)	(dB/1000ft)	(dB/1000ft)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB)
	avg	max	max	avg	min	min	min	min
.772	1.5	1.8	5.5	70	64.0	62.2	-	-
1.0	1.9	2.0	6.3	68	62.3	60.3	60.8	20.0
4.0	3.8	4.1	13	57	53.3	49.2	48.7	23.0
8.0	5.4	5.8	18	54	48.8	43.0	42.7	24.5
10.0	6.1	6.5	20	52	47.3	40.8	40.8	25.0
16.0	7.8	8.2	25	50	44.3	36.1	36.7	25.0
20.0	8.8	9.3	28	48	42.8	33.5	34.7	25.0
25.0	9.9	10.4	32	47	41.3	30.9	32.8	24.3
31.25	11.1	11.7	36	46	39.9	28.2	30.9	23.6
62.5	16.0	17.0	52	42	35.4	18.4	24.8	21.5
100.0	20.5	22.0	67	38	32.3	10.3	20.8	20.1

*ACR - ATTENUATION TO CROSSTALK RATIO

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

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