

GigaLAN™

4 Pair #23 AWG UTP Category 6e+ Cable

DESCRIPTION

ENHANCED UNSHIELDED TWISTED PAIR (UTP) GIGALAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER TIA/EIA 568-B AND ISO/IEC 11801 CLASS E. THE CABLE EXCEEDS TIA/EIA 568-B.2-1 AND ISO/IEC 11801 CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB CORE SEPARATOR, WITH A RIPCORD, UNDER AND 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. 6596944, 6074503, 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 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 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), IEEE 802.3af POWER OVER ETHERNET FOR VoIP, 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, 2.4 AND 4.8 Gbps.

INDUSTRY APPROVALS

STANDARDS: EXCEEDS TIA/EIA 568-B.2-1 CAT 6 & ISO/IEC 11801:2002 CAT 6 HORIZONTAL CABLE

LISTINGS: PL: UL/cUL TYPE CMP
NP: UL/cUL TYPE CMR

PERFORMANCE: ETL VERIFIED TO TIA/EIA 568-B.2-1 CAT 6

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 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 WITH A FLEXWEB CORE SEPARATOR

JACKET: PL: NO LEAD PLENUM RATED THERMOPLASTIC
NP: NO LEAD FLAME RETARDANT THERMOPLASTIC

JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: PL: .244" (6.2 mm)
NP: .247" (6.3 mm)

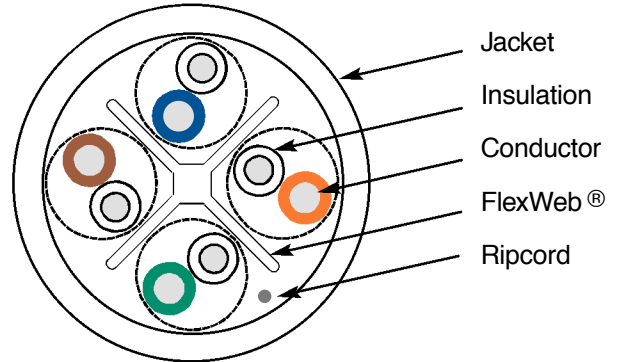


TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
	1	WHITE-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
M57413	WHITE	M57418	WHITE
M57414	BLUE	M57419	BLUE
M57415	YELLOW	M57420	YELLOW
M57416	GREEN	M57421	GREEN
M57417	GRAY	M57422	GRAY
M57620	RED	M57621	RED
M57750	PINK	M57867	PINK
M57860	VIOLET	M57870	VIOLET
M57861	ORANGE	M57868	ORANGE
M57866	BLACK	M57869	BLACK

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL: 37 lbs/1000ft (55 kg/km)
NP: 34 lbs/1000ft (51 kg/km)

BENDING RADIUS: 1" (25 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:	6.6 Ω/100m (20.0 Ω/Mft) MAX
DCR UNBALANCE:	3% MAX
MUTUAL CAPACITANCE:	46 pF/m (14 pF/ft) NOM
CAPACITANCE UNBALANCE PAIR/GROUND:	33 pF/100m (100 pF/Mft) MAX
CHARACTERISTIC IMPEDANCE:	100 Ω ± 7% (10-550 MHz)
INPUT IMPEDANCE:	100 Ω ± 12% (1-100 MHz) 100 Ω ± 15% (>100-350 MHz) 100 Ω ± 22% (>350 MHz)
RETURN LOSS (RL):	22 + 7 log ₁₀ (f) dB MIN (1-10 MHz) 27 dB MIN (>10-20 MHz) 27 - 5.58 log ₁₀ (f/20) dB MIN (>20 MHz)

INSERTION LOSS: (ATTENUATION) 1.68 f + .012 f + .20 / f dB/100m MAX

NEAR END CROSSTALK (NEXT): 51.3 - 15 log₁₀(f/100) dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 49.3 - 15 log₁₀(f/100) dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 34.8 - 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 32.8 - 20 log₁₀(f/100) dB/100m MIN

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

DELTA DELAY (SKEW): 30 ns/100m MAX (10-500 MHz)

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

WHERE f = FREQUENCY IN MHz from .772 to 500 MHz, except for DELAY, ELFEXT and PS-ELFEXT from 1 to 500 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)	DELAY (ns/100m)
	avg	max	avg	min	min	avg	min	min	min	min	min	max
.772	1.6	1.7	93	83.0	81.3	86	81.0	79.3	-	-	-	-
1.0	1.8	1.9	91	81.3	79.4	84	79.3	77.4	74.8	72.8	20.0	542.0
4.0	3.3	3.5	82	72.3	68.8	75	70.3	66.8	62.8	60.8	24.2	524.0
8.0	4.7	4.9	78	67.8	62.9	71	65.8	60.0	56.7	54.7	26.3	518.7
10.0	5.2	5.5	76	66.3	60.8	69	64.3	58.8	54.8	52.8	27.0	517.4
16.0	6.7	7.0	73	63.2	56.2	66	61.2	54.2	50.7	48.7	27.0	515.0
20.0	7.4	7.8	72	61.8	54.0	65	59.8	52.0	48.8	46.8	27.0	514.0
25.0	8.3	8.7	70	60.3	51.6	63	58.3	49.6	46.8	44.8	26.5	513.2
31.25	9.3	9.8	69	58.9	49.1	62	56.9	47.1	44.9	42.9	25.9	512.4
62.5	13.4	14.1	64	54.4	40.3	57	52.4	38.3	38.9	36.9	24.2	510.6
100.0	17.1	18.0	61	51.3	33.3	54	49.3	31.3	34.8	32.8	23.1	509.6
155.0	21.7	22.8	58	48.4	25.6	51	46.4	23.6	31.0	29.0	22.0	508.9
200.0	24.9	26.2	57	46.8	20.6	50	44.8	18.6	28.8	26.8	21.4	508.5
250.0	28.1	29.6	55	45.3	15.7	48	43.3	13.7	26.8	24.8	20.9	508.3
300.0	31.1	32.7	54	44.1	11.4	47	42.1	9.4	25.3	23.3	20.4	508.1
350.0	33.8	35.6	53	43.1	7.5	46	41.1	5.5	23.9	21.9	20.1	507.9
400.0	36.5	38.4	52	42.3	3.9	45	40.3	1.9	22.8	20.8	19.7	507.8
500.0	41.4	43.6	51	40.8	-	44	38.8	-	20.8	18.8	19.2	507.6
550.0	43.7	46.0	50	40.2	-	43	38.2	-	-	-	19.0	--
600.0	46.0	48.4	50	39.6	-	43	37.6	-	-	-	18.8	-
650.0	48.1	50.6	49	39.1	-	42	37.1	-	-	-	18.6	-
750.0	52.3	55.0	48	38.2	-	41	36.2	-	-	-	18.2	-

VALUES ABOVE 500 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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