



GigaLAN10®

4 Pair #23 AWG UTP
Augmented Category 6

**NOW! With
Reduced O.D.** GigaLAN 10 GbE

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) GIGALAN 10 CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER DRAFT TIA 568-B.2-10 AND DRAFT ISO/IEC 11801 CLASS EA. THE CABLE EXCEEDS DRAFT TIA 568-B.2-10 AND DRAFT ISO/IEC 11801 CATEGORY 6A ELECTRICAL CHARACTERISTICS. THIS PATENTED CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A NEW FLEXWEB® CORE SEPARATOR, WITH A RIPCORD, UNDER A JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL. THIS PRODUCT AND/OR ITS MANUFACTURE IS COVERED BY US PATENT NOS. 7135641, 6596944, 6074503, 5424491 AND PATENTS PENDING.

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 (FT6 OR PREVIOUSLY 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 NATIONAL ELECTRICAL CODE (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.

THIS CABLE COMPLIES WITH THE EU-RoHS DIRECTIVE 2002/95/EC (RESTRICTIONS ON HAZARDOUS SUBSTANCES) REGULATIONS.

SUPPORTED APPLICATIONS

IEEE 802.3an 10GBASE-T (10 GIGABIT ETHERNET), 1000BASE-T (GIGABIT ETHERNET), 100BASE-T (FAST ETHERNET), AND IEEE 802.3 10BASE-T (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 1.2 Gbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 2.4 AND 4.8 Gbps.

INDUSTRY APPROVALS

STANDARDS: EXCEEDS DRAFT TIA 568-B.2-10 CAT 6A, DRAFT ISO/IEC 11801:2002 AMEND 1 CAT 6A & DRAFT IEC 61156-5 CAT 6A HORIZONTAL CABLE

SAFETY: PL: C(UL)US TYPE CMP
NP: C(UL)US TYPE CMR (PENDING)

PERFORMANCE: ETL VERIFIED TO DRAFT TIA CAT 6A

CONSTRUCTION

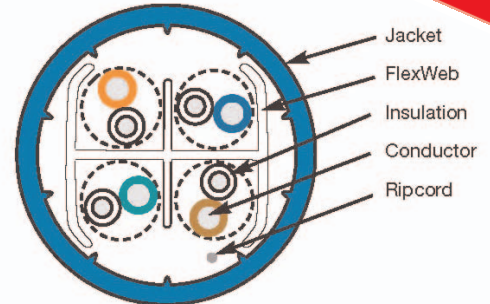
PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER
PL: INSULATION: FEP
NP: THERMOPLASTIC POLYOLEFIN

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: .295" (7.49 mm)



(not to scale)

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

PART NUMBER	JACKET COLOR
M58646	BLUE
M58647	WHITE
M58648	YELLOW
M58649	GRAY
M58682	PINK
M58683	GREEN
M58684	RED
M58685	ORANGE
M58686	BLACK
M58687	VIOLET

NON-PLENUM

PART NUMBER	JACKET COLOR
M58650	BLUE
M58651	WHITE
M58652	YELLOW
M58653	GRAY
M58688	PINK
M58689	GREEN
M58690	RED
M58691	ORANGE
M58692	BLACK
M58693	VIOLET

PHYSICAL CHARACTERISTICS

CABLE WEIGHT: PL: 50 lbs/1000ft (74 kg/km)
NP: 45 lbs/1000ft (67 kg/km) (CALCULATED)

BENDING RADIUS: PL: 1.25" (32mm) MIN (4 X CABLE OD)
NP: 1.25" (32mm) 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

MOHAWK
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 $\Omega \pm 7\%$ (10-550 MHz)
INPUT IMPEDANCE:	100 $\Omega \pm 10\%$ (1-100 MHz) 100 $\Omega \pm 15\%$ (>100-350 MHz) 100 $\Omega \pm 22\%$ (>350 MHz)
RETURN LOSS (RL):	20 + 7 $\log_{10}(f)$ dB MIN (1-10 MHz) 27 dB MIN (>10-20 MHz) 27 - 7 $\log_{10}(f/20)$ dB MIN (>20 MHz)
INSERTION LOSS: (ATTENUATION)	1.80 $\sqrt{f} + .010f + .20/\sqrt{f}$ dB/100m MAX
NEAR END CROSSTALK (NEXT):	45.3 - 15 $\log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END

CROSSTALK (PS NEXT): 43.3 - 15 $\log_{10}(f/100)$ dB/100m MIN

ATTENUATION TO CROSSTALK

RATIO FAR END (ACRF): 30.8 - 20 $\log_{10}(f/100)$ dB/100m MIN

POWER SUM ATTENUATION TO CROSSTALK

RATIO FAR END (PS ACRF): 28.8 - 20 $\log_{10}(f/100)$ dB/100 MIN

POWER SUM ALIEN NEAR END

CROSSTALK (PS ANEXT): 62.5 - 15 $\log_{10}(f/100)$ dB/100 MIN
67 dB MIN

POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO

FAR END (PS AACRF): 38.2 - 20 $\log_{10}(f/100)$ dBm/100m MIN
67 dB MIN

PROPAGATION DELAY: 534 + 36 / $\sqrt{f}$ ns/100m MAX

PROPAGATION DELAY SKEW: 35 ns/100m MAX

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

NOTE: Attenuation To Crosstalk Ratio Far End (ACRF) was previously referred to as Equal Level Far End Crosstalk (ELFEXT).

WHERE f = FREQUENCY IN MHz from 1 to 500 MHz.

TABLE 3
REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)	NEXT (dB/100m)	PS NEXT (dB/100m)	ACRF (dB/100m)	PS ACRF (dB/100m)	RETURN LOSS (dB/100m)	PROP. DELAY (ns/100m)	ALIEN CROSSTALK	
	max	min	min	min	min	min	max	PS ANEXT (dB/100m)	PS AACRF (dB/100m)
.772	1.8	77.0	75.0	-	-	-	-	-	-
1.0	2.0	75.3	73.3	70.8	68.8	20.0	570.0	67.0	67.0
4.0	3.7	66.3	64.3	58.8	56.8	24.2	552.0	67.0	66.2
8.0	5.2	61.8	59.8	52.7	50.7	26.3	546.7	67.0	60.1
10.0	5.9	60.3	58.3	50.8	48.8	27.0	545.4	67.0	58.2
16.0	7.4	57.2	55.2	46.7	44.7	27.0	543.0	67.0	54.1
20.0	8.3	55.8	53.8	44.8	42.8	27.0	542.0	67.0	52.2
25.0	9.3	54.3	52.3	42.8	40.8	26.3	541.2	67.0	50.2
31.25	10.4	52.9	50.9	40.9	38.9	25.6	540.4	67.0	48.3
62.5	14.9	48.4	46.4	34.9	32.9	23.5	538.6	65.6	42.3
100.0	19.0	45.3	43.3	30.8	28.8	22.1	537.6	62.5	38.2
155.0	24.0	42.4	40.4	27.0	25.0	20.8	536.9	59.6	34.4
200.0	27.5	40.8	38.8	24.8	22.8	20.0	536.5	58.0	32.2
250.0	31.0	39.3	37.3	22.8	20.8	19.3	536.3	56.5	30.2
300.0	34.2	38.1	36.1	21.3	19.3	18.8	536.1	55.3	28.7
350.0	37.2	37.1	35.1	19.9	17.9	18.3	535.9	54.3	27.3
400.0	40.0	36.3	34.3	18.8	16.8	17.9	535.8	53.5	26.2
500.0	45.3	34.8	32.8	16.8	14.8	17.2	535.6	52.0	24.2
550.0	47.7	34.2	32.2	-	-	16.9	-	-	-
600.0	50.1	33.6	31.6	-	-	16.7	-	-	-
650.0	52.4	33.1	31.1	-	-	16.4	-	-	-
750.0	56.8	32.2	30.2	-	-	16.0	-	-	-

VALUES ABOVE 500 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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