Augmented Cat 6 UTP GigaLAN 10®

Tested to 750 MHz

GigaLAN 10, the highest performance Augmented Category 6 cable, supports 10GBASE-T applications over a full 100-meter channel, exceeding the requirements of the current Draft of ANSI/TIA/EIA-568-B.2-10. IEEE 802.3an is looking beyond the present, specifying an operating range from 1-500 MHz.

GigaLAN 10's unique FlexWeb® combined with patented fluted jacket construction isolates the cable pairs and has outstanding pair-to-pair balance for superior headroom and reduced crosstalk.

- **25 Year Warranty***
- **Increase in power to 500 MHz due to lower insertion loss characteristics than Category 6**
- **Improvement in NEXT and ACRF vs. draft Category 6A** – 1 dB minimum for NEXT and 3 dB minimum for ACRF.
- **Application** – Support for 10 Gigabit Ethernet / 10GBASE-T / IEEE 802.3an; fully backwards compatible for 10BASE-T, 100BASE-T, and 1000BASE-T applications.
- **Power Sum Alien Crosstalk** – Power Sum Alien Crosstalk measures the impact of many aggressors on one victim pair. It is the sum of unwanted signal coupling of crosstalk noise from the external cabling pairs into a victim pair of a cable. In the illustration (see Figure 1), a bundle of 7 cables with 6 cables around a center cable is depicted. What is being measured is the noise coupling from the pairs in the outer ring of cables (aggressor pairs) to the pairs in the center cable (victim pair). Each pair of the aggressor cables contributes noise to each of the pairs in the victim cable. The total impact on the victim is determined using a power summation equation.

Figure 1

- This cable and/or its manufacture are covered by US Patent Nos. 6,596,944, 6,074,503, 5,424,491, 7,135,641 and patents pending.

* Warranty available with MAC and System MATE® programs.

Electrical Characteristics

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

CONDUCTOR DCR:
7.8 Ω/100m (23.8 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)

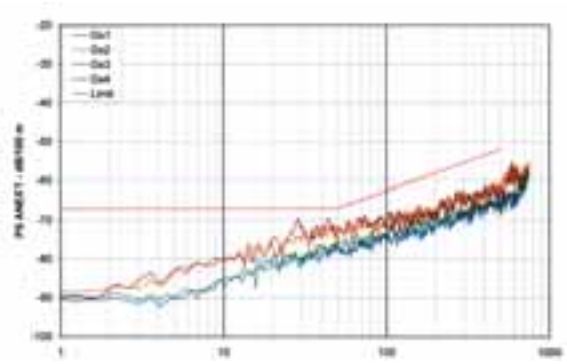
INPUT IMPEDANCE:
100 Ω ±10% (1-100 MHz)
100 Ω ±15% (>100-350 MHz)
100 Ω ±22% (>350 MHz)

PROPAGATION DELAY SKEW:
35 ns/100m MAX

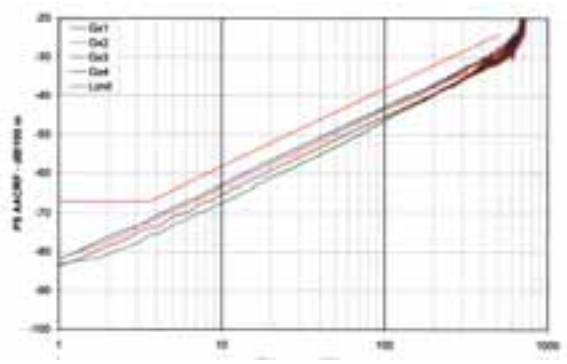
NOMINAL VELOCITY OF PROPAGATION (NVP):

PLENUM	72%
NON-PLENUM	68%

Power Sum Alien NEXT



Power Sum Alien ACRF

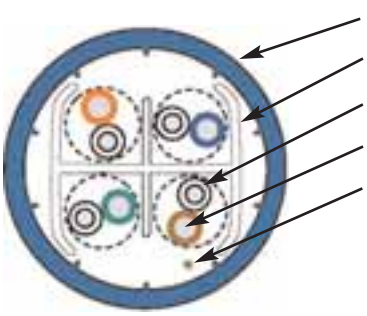


Safety listed to NEC (NFPA 70)

Verified by ETL to TIA/EIA-568-B.2-10

MOHAWK COPPER PRODUCTS

Now! with Reduced O.D.



Conduit & Cable Tray Fill Comparison Chart

	Old OD .320"	New OD .295"
1.5" conduit	9 cables	**10 cables**
2" conduit	15 cables	**18 cables**
3" conduit	35 cables	**41 cables**
4" conduit	62 cables	**73 cables**
12" cable tray*	447 cables	**562 cables**
24" cable tray*	955 cables	**1124 cables**
36" cable tray*	1432 cables	**1686 cables**

**4" deep cable tray*

FREQ (MHz)	INSERTION LOSS (dB/100m)	NEXT (dB/100m)	PS-NEXT (dB/100m)	ACRF (dB/100m)	PS-ACRF (dB/100m)	RETURN LOSS (dB)	PROP DELAY (ns/100m)	ALIEN CROSSTALK PS-ANEXT (dB/100m)	ALIEN CROSSTALK PS-AACRF (dB/100m)
	max	min	min	min	min	min	max	min	min
.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 Part No.	Cable Type	Dielectric Type	Jacket Type Diameter inch	Jacket Type Diameter mm	Weight lbs/M'	Weight kg/km	Listings
M58651 Non-Plenum	4 PAIR 23 AWG UTP	Thermoplastic	White PVC .295	7.49	45	67	C(UL)US CMR
M58647 Plenum	4 PAIR 23 AWG UTP	FEP	White ThermoPlen®* .295	7.49	50	74	C(UL)US CMP

*Plenum rated Thermoplastic. For pair colors see chart A on page 64.

Jacket Colors for 4-Pair Non-Plenum

Jacket Color	Mohawk #
WHITE	M58651
BLUE	M58650
YELLOW	M58652
GRAY	M58653

Jacket Colors for 4-Pair Plenum

Jacket Color	Mohawk #
WHITE	M58647
BLUE	M58646
YELLOW	M58648
GRAY	M58649

Custom colors available; please consult the factory.

Packaging Options

Put-Up	Package	Number Per Pallet	Pallet Size
1000 Ft.	20" Reels	20	42" x 42"

RoHS