

# Category 6 UTP 6 LAN™

## Tested to 550 MHz

ETL verified to TIA/EIA-568-B.2-1 Category 6.

- **25 Year Warranty\***
- **24 dB Minimum ACR @ 100 MHz** – Proven support for Gigabit Ethernet / 1000BASE-T / IEEE 802.3ab, ATM up to 155 Mbps, IEEE 802.3af Power Over Ethernet for VoIP, 100 Mbps Fast Ethernet / 100BASE-T / IEEE 802.3, ANSI.X3.263 FDDI TP-PMD, Ethernet / 10BASE-T / IEEE 802.3, 4 & 16 Mbps Token Ring / IEEE 802.5, T1/E1, xDSL, ISDN, 550 MHz Broadband Video and standards under development such as ATM at 622 Mbps, 1.2 and 2.4 Gbps.
- **With flat tape core separator** throughout the length of the cable.

- **9 dB Minimum** – Improvement in Near End Crosstalk vs. Category 5e NEXT.
- **Enhanced Performance Parameters** – All electrical characteristics proven to meet TIA/EIA 568-B.2-1 and ISO/IEC 11801 Category 6 requirements: NEXT and ELFEXT (Pair-to-Pair and Power Sum), Insertion Loss, Return Loss, and Delay Skew
- This cable and/or its manufacture is covered by US Patent Nos. 6,998,537, 6,570,095 and 5,424,491.

\* Warranty available with MAC and System MATE® programs.

## Electrical Characteristics

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

**CONDUCTOR DCR:**  
7.8  $\Omega$ /100m (23.8  $\Omega$ /Mft) MAX

**DCR UNBALANCE:**  
3% MAX

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

**CAPACITANCE UNBALANCE PAIR/GROUND:**  
66 pF/100m (200 pF/Mft) MAX

**CHARACTERISTIC IMPEDANCE:**  
100  $\Omega$   $\pm$  15% (1-250 MHz)

**INPUT IMPEDANCE:**  
100  $\Omega$   $\pm$  15% (1-100 MHz)  
100  $\Omega$   $\pm$  20% (>100-200 MHz)  
100  $\Omega$   $\pm$  25% (>200 MHz)

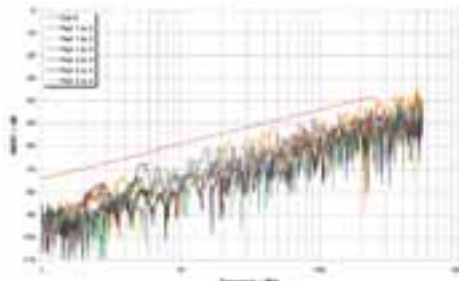
**PROPAGATION DELAY:**  
534 + 36/ $\sqrt{f}$  ns/100m MAX

**DELTA DELAY (SKEW):**  
45 ns/100m MAX

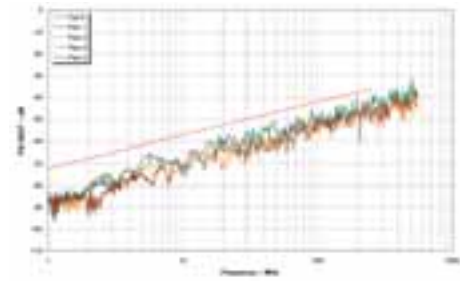
**NOMINAL VELOCITY OF PROPAGATION (NVP):**  
PLENUM 72%  
NON-PLENUM 68%

WHERE  $f$  = FREQUENCY IN MHZ  
from .772 to 250 MHz.

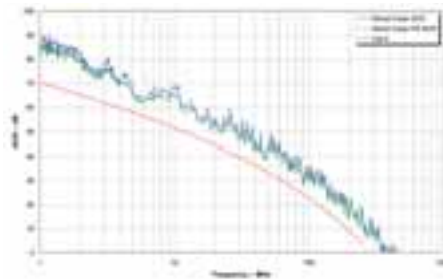
Near End Crosstalk (NEXT)



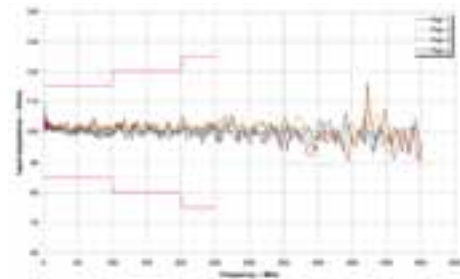
Power Sum NEXT (PS NEXT)



Worst Case ACR and Power Sum ACR



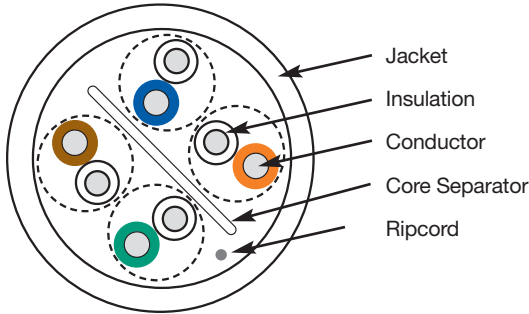
Input Impedance



Safety listed to NEC (NFPA 70)



Verified by ETL to TIA/EIA-568-B.2-1



Jacket Colors for 4-Pair Non-Plenum

Jacket Color	Mohawk #	Jacket Color	Mohawk #
WHITE	M58291	GREEN	M58296
BLUE	M58292	RED	M58297
PINK	M58293	ORANGE	M58298
YELLOW	M58294	BLACK	M58299
GRAY	M58295	VIOLET	M58300

Jacket Colors for 4-Pair Plenum

Jacket Color	Mohawk #	Jacket Color	Mohawk #
WHITE	M58280	GREEN	M58286
BLUE	M58281	RED	M58287
PINK	M58282	ORANGE	M58288
YELLOW	M58283	BLACK	M58289
GRAY	M58285	VIOLET	M58290

Custom colors available; please consult the factory.

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)
	avg	max	avg	min	min	avg	min	min	min	min	min
.772	1.7	1.8	82	76.0	74.2	77	74.0	72.2	-	-	-
1.0	1.9	2.0	80	74.3	72.3	75	72.3	70.3	67.8	64.8	20.0
4.0	3.6	3.8	71	65.3	61.5	66	63.3	59.5	55.8	52.8	23.0
8.0	5.1	5.3	67	60.8	55.5	62	58.8	53.5	49.7	46.7	24.5
10.0	5.7	6.0	65	59.3	53.3	60	57.3	51.3	47.8	44.8	25.0
16.0	7.3	7.6	62	56.2	48.6	57	54.2	46.6	43.7	40.7	25.0
20.0	8.1	8.5	61	54.8	46.3	56	52.8	44.3	41.8	38.8	25.0
25.0	9.1	9.5	59	53.3	43.8	54	51.3	41.8	39.8	36.8	24.3
31.25	10.2	10.7	58	51.9	41.2	53	49.9	39.2	37.9	34.9	23.6
62.5	14.8	15.4	53	47.4	32.0	48	45.4	30.0	31.9	28.9	21.5
100.0	19.0	19.8	50	44.3	24.5	45	42.3	22.5	27.8	24.8	20.1
155.0	24.2	25.2	47	41.4	16.2	42	39.4	14.2	24.0	21.0	18.8
200.0	27.8	29.0	46	39.8	10.8	41	37.8	8.8	21.8	18.8	18.0
250.0	31.5	32.8	44	38.3	5.5	39	36.3	3.5	19.8	16.8	17.3
300.0	35.0	36.4	43	37.1	0.7	38	35.1	-	18.3	15.3	16.8
350.0	38.2	39.8	42	36.1	-	37	34.1	-	16.9	13.9	16.3
400.0	41.3	43.0	41	35.3	-	36	33.3	-	15.8	12.8	15.9
500.0	47.0	48.9	40	33.8	-	35	31.8	-	13.8	10.8	15.2
550.0	49.7	51.8	39	33.2	-	34	31.2	-	-	-	14.9

Values above 250 MHz are for engineering information only.

Mohawk Part No.	Cable Type	Dielectric Type	Jacket Type Diameter inch mm	Weight lbs/M' kg/km	Listings
M58291 Non-Plenum	4 PAIR 24 AWG UTP	Thermoplastic	White PVC .212 5.38	24 36	C(ETL)US CMR
M58280 Plenum	4 PAIR 23 AWG UTP	Dual Insulation** FEP on all 4 pairs	White ThermoPlen®* Rated for 125° C .208 5.28	28 42	C(ETL)US CMP

\*Plenum rated Thermoplastic. \*\* US Patent No. 5,563,377. For pair colors see chart A on page 64.

Packaging Options

Put-Up	Package	Number Per Pallet	Pallet Size
1000 Ft.	12" Reels	48	42" x 42"
1000 Ft.	Boxes (15½"W x 11¼"D x 14¼"H)	33	45" x 48"
1000 Ft.	Reel in a Box (12¾"W x 12¾"D x 12⅞"H)	27	42" x 42"



Above part numbers are for reels only. Add "B" to end of Mohawk # for boxes, or "RB" for Reel-in-a-box packaging.

Bulk put-ups available upon request; please consult the factory.

