

### PRODUCT DESCRIPTION

Category 6 Plenum (CMP) used in the Plenum spaces in buildings is ideal for voice, data, video and security communication mediums for all your network installation requirements. Manufactured to the highest quality standards and approved by 3rd party organizations such as UL and ETL. Hyperline Cable, when compared to TIA guidelines; meets or surpasses the specifications in every category. The cable construction is comprised of 8 x 23-gauge solid bare copper cores, along with a CMP fire-retardant jacket and a rip cord to facilitate easy jacket removal, Hyperline's Cat 6 CMP cable is easy to use during installations and pulls smoothly with no kinks.

### APPLICATIONS

- Structured cabling for horizontal and building backbone cable.
- Transmission of digital and analogue for data, video and audio applications.
- IEEE 802.3ab 1000BASE-T, 1000BASE-TX and legacy speeds.
- CDDI / ATM / Token Ring
- IEEE 802.3af (PoE) / IEEE 802.3at (PoE+)

### PHYSICAL & ELECTRICAL CHARACTERISTICS

At 20 °C	
Temperature rating	75°C
Spark test	2.5 KV DC
AC leakage current through overall jacket	≤ 10mA (1.5KV AC)
Cable cold bend	-20°C for 4 hr
Conductor DC resistance	≤ 9.38 Ω/100m
Resistance unbalance	≤ 5%
Dielectric strength	1.5 KV ac for 2 s
Insulation resistance	≥ 5000 MΩ•Km
Mutual capacitance	≤ 5.6 nF/100m
Capacitance unbalance pair-to-ground	≤ 330 pF/100m

### USAGE & ENVIRONMENTAL CONDITION

Temperature range	Storage & shipping	-20°C to 75°C
	Installation	0°C to 60°C
	Operation	-20°C to 60°C
Minimum bending radius	≥ 4 times of overall diameter	
Maximum pulling tension	≤ 110 N	

### PERFORMANCE COMPLIANCE

- UL 444
- EU Directive 2011/65/EC (RoHS2)
- EU Directive 2006/95/EC (LVD)
- CE compliance date: 2010.01.01

### FEATURES

- Award winning trademarked packaging
- High performance of transmission
- High quality of safety property
- Sweep frequency up to 550 MHz (Enhanced) verified to 250 MHz
- Meets/exceeds ANSI/TIA-568-C.2 specification
- Meets ISO/IEC 11801 (Edition2.2)
- Meets IEC 61156-5 (Edition2.0)
- Flame Test –UL NFPA 262 (CMP)
- Wide Mouth and Reelex carton
- Quick Count marking system in feet

Available in ten different jacket colors



## ELECTRICAL PERFORMANCE COMPARISON (At 20 °C)

Frequency (MHz)	INSERTION LOSS		NEXT		PS.NEXT		ACR	
	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline
	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m
1	2.0	2.0	74.3	79.3	72.3	77.3	72.3	77.3
4	3.8	3.7	65.3	70.3	63.3	68.3	61.5	66.5
8	5.3	5.3	60.8	65.8	58.8	63.7	55.4	60.4
10	6.0	5.9	59.3	64.3	57.3	62.3	53.3	58.3
16	7.6	7.4	56.2	61.2	54.2	59.2	48.6	53.6
20	8.5	8.3	54.8	59.8	52.8	57.8	46.3	51.3
25	9.5	9.3	53.3	58.3	51.3	56.3	43.8	48.8
31.25	10.7	10.4	51.9	56.9	49.9	54.9	41.2	46.2
62.5	15.4	15.0	47.4	52.4	45.4	50.4	32.0	37.0
100	19.8	19.3	44.3	49.3	42.3	47.3	24.5	29.5
155	25.2	24.6	41.4	46.7	39.4	44.7	16.3	21.9
200	29.0	28.3	39.8	44.8	37.8	42.8	10.8	15.8
250	32.8	31.1	38.3	43.3	36.3	41.3	5.5	10.5
300		34.6		42.1		40.1		7.5
400		40.6		40.3		38.3		NA
550		48.5		38.2		36.2		NA

Frequency (MHz)	PS.ACR		ACRF		PS.ACRF		RETURN LOSS	
	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline	TIA-568-C.2	Hyperline
	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m	Max. dB/100m
1	70.3	75.3	67.8	67.8	64.8	64.8	20.0	20.0
4	59.5	64.5	55.8	55.7	52.8	52.7	23.0	23.6
8	53.4	58.4	49.7	49.7	46.7	46.7	24.5	24.5
10	51.3	56.3	47.8	47.8	44.8	44.8	25.0	26.0
16	46.6	51.6	43.7	43.7	40.7	40.7	25.0	26.0
20	44.3	49.3	41.8	41.7	38.8	38.7	25.0	26.0
25	41.8	46.8	39.8	39.8	36.8	36.8	24.3	25.3
31.25	39.2	44.2	37.9	37.9	34.9	34.9	23.6	25.0
62.5	30.0	35.0	31.9	31.8	28.9	28.8	21.5	23.5
100	22.5	27.5	27.8	27.8	24.8	24.8	20.1	22.5
155	14.3	19.9	24.3	24.2	21.3	21.2	18.8	21.6
200	8.8	13.8	21.8	21.7	18.8	18.7	18.0	21.0
250	3.5	8.5	19.8	19.8	16.8	16.8	17.3	20.5
300		5.5		18.2		15.2		16.8
400		NA		15.7		12.7		15.9
550		NA		12.9		9.9		14.9



## MATERIALS & CONSTRUCTION

Conductor	Material	23AWG solid bare copper	
Insulation	Material	Fluorinated Ethylene Propylene (FEP)	
	Color code & diameter	Blue & white/blue stripe	0.95 ± 0.02 mm
		Orange & white/orange stripe	0.92 ± 0.02 mm
		Green & white/green stripe	0.94 ± 0.02 mm
	Brown & white/brown stripe	0.92 ± 0.02 mm	
Twisted	Description	Left hand direction	
Filler	Material	Polyolefin (PO)	
Assembly	Description	Left hand direction	
Rip cord	Material	Polyester multi-yarn	
Nominal Velocity of Propagation	(NVP) 72%		
NRTL Program	c(UL)us listed CMP ETL Verified CSA Verified		
Jacket	Material	Low smoke flame retardant polyvinyl chloride (LSFRPVC)	
	Diameter	5.7 ± 0.2 mm	
	Thickness	0.38 ± 0.03 mm	
	Color	Per Hyperline standard	
	Marking	HYPERLINE UTP4-C6-SOLID-CMP-XX E303448-F U/UTP 4PR 23AWG C(UL)US CMP --- CSA 269549 CMP UTP 4P 23AWG 75°C - ETL VERIFIED TO ANSI/TIA-568-C.2 CAT 6E 550MHz PO# XXXXXX WW/YY XXXFT-A	

## ORDERING

Part Number	Product Description
UTP4-C6-SOLID-CMP-WH-305	Category 6 Plenum, UTP, 23 AWG, White 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-BL-305	Category 6 Plenum, UTP, 23 AWG, Blue 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-GY-305	Category 6 Plenum, UTP, 23 AWG, Grey 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-OR-305	Category 6 Plenum, UTP, 23 AWG, Orange 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-GN-305	Category 6 Plenum, UTP, 23 AWG, Green 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-VT-305	Category 6 Plenum, UTP, 23 AWG, Violet 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-BK-305	Category 6 Plenum, UTP, 23 AWG, Black 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-YL-305	Category 6 Plenum, UTP, 23 AWG, Yellow 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-RD-305	Category 6 Plenum, UTP, 23 AWG, Red 305 Meter/1000 FT Pull Box
UTP4-C6-SOLID-CMP-PK-305	Category 6 Plenum, UTP, 23 AWG, Pink 305 Meter/1000 FT Pull Box

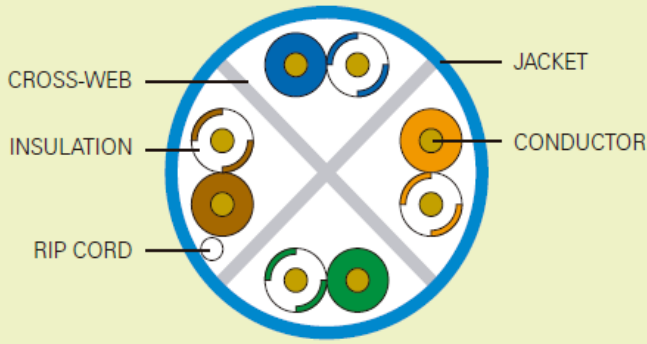


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### Description

**23 AWG Cat6E Plenum, High-Performance Data Cable**

### Applicable Standards

- ETL Listed Type CMP
- C(ETL) listed FT6
- ETL Verified to TIA - 568-C.2, and ISO/IEC 11801
- ROHS Compliant
- ATM 155 Mbps
- Ethernet 10BASE-T, 100BASE-TX, 100BASE-VG, 100BASE-T4,
- 1000 Mbps 1000BASE-T Gigabit Ethernet™ (IEEE 802.3)
- 16 Mbps Token Ring™ (IEEE 802.5)

### Physical Characteristics

Number of Conductor Pairs	4
Size	23 AWG
Stranding	Solid
Conductor Material	Solid Annealed Bare Copper
Shield Material	Unshielded
Rip Cord	Yes
Insulation Material	Polymer Alloy(FEP)
Insulation Overall Diameter	0.038 in. ± 0.0002 in.
Insulation Average Thickness	0.0078 in.
Jacket	Flame Retardant PVC
Outer Jacket Average Wall Thickness	0.020 in.
Outer Jacket Nominal O.D.	0.236 in. ± 0.008 in.
Nominal Weight	33 lbs.

### Mechanical Characteristics

Temperature Rating	Installation	0 to + 60°C
	Operating	-20°C to + 75°C
Tensile Strength	Before	> = 13.8 Mpa
	Aging	> = 100%
Aging Condition		100°C x 168 hours
	After	> = 85% of unaged
	Aging	> = 50% of unaged

### Color Code

Pair 1	White / Blue	Blue
Pair 2	White / Orange	Orange
Pair 3	White / Green	Green
Pair 4	White / Brown	Brown

### Cable Marking

**E223070W 23AWG 4 PR UTP  
CATEGORY 6 ENHANCED 3147705 CMR C(ETL) US FT6  
ETL LISTED & VERIFIED TO TIA - 568-C.2 \*\*\*\*FT**

### Electrical Performance

Frequency (MHz)	Attenuation (dB/100m)	Return loss (dB)	NEXT (dB)	PS-NEXT (dB)
	Max.	Min.	Min.	Min.
1	2.0	20.0	77.3	75.3
4	3.8	23.6	68.3	66.3
8	5.3	25.4	63.8	61.8
10	5.9	26.0	62.3	30.3
16	7.4	26.0	59.3	57.3
20	8.3	26.0	57.8	55.8
25	9.3	25.5	56.3	54.3
31.25	10.4	25.0	54.9	52.9
62.5	14.9	23.5	50.4	48.4
100	19.0	22.5	47.3	45.3
155	23.9	21.6	45.8	43.5
200	27.4	21.0	42.8	40.8
250	30.8	20.5	41.3	39.3
300	34.0	20.1	40.2	38.2
350	37.0	19.8	39.2	37.2
400	39.7	19.5	38.3	36.3
450	42.1	19.2	37.5	35.5
500	44.9	19.0	36.8	34.8
550	47.3	18.8	36.2	34.2

Frequency (MHz)	ELFEXT Min. (dB)	PS-ELFEXT Min. (dB)	ACR Min. (dB)	PS-ACR Min. (dB)
1	70.8	67.8	75.0	73.0
4	58.7	55.7	64.0	62.0
8	52.7	49.7	57.7	55.7
10	50.8	47.8	55.6	53.6
16	46.7	43.7	50.7	48.7
20	44.7	41.7	48.2	16.2
25	42.8	39.8	45.6	13.6
31.25	40.9	37.9	42.8	40.8
62.5	34.8	31.8	32.9	30.9
100	30.8	27.8	24.9	22.9
155	27.0	23.6	21.0	21.5
200	24.7	21.7	18.4	16.4
250	22.8	19.8	13.5	11.5
300	21.2	18.2	9.6	5.0
350	19.9	16.9	5.2	3.2
400	18.7	15.7	1.5	-
450	17.7	14.7	-	-
500	16.8	13.8	-	-
550	15.9	12.9	-	-

\* Values above 250MHz are information only

### Electrical Characteristics

Maximum Conductor DC Resistance @ 20°C	9.38 Ω / 100 Meters
Maximum DC Resistance Unbalanced @ 20°C	5%
Maximum Pair-to-Pair Ground Capacitance Unbalance	330 pF / 100 Meters
Characteristic Impedance	100 ± 15 Ω
Mutual Capacitance	5.6 nF / 100 Meters
Maximum Delay Skew	40 nS / 100 Meters

### Part Numbers

Part #	Color	Put-up
6E04UP BK -3	Black	1,000' REEL IN A BOX
6E04UP BL -3	Blue	1,000' REEL IN A BOX
6E04UP GN -3	Green	1,000' REEL IN A BOX
6E04UP GY -3	Grey	1,000' REEL IN A BOX
6E04UP RD -3	Red	1,000' REEL IN A BOX
6E04UP WH -3	White	1,000' REEL IN A BOX
6E04UP YL -3	Yellow	1,000' REEL IN A BOX