



### PRODUCT DESCRIPTION

Category 5e Riser (CMR) 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 24-gauge solid bare copper cores with mylar protection, which are then insulated with high density polyethylene insulation and organized into four color coded twisted pair sets of conductors. Along with a CMR rated jacket and a rip cord to facilitate easy jacket removal, Hyperlines Cat 5e CMR cable is easy to use during installations and pulls smoothly with no kinks.

### APPLICATIONS

- Transmission of digital and analogue for data, video and audio applications.
- IEEE 802.3u 100BASE-T and legacy speeds.
- CDDI / ATM / Token Ring
- IEEE 802.3af (PoE) / IEEE 802.3at (PoE+)

### PHYSICAL & ELECTRICAL CHARACTERISTICS

At 20 °C	
Temperature & voltage rating	75°C / 300V
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•m
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
- CSA 22.2 NO.214
- EU Directive 2011/65/EC (RoHS2)
- EU Directive 2006/95/EC (LVD)

### FEATURES

- Award winning patented product packaging
- High performance of transmission.
- High quality of safety property.
- Sweep frequency up to 350 MHz. (Enhanced) verified to 100 MHz
- Meets/exceeds ANSI/TIA-568-C.2 (2009)
- ISO/IEC 11801 (Edition 2.2)
- IEC 61156-5 (Edition 2.0)
- Flame Test UL 1666 (CMR)
- 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	65.3	65.3	62.3	62.3	63.3	63.2
4	4.1	4.0	56.3	56.2	53.3	53.2	52.2	52.2
8	5.8	5.7	51.8	51.7	48.8	48.7	46.0	45.9
10	6.5	6.4	50.3	50.3	47.3	47.3	43.8	43.8
16	8.2	8.2	47.2	47.2	44.2	44.2	39.0	38.9
20	9.3	9.2	45.8	45.7	42.8	42.7	36.5	36.5
25	10.4	10.4	44.3	44.3	41.3	41.3	33.9	33.9
31.25	11.7	11.7	42.9	42.8	39.9	39.8	31.2	31.1
62.5	17.0	16.9	38.4	38.3	35.4	35.3	21.4	21.3
100	22.0	21.9	35.3	35.3	32.3	32.3	13.3	13.3
200		32.4		30.7		27.7		N.A.
250		36.8		29.3		26.3		N.A.
300		40.9		28.1		25.1		N.A.
350		44.8		27.1		24.1		N.A.

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	60.3	60.2	63.8	63.8	60.8	60.8	20.0	20.0
4	49.2	49.2	51.8	51.7	48.8	48.7	23.0	23.0
8	43.0	42.9	45.7	45.7	42.7	42.7	24.5	24.5
10	40.8	40.8	43.8	43.8	40.8	40.8	25.0	25.0
16	36.0	35.9	39.7	39.7	36.7	36.7	25.0	25.0
20	33.5	33.5	37.8	37.7	34.8	34.7	25.0	25.0
25	30.9	30.9	35.8	35.8	32.8	32.8	24.3	24.3
31.25	28.2	28.1	33.9	33.9	30.9	30.9	23.6	23.6
62.5	18.4	18.3	27.9	27.8	24.9	24.8	21.5	21.5
100	10.3	10.3	23.8	23.8	20.8	20.8	20.1	20.1
200		N.A.		17.7		14.7		18.0
250		N.A.		15.8		12.8		17.3
300		N.A.		14.2		11.2		16.7
350		N.A.		12.9		9.9		16.3

Values above 100 MHz are for information only



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## ELECTRICAL SPECIFICATIONS (At 20 °C)

Frequency (MHz)	Propagation Delay	
	TIA-568-C.2	Hyperline
	Max. dB/100m	Max. dB/100m
1	570	570
4	552	552
8	547	546
10	545	545
16	543	543
20	542	542
25	541	541
31.25	540	540
62.5	539	538
100	538	537
200		536
250		536
300		536
350		535

Values above 100 MHz are for information only

## MATERIALS & CONSTRUCTION

Conductor	Material	24AWG solid bare copper	
Insulation	Material	Polyolefin (PO)	
	Color code & diameter	Blue & white/blue Stripe	1.06 ± 0.02 mm
		Orange & white/orange stripe	1.04 ± 0.02 mm
		Green & white/green stripe	1.06 ± 0.02 mm
		Brown & white/brown stripe	1.04 ± 0.02 mm
Twisted	Description	Left hand direction	
Filler	Material	Polyolefin (PO)	
Assembly	Description	Left hand direction	
Jacket	Material	Flame retardant polyvinyl chloride (FRPVC)	
	Diameter	6.1 ± 0.2 mm	
	Thickness	0.50 ± 0.05 mm	
	Color	Per Hyperline standard	
Shield	Material	Al Mylar tape, 100 % coverage and mylar side facing out	



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## MATERIALS & CONSTRUCTION

Drain Wire	Material	24AWG solid tinned copper
Rip cord	Material	Polyester multi-yarn
Nominal Velocity of Propagation	(NVP) 69%	
NRTL Program	c(UL)us listed CMR ETL Verified / CSA certified	
Marking	Hyperline FUTP4-C5E-SOLID-CMR-??-305---E303448 F/UTP 4PR 24AWG C(UL)US CMR---ETL VERIFIED TO ANSI/TIA-568-C.2 CAT 5E 350MHz www/yy XXXXFT-A	

## ORDERING

Part Number	Product Description
FUTP4-C5E-SOLID-CMR-WH-305	Category 5E Riser, F/UTP, 24 AWG, White 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-BL-305	Category 5E Riser, F/UTP, 24 AWG, Blue 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-GY-305	Category 5E Riser, F/UTP, 24 AWG, Grey 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-OR-305	Category 5E Riser, F/UTP, 24 AWG, Orange 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-GN-305	Category 5E Riser, F/UTP, 24 AWG, Green 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-VT-305	Category 5E Riser, F/UTP, 24 AWG, Violet 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-BK-305	Category 5E Riser, F/UTP, 24 AWG, Black 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-YL-305	Category 5E Riser, F/UTP, 24 AWG, Yellow 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-RD-305	Category 5E Riser, F/UTP, 24 AWG, Red 305 Meter/1000 FT Pull Box
FUTP4-C5E-SOLID-CMR-PK-305	Category 5E Riser, F/UTP, 24 AWG, Pink 305 Meter/1000 FT Pull Box



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