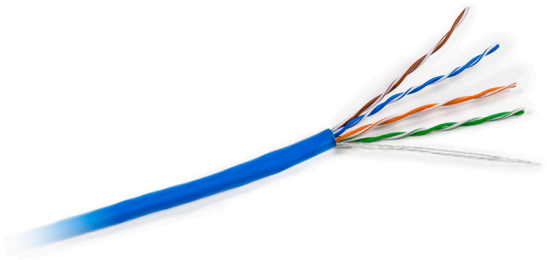
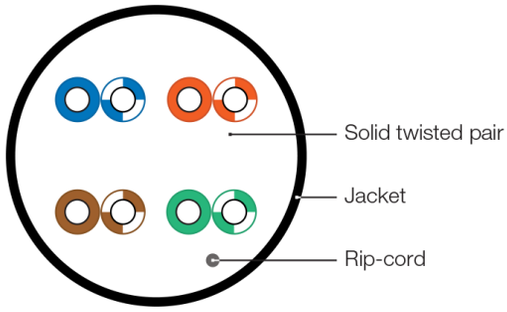
Part no. UTP4-C5E-SOLID-CMR-XX-305

Category 5e U/ UTP, 24AWG Solid Bare Copper Cable, Riser





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, 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.

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	

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+)

PERFORMANCE COMPLIANCE

- UL 444
- CSA 22.2 NO.214
- EU Directive 2011/65/EC (RoHS2)
- EU Directive 2006/95/EC (LVD)

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

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 nine different jacket colors

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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	66.3	62.3	63.3	63.3	63.2
4	4.1	4.0	56.3	57.2	53.3	54.2	52.2	52.2
8	5.8	5.7	51.8	52.7	48.8	49.7	46.0	45.9
10	6.5	6.4	50.3	51.3	47.3	48.3	43.8	43.8
16	8.2	8.2	47.2	48.2	44.3	45.2	39.0	38.9
20	9.3	9.2	45.8	46.7	42.8	43.7	36.5	36.5
25	1.04	10.4	44.3	45.3	41.3	42.3	33.9	33.9
31.25	11.7	11.7	42.9	43.8	39.9	40.8	31.2	31.1
62.5	17.0	16.9	38.4	39.3	35.4	36.3	21.4	21.3
100	22.0	21.9	35.3	36.3	32.3	33.3	13.3	13.3
155		27.5		33.6		30.6		5.1
200		32.4		31.7		28.7		N.A.
250		36.8		30.3		27.3		N.A.
300		40.9		29.1		26.1		N.A.
350		44.8		28.1		25.1		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	36.1	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
155		2.1		20.2		17.2		18.8
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		16.3

Values above 100 MHz are for information only

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
155		536
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	0.90 ± 0.02 mm
		Orange & white/orange stripe	0.89 ± 0.02 mm
		Green & white/green stripe	0.90 ± 0.02 mm
		Brown & white/brown stripe	0.89 ± 0.02 mm
Twisted	Description	Left hand direction	
Filler	Material	Polyolefin (PO)	
Assembly	Description	Left hand direction	
Jacket	Material	Flame retardant polyvinyl chloride (FRPVC) or Polyethylene (PE)	
	Diameter	5.0 ± 0.2 mm	
	Thickness	0.50 ± 0.05 mm	
	Color	Per Hyperline standard	

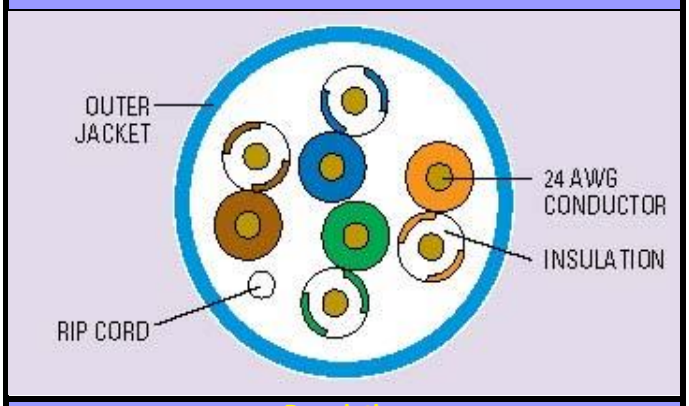
MATERIALS & CONSTRUCTION

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 UTP4-C5E-SOLID-CMR- --- E303448 U/UTP 4PR 24AWG C(UL)US CMR --- ETL VERIFIED TO ANSI/TIA-568-C.2 CAT 5E 350MHz ###### WW/YY1 xxxxFT-A Note 1: ww/yy is date code	

ORDERING

Part Number	Product Description
UTP4-C5E-SOLID-CMR-WH-305	Category 5E Riser, UTP, 24 AWG, White 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-BL-305	Category 5E Riser, UTP, 24 AWG, Blue 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-GY-305	Category 5E Riser, UTP, 24 AWG, Grey 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-OR-305	Category 5E Riser, UTP, 24 AWG, Orange 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-GN-305	Category 5E Riser, UTP, 24 AWG, Green 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-VT-305	Category 5E Riser, UTP, 24 AWG, Violet 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-BK-305	Category 5E Riser, UTP, 24 AWG, Black 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-YL-305	Category 5E Riser, UTP, 24 AWG, Yellow 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-RD-305	Category 5E Riser, UTP, 24 AWG, Red 305 Meter/1000 FT Pull Box
UTP4-C5E-SOLID-CMR-PK-305	Category 5E Riser, UTP, 24 AWG, Pink 305 Meter/1000 FT Pull Box

Category 5E UTP 350MHz Enhanced Cable



Description

24 AWG Cat5E CMR, High-Performance Data Cable

Applicable Standards

- ETL Listed Type CMR
- C(ETL) listed CMG FT4
- 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	24 AWG
Stranding	Solid
Conductor Material	Solid Annealed Bare Copper
Shield Material	Unshielded
Rip Cord	Yes
Insulation Material	Polyethylene
Insulation Overall Diameter	0.035 in. ± 0.0002 in.
Insulation Average Thickness	0.0081 in.
Jacket	Flame Retardant PVC
Outer Jacket Average Wall Thickness	0.017 in. ± 0.001
Outer Jacket Nominal O.D.	0.200 in. ± 0.008 in.
Nominal Weight	21 lbs.
Voltage Rating	300V

Mechanical Characteristics

Temperature Rating	Installation	0 to + 60°C
	Operating	-20°C to + 75°C
Tensile Strenth	Before	> = 13.8 Mpa
Elongation	Aging	> = 100%
Aging Condition		100°C x 240 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

CATEGORY 5E 350MHZ 24AWG 4 PR UTP XXXXXX CRT CMR
C(ETL)US ETL LISTED & VERIFIED TO TIA - 568-C.2 ****FT

Electrical Performance

Frequency	Attenuation		Return loss		NEXT		PS-NEXT	
(MHz)	(dB/100m)		(dB)		(dB)		(dB)	
	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
0.772	1.8	1.5	23.0	33.0	72.0	81.1	70.0	78.7
1	2.0	1.8	23.0	38.6	70.3	79.4	68.3	76.9
4	4.1	3.6	23.0	39.8	61.2	69.9	59.3	67.4
8	5.8	5.1	24.5	38.2	56.8	61.9	54.8	59.4
10	6.5	5.8	25.0	38.0	55.3	62.4	53.5	59.9
16	8.2	7.4	25.0	37.4	52.3	57.8	50.3	55.2
20	9.3	8.2	25.0	36.8	50.8	56.4	48.8	53.8
25	10.4	9.3	24.3	35.2	49.3	56.3	47.3	53.6
31.25	11.7	10.5	23.6	33.3	47.9	53.8	45.9	51.1
62.5	17.0	14.9	21.5	32.2	43.4	49.8	41.4	47.4
100	22.0	19.2	20.1	31.3	40.3	47.5	38.3	45.0
155	28.1	24.2	18.8	29.8	37.4	45.1	35.4	42.6
200	32.4	27.3	18.0	28.5	35.7	43.3	33.7	40.2
250	38.9	30.9	17.5	27.3	34.8	41.4	32.5	39.0
300	41.0	34.1	16.8	25.6	33.1	40.2	31.1	37.7
350	44.9	37.8	16.3	23.2	32.1	39.0	30.1	36.5

Frequency	ELFEXT		PS-ELFEXT		ACR		PS-ACR	
(MHz)	(dB)		(dB)		(dB)		(dB)	
	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
0.772	66.0	73.3	63.0	72.7	70.2	79.2	68.2	77.0
1	63.8	71.3	60.8	70.6	68.2	77.6	66.3	75.0
4	51.7	59.4	48.7	58.7	57.2	66.3	55.2	63.5
8	45.7	53.2	42.7	51.1	51.0	59.8	49.0	56.9
10	43.8	50.5	40.8	49.7	48.8	56.6	47.0	53.7
16	39.7	47.0	36.7	45.1	43.0	53.0	42.1	47.4
20	39.7	45.0	34.7	43.6	41.5	50.5	39.5	45.0
25	35.8	43.3	32.8	42.0	38.9	47.0	36.9	43.7
31.25	33.9	41.3	30.9	40.5	36.5	43.3	34.2	40.0
62.5	27.8	35.8	24.8	34.5	26.4	35.0	24.4	31.2
100	23.8	31.3	20.8	30.3	18.3	26.2	16.3	24.2
155	19.9	27.5	16.9	26.9	10.0	20.9	7.3	15.9
200	17.7	24.7	14.7	24.5	5.0	16.0	2.0	10.0
250	17.1	22.2	14.0	22.5	0.0	10.6	-	4.0
300	16.7	20.5	13.5	20.7	-	6.1	-	-1.3
350	16.0	19.4	12.8	19.6	-	1.2	-	-6.4

* Values above100MHz are information only

Electrical Characteristics

Maximum Conductor DC Resistance @ 20°C	9.65 Ω / 100 Meters
Maximum DC Resistance Unbalanced @ 20°C	5%
Maximum Pair-to-Pair Ground Capacitance Unbalance	330 pF / 100 Meters
Characteristic Impedance (1 ~ 350 MHz)	100 ± 15 Ω
Mutual Capacitance	5.6 nF / 100 Meters
Maximum Dealy Skew	40 nS / 100 Meters

Part Numbers

Part Numbers	Color		Put-up
5E04URBK4	Black	1,000'	Reelex II
5E04URBL4	Blue	1,000'	Reelex II
5E04URGN4	Green	1,000'	Reelex II
5E04URGY4	Grey	1,000'	Reelex II
5E04UROR4	Orange	1,000'	Reelex II
5E04URPK4	Pink	1,000'	Reelex II
5E04URPR4	Purple	1,000'	Reelex II
5E04URRD4	Red	1,000'	Reelex II
5E04URWH4	White	1,000'	Reelex II
5E04URYL4	Yellow	1,000'	Reelex II

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