



**Product:** [1212F](#)

Category 5E+ Cable, 4 Pair, F/UTP, CMR

**Product Description**

Category 5E+ Premise Horizontal Cable (350MHz), 4 Pair, 24 AWG Solid Bare Copper Conductors, F/UTP - Foil Shielded, Riser-CMR, PVC Jacket

**Technical Specifications**

**Product Overview**

Suitable Applications:	Premise Horizontal Cable, Ethernet 1000BASE-T, Ethernet 100BASE-TX, Ethernet 10BASE-T, PoE++, PoE+, PoE , Noisy Environments
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**Construction Details**

**Conductor**

AWG	Stranding	Material	Number of Pairs
24	Solid	BC - Bare Copper	4

**Insulation**

Material	Color Code
Polyolefin	White/Blue Stripe & Blue, White/Orange Stripe & Orange, White/Green Stripe & Green, White/Brown Stripe & Brown
Bonded-Pair:	No

**Outer Shield Material**

Type	Material	Coverage	Drainwire Type
Tape	Bi-Laminate (Alum+Poly)	100%	24 AWG (7x32) TC

**Outer Jacket Material**

Material	Nom. Diameter	Ripcord
PVC - Polyvinyl Chloride	0.260 in	No

**Electrical Characteristics**

**Electricals**

Max. Conductor DCR	Max. DCR Unbalance	Max. Capacitance Unbalance	Nom. Mutual Capacitance	Nom. Velocity of Prop.
93.8 Ohm/km	3%	330 pF/100m	15 pF/ft	70%

**Delay**

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nom. Velocity of Propagation (VP) [%]
100 MHz	537.6 ns/100m	45 ns/100m	70%

**High Freq**

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Max./Min. Input Impedance (unFitted)	Max./Min. Fitted Impedance
1 MHz	2.0 dB/100m	70.3 dB	68.3 dB	70.3 dB	66.3 dB	67.8 dB	64.8 dB	20.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
4 MHz	4.0 dB/100m	61.3 dB	59.3 dB	59.3 dB	55.3 dB	55.8 dB	52.8 dB	23.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
8 MHz	5.7 dB/100m	56.8 dB	54.8 dB	53.1 dB	49.1 dB	49.7 dB	46.7 dB	24.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
10 MHz	6.4 dB/100m	55.3 dB	53.3 dB	50.9 dB	46.9 dB	47.8 dB	44.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
16 MHz	8.1 dB/100m	52.2 dB	50.2 dB	46.1 dB	42.1 dB	43.7 dB	40.7 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
20 MHz	9.1 dB/100m	50.8 dB	48.8 dB	43.7 dB	39.7 dB	41.8 dB	38.8 dB	25.0 dB	100 ± 15 Ohm	100 ± 15 Ohm
25 MHz	10.2 dB/100m	49.3 dB	47.3 dB	41.1 dB	37.1 dB	39.8 dB	36.8 dB	24.3 dB	100 ± 15 Ohm	100 ± 15 Ohm

31.25 MHz	11.4 dB/100m	47.9 dB	45.9 dB	38.5 dB	34.5 dB	37.9 dB	34.9 dB	23.6 dB	100 ± 15 Ohm	100 ± 15 Ohm
62.5 MHz	16.4 dB/100m	43.4 dB	41.4 dB	29.0 dB	25.0 dB	31.9 dB	28.9 dB	21.5 dB	100 ± 15 Ohm	100 ± 15 Ohm
100 MHz	21.0 dB/100m	40.3 dB	38.3 dB	21.3 dB	17.3 dB	27.8 dB	24.8 dB	20.1 dB	100 ± 15 Ohm	100 ± 15 Ohm
155 MHz	26.6 dB/100m	37.4 dB	35.4 dB	12.8 dB	8.9 dB	24.0 dB	21.0 dB	18.8 dB	100 ± 22 Ohm	100 ± 15 Ohm
200 MHz	30.5 dB/100m	35.8 dB	33.8 dB	7.3 dB	3.3 dB	21.8 dB	18.8 dB	18.0 dB	100 ± 22 Ohm	100 ± 15 Ohm
250 MHz	34.4 dB/100m	34.3 dB	32.3 dB	1.9 dB		19.8 dB	16.8 dB	17.3 dB	100 ± 32 Ohm	100 ± 15 Ohm
300 MHz	38.0 dB/100m	33.1 dB	28.2 dB			18.2 dB	15.2 dB	16.8 dB	100 ± 32 Ohm	100 ± 15 Ohm
350 MHz	41.4 dB/100m	32.1 dB	27.2 dB			16.9 dB	13.9 dB	16.3 dB	100 ± 32 Ohm	100 ± 15 Ohm
400 MHz	44.6 dB/100m	31.3 dB	26.3 dB					15.9 dB		
450 MHz	47.6 dB/100m	30.5 dB	25.6 dB					15.5 dB		

## Voltage

<b>UL Voltage Rating</b>
300 V (CMR)

## Mechanical Characteristics

### Temperature

UL Rating	Operating	Installation	Storage
75°C	-20°C To +75°C	0°C To +50°C	-20°C To +75°C

### Bend Radius

Stationary Min.	Installation Min.
2.25 in	2.75 in

Max. Pull Tension:	25 lbs
Bulk Cable Weight:	30 lbs/1000ft

## Standards and Compliance

Environmental Suitability:	Riser, Indoor
Sustainability:	Product Lens™, Environmental Product Declaration (EPD) Available
Flammability / Fire Resistance:	UL 1666 Riser, FT4, FT4, IEC 60332-1-2
NEC / UL Compliance:	800, CMR
CEC / C(UL) Compliance:	CMR
ICEA Compliance:	S-90-661-2012
IEEE Compliance:	IEEE 802.3bt Type 1, Type 2, Type 3
NEMA Compliance:	NEMA WC-63.1
Data Category:	Category 5e
TIA/EIA Compliance:	ANSI/TIA-568.2-D Category 5e
CPR Euroclass:	Eca
European Directive Compliance:	EU CE Mark, EU Directive 2015/863/EU, EU Directive 2011/65/EU (ROHS II), EU Directive 2012/19/EU (WEEE), REACH: 2020-01-16
APAC Compliance:	China RoHS II (GB/T 26572-2011)

## Part Number

Plenum Number:	1213F
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### Variants

Item #	Color	Putup Type	Length	UPC
1212F 0101000	Black	Reel	1,000 ft	612825108658
1212F 010A1000	Black	Reel-in-Box	1,000 ft	612825108641
1212F 006A500	Blue	Reel-in-Box	500 ft	612825108573
1212F 0061000	Blue	Reel	1,000 ft	612825108580
1212F 006A1000	Blue	Reel-in-Box	1,000 ft	612825108566
1212F 0081000	Gray	Reel	1,000 ft	612825108603
1212F 008A1000	Gray	Reel-in-Box	1,000 ft	612825108597
1212F 0051000	Green	Reel	1,000 ft	612825108559
1212F 005A1000	Green	Reel-in-Box	1,000 ft	612825108542
1212F 0031000	Orange	Reel	1,000 ft	612825108511
1212F 003A1000	Orange	Reel-in-Box	1,000 ft	612825108504
1212F 0021000	Red	Reel	1,000 ft	612825108498

1212F 002A1000	Red	Reel-in-Box	1,000 ft	612825108481
1212F 009A500	White	Reel-in-Box	500 ft	612825108627
1212F 0091000	White	Reel	1,000 ft	612825108634
1212F 009A1000	White	Reel-in-Box	1,000 ft	612825108610
1212F 0041000	Yellow	Reel	1,000 ft	612825108535
1212F 004A1000	Yellow	Reel-in-Box	1,000 ft	612825108528

## Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system. Values above 350 MHz are for Engineering Information Only. Shield is Bonded to Jacket Inner Wall for Electrical Stability. Print Includes Descending Footage/Meter Markings from Max. Put-Up Length to 0.
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## History

Update and Revision:	Revision Number: 0.396 Revision Date: 07-28-2020
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#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.