

## 3613 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable



For more Information  
please call

1-800-Belden1



### Description:

23 AWG Solid Bare Copper Conductors, Dual FRPO/FEP Insulation, X-Spline Center Member, Rip Cord, Flamarrest® PVC jacket.

### Usage (Overall)

**Suitable Applications:** Premise Horizontal Cable, Gigabit Ethernet, 100BaseTX, 100BaseVG ANYLAN, 155ATM, 622ATM, NTSC/PAL Component or Composite Video, AES/EBU Digital Audio, AES51, RS-422, Noisy Environments

### Physical Characteristics (Overall)

#### Conductor

**AWG:**

| # Pairs | AWG | Stranding | Conductor Material |
|---------|-----|-----------|--------------------|
| 4       | 23  | Solid     | BC - Bare Copper   |

**Total Number of Conductors:** 8

#### Insulation

**Insulation Material:**

| Insulation Material  |
|--|
| FRPO/FEP - Flame Retardant Polyolefin/Fluorinated Ethylene Propylene |

#### Outer Shield

**Outer Shield Material:**

| Outer Shield Material |
|-----------------------|
| Unshielded            |

#### Outer Jacket

**Outer Jacket Material:**

| Outer Jacket Trade Name | Outer Jacket Material                 | Nom. Wall Thickness (in.) |
|-------------------------|---------------------------------------|---------------------------|
| Flamarrest(R)           | LS PVC - Low Smoke Polyvinyl Chloride | 0.017                     |

**Outer Jacket Diameter:**

| Nom. Dia. (in.) |
|-----------------|
| 0.237           |

**Outer Jacket Ripcord:** Yes

#### Overall Cable

**Overall Cabling Separator Material:** X-Spline Center Member

**Overall Nominal Diameter:** 0.237 in.

#### Pair

**Pair Color Code Chart:**

| Number | Color                        |
|--------|------------------------------|
| 1      | White/Blue Stripe & Blue     |
| 2      | White/Orange Stripe & Orange |
| 3      | White/Green Stripe & Green   |
| 4      | White/Brown Stripe & Brown   |

### Mechanical Characteristics (Overall)

**Storage Temperature Range:** -20°C To +75°C

## 3613 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable

|                                   |                 |
|-----------------------------------|-----------------|
| Installation Temperature Range:   | +5°C To +50°C   |
| Operating Temperature Range:      | 0°C To +75°C    |
| UL Temperature Rating:            | 75°C            |
| Bulk Cable Weight:                | 32 lbs/1000 ft. |
| Max. Recommended Pulling Tension: | 45 lbs.         |
| Min. Bend Radius/Minor Axis:      | 1 in.           |
| Min. Bend/Installation:           | 2.400 in.       |

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| NEC/(UL) Specification:               | CMP                                 |
| CEC/C(UL) Specification:              | CMP                                 |
| Other Standards:                      | ISO/IEC 11801 ed 2.1 (2008) Class E |
| EU CE Mark:                           | Yes                                 |
| EU Directive 2000/53/EC (ELV):        | Yes                                 |
| EU Directive 2002/95/EC (RoHS):       | Yes                                 |
| EU RoHS Compliance Date (mm/dd/yyyy): | 04/03/2009                          |
| EU Directive 2002/96/EC (WEEE):       | Yes                                 |
| EU Directive 2003/11/EC (BFR):        | Yes                                 |
| CA Prop 65 (CJ for Wire & Cable):     | Yes                                 |
| MII Order #39 (China RoHS):           | Yes                                 |
| Telecommunications Standards:         | Category 6 - TIA 568.C.2            |
| Other Specification:                  | UL Verified to Category 6           |

#### Applicable Patents:

| Country | Patent  |
|---------|---------|
| US      | 5563377 |
| US      | 6074503 |
| US      | 7663061 |
| US      | 7977575 |

#### Flame Test

|                   |          |
|-------------------|----------|
| UL Flame Test:    | NFPA 262 |
| C(UL) Flame Test: | FT6      |

#### Suitability

|                        |     |
|------------------------|-----|
| Suitability - Indoor:  | Yes |
| Suitability - Outdoor: | No  |
| Suitability - Aerial:  | No  |
| Suitability - Burial:  | No  |
| Sunlight Resistance:   | No  |

#### Plenum/Non-Plenum

|                    |      |
|--------------------|------|
| Plenum (Y/N):      | Yes  |
| Non-Plenum Number: | 3612 |

### Electrical Characteristics (Overall)

#### Nom. Mutual Capacitance:

| Capacitance (pF/ft) |
|---------------------|
| 15.5                |

## 3613 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable

Maximum Capacitance Unbalance (pF/100 m): 330

Nominal Velocity of Propagation:

VP (%)  
70.000

Maximum Delay:

| Freq. (MHz) | Delay (ns/100 m) |
|-------------|------------------|
| 100.000     | 537.600          |

Typical Delay Skew:

Delay Skew (ns/ft)  
35.000

Maximum Conductor DC Resistance:

DCR @ 20°C (Ohm/100 m)  
7.700

Max. Operating Voltage - UL:

Voltage  
300 V RMS

Maximum DCR Unbalanced:

DCR Unbalance @ 20°C (%)  
5.000

### Electrical Characteristics-Premise (Overall)

Premise Cable Electrical Table 1:

| Freq. (MHz) | Max. Attenuation (dB/100 m) | Min. NEXT (dB) | Min. PSNEXT (dB) | Min. ACR (dB) | Min. PSACR (dB) | Min RL (dB) | Min. SRL (dB) |
|-------------|-----------------------------|----------------|------------------|---------------|-----------------|-------------|---------------|
| 0.772       | 1.800                       | 81.00          | 79.00            | 79.2          | 77.2            |             |               |
| 1           | 2.000                       | 79.31          | 77.31            | 77.3          | 75.3            | 20.000      | 27.0          |
| 4           | 3.700                       | 70.28          | 68.28            | 66.6          | 64.6            | 23.000      | 27.0          |
| 8           | 5.200                       | 65.77          | 63.77            | 60.6          | 58.6            | 24.500      | 27.0          |
| 10          | 5.800                       | 64.31          | 62.31            | 58.5          | 56.5            | 25.000      | 27.0          |
| 16          | 7.400                       | 61.25          | 59.25            | 53.9          | 51.9            | 25.000      | 27.0          |
| 20          | 8.300                       | 59.80          | 57.80            | 51.5          | 49.5            | 25.000      | 27.0          |
| 25          | 9.300                       | 58.35          | 56.35            | 49.1          | 47.1            | 24.300      | 26.0          |
| 31.25       | 10.400                      | 56.89          | 54.89            | 46.5          | 44.5            | 23.600      | 25.1          |
| 62.5        | 15.000                      | 52.38          | 50.38            | 37.4          | 35.4            | 21.500      | 22.1          |
| 100         | 19.300                      | 49.31          | 47.31            | 30.0          | 28.0            | 20.800      | 20.0          |
| 155         | 24.600                      | 46.46          | 44.46            | 21.9          | 19.9            | 19.500      | 18.1          |
| 200         | 28.300                      | 44.80          | 42.80            | 16.5          | 14.5            | 18.700      | 17.0          |
| 250         | 32.100                      | 43.35          | 41.35            | 11.2          | 9.2             | 18.000      | 16.0          |
| 300         | 35.600                      | 42.16          | 40.16            | 6.5           | 4.5             | 17.500      | 15.2          |
| 350         | 38.900                      | 41.15          | 39.15            | 2.3           | 0.3             | 17.000      | 14.6          |
| 400         | 42.000                      | 40.28          | 38.28            |               |                 | 16.600      | 14.0          |
| 450         | 45.000                      | 39.52          | 37.52            |               |                 | 16.200      | 13.5          |
| 500         | 47.900                      | 38.83          | 36.83            |               |                 | 15.900      | 13.0          |
| 550         | 50.600                      | 38.21          | 36.21            |               |                 | 15.600      | 12.6          |
| 600         | 53.300                      | 37.64          | 35.64            |               |                 | 15.400      | 12.2          |
| 650         | 55.900                      | 37.12          | 35.12            |               |                 | 15.100      | 11.9          |

Premise Cable Electrical Table 2:

| Freq. (MHz) | Input (Unfitted) Imp. (Ohms) | Min. ACRF (dB) | Min. PSACRF (dB) |
|-------------|------------------------------|----------------|------------------|
| .772        |                              | 75.0           | 72.0             |
| 1           | 100 ± 15                     | 72.8           | 69.8             |
| 4           | 100 ± 15                     | 60.8           | 57.8             |
| 8           | 100 ± 15                     | 54.7           | 51.7             |
| 10          | 100 ± 15                     | 52.8           | 49.8             |
| 16          | 100 ± 15                     | 48.7           | 45.7             |
| 20          | 100 ± 15                     | 46.8           | 43.8             |
| 25          | 100 ± 15                     | 44.8           | 41.8             |
| 31.25       | 100 ± 15                     | 42.9           | 39.9             |

## 3613 Multi-Conductor - Enhanced Category 6 Nonbonded-Pair Cable

|      |          |      |      |
|------|----------|------|------|
| 62.5 | 100 ± 15 | 36.9 | 33.9 |
| 100  | 100 ± 15 | 32.8 | 29.8 |
| 155  | 100 ± 22 | 28.9 | 25.9 |
| 200  | 100 ± 22 | 26.8 | 23.8 |
| 250  | 100 ± 32 | 24.8 | 21.8 |
| 300  | 100 ± 32 | 23.3 | 20.3 |
| 350  | 100 ± 32 | 21.9 | 18.9 |
| 400  | 100 ± 32 | 20.8 | 17.8 |
| 450  | 100 ± 32 | 19.7 | 16.7 |
| 500  | 100 ± 32 | 18.8 | 15.8 |
| 550  | 100 ± 32 | 18.0 | 15.0 |
| 600  | 100 ± 32 | 17.2 | 14.2 |
| 650  | 100 ± 32 | 16.5 | 13.5 |

Premise Cable Electrical Table 4:

| Frequency (MHz) | Min. TCL (dB) | Min. ELTCTL (dB) |
|-----------------|---------------|------------------|
| 0.772           | 40.000        | 37.200           |
| 1.000           | 40.000        | 35.000           |
| 4.000           | 40.000        | 23.000           |
| 8.000           | 40.000        | 16.900           |
| 10.000          | 40.000        | 15.000           |
| 16.000          | 38.000        | 10.900           |
| 20.000          | 37.000        | 9.000            |
| 25.000          | 36.000        | 7.000            |
| 31.250          | 35.100        |                  |
| 62.500          | 32.000        |                  |
| 100.000         | 30.000        |                  |
| 155.000         | 28.100        |                  |
| 200.000         | 27.000        |                  |
| 250.000         | 26.000        |                  |

### Notes (Overall)

**Notes:** Jacket sequentially marked at 2 ft./1m intervals. Third party verified to ANSI/TIA-568-C.2 Category 6. Values above 350MHz are for engineering information only.

### Put Ups and Colors:

| Item #        | Putup    | Ship Weight | Color       | Notes | Item Desc                |
|---------------|----------|-------------|-------------|-------|--------------------------|
| 3613 D15A1000 | 1,000 FT | 33.000 LB   | BLUE        |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 D15U1000 | 1,000 FT | 30.000 LB   | BLUE        |       | CAT6E 4PR U/UTP CMP BOX  |
| 3613 D151000  | 1,000 FT | 31.000 LB   | BLUE        |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 D152500  | 2,500 FT | 72.500 LB   | BLUE        |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 002A1000 | 1,000 FT | 33.000 LB   | RED         |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 003A1000 | 1,000 FT | 33.000 LB   | ORANGE      |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 0031000  | 1,000 FT | 31.000 LB   | ORANGE      |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 004A1000 | 1,000 FT | 33.000 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 004U1000 | 1,000 FT | 30.000 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMP BOX  |
| 3613 0041000  | 1,000 FT | 31.000 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 0042500  | 2,500 FT | 72.500 LB   | YELLOW      |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 005A1000 | 1,000 FT | 33.000 LB   | GREEN, DARK |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 0051000  | 1,000 FT | 31.000 LB   | GREEN, DARK |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 0052500  | 2,500 FT | 72.500 LB   | GREEN, DARK |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 007A1000 | 1,000 FT | 33.000 LB   | VIOLET      |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 008A1000 | 1,000 FT | 33.000 LB   | GRAY        |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 008U1000 | 1,000 FT | 30.000 LB   | GRAY        |       | CAT6E 4PR U/UTP CMP BOX  |
| 3613 0081000  | 1,000 FT | 31.000 LB   | GRAY        |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 009A1000 | 1,000 FT | 33.000 LB   | WHITE       |       | CAT6E 4PR U/UTP CMP RIB  |
| 3613 009U1000 | 1,000 FT | 30.000 LB   | WHITE       |       | CAT6E 4PR U/UTP CMP BOX  |
| 3613 0091000  | 1,000 FT | 31.000 LB   | WHITE       |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 0092500  | 2,500 FT | 72.500 LB   | WHITE       |       | CAT6E 4PR U/UTP CMP REEL |
| 3613 010A1000 | 1,000 FT | 33.000 LB   | BLACK       |       | CAT6E 4PR U/UTP CMP RIB  |

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|               |          |           |       |  |                          |
|---------------|----------|-----------|-------|--|--------------------------|
| 3613 0101000  | 1,000 FT | 31.000 LB | BLACK |  | CAT6E 4PR U/UTP CMP REEL |
| 3613 0102500  | 2,500 FT | 72.500 LB | BLACK |  | CAT6E 4PR U/UTP CMP REEL |
| 3613 012A1000 | 1,000 FT | 33.000 LB | PINK  |  | CAT6E 4PR U/UTP CMP RIB  |

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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.