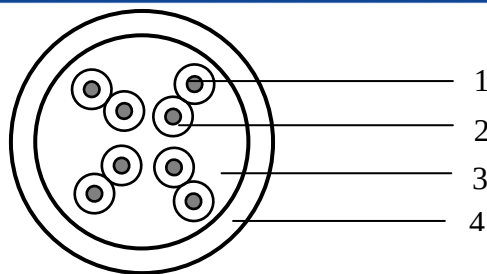


## 1700E

**Networking Cables**  
**Datatwist® cable**  
**CAT 5E U/UTP PVC BONDED**  
2017-05-04 V10



### Applications

- Horizontal and building backbone cable
- Support current and future Category 5e applications, such as:  
1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI, ATM

### General standards

- International standard: ISO/IEC 11801 2nd edition (2002) and ISO/IEC 11801 Amendment 2 (2010)
- European standard: EN 50173-1 (2002) and EN 50173-1 Amendment 1 (2009)
- U.S. Standards: ANSI/TIA/EIA 568-B.2-1 (2002)

### Construction & Dimensions

- Conductor**  
Material: Solid bare copper ETP  
Diameter: AWG 24
- Insulation**  
Material: Polyethylene  
Nominal diameter over insulation: 0.95 mm
- Cable core**  
Pair: 2 twisted insulated conductors  
Number of pairs: 4, all twisted together  
Colour code pair 1: White / Blue & Blue  
Colour code pair 2: White / Orange & Orange  
Colour code pair 3: White / Green & Green  
Colour code pair 4: White / Brown & Brown
- Jacket**  
Material: PVC  
Diameter:  $5.1 \pm 0.3$  mm  
Ripcord: Nylon

### Electrical characteristics

Reference standard : ISO/IEC 61156-5 edition 2.0 (2009)

| Low frequency and D.C. (at 20°C)                       | Specification | Unit    |
|--------------------------------------------------------|---------------|---------|
| D.C. resistance conductor                              | < 9,5         | Ω/100m  |
| Resistance unbalance: within a pair / between pairs    | < 2 / < 4     | %       |
| Insulation resistance                                  | ≥ 5000        | MΩ.km   |
| Dielectric strength conductor-conductor (2 sec.)       | 2.5           | kV DC   |
| Mutual capacitance                                     | < 56          | nF/km   |
| Capacitance unbalance pair to ground                   | < 1600        | pF/km   |
| Nominal velocity of propagation (for information only) | > 0.6         | c       |
| Delay skew (differential delay)                        | ≤ 40          | ns/100m |

| High frequency (at 20°), reference standard: ISO/IEC61156-5 |       |       |       |       |       |       |       |       |       |       |       |         |
|-------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| TYPE                                                        | 1*    | 4     | 10    | 16    | 20    | 31.25 | 62.5  | 100   | 155   | 250   | 350   | MHz     |
| Attenuation                                                 | 2.0   | 4.0   | 6.3   | 8.0   | 9.0   | 11.4  | 16.5  | 21.3  | 27.2  | 35.8  | 43.5  | dB/100m |
| NEXT                                                        | 65.3  | 56.3  | 50.3  | 47.2  | 45.8  | 42.9  | 38.4  | 35.3  | 32.4  | 29.3  | 27.1  | dB/100m |
| PS NEXT                                                     | 62.3  | 53.3  | 47.3  | 44.2  | 42.8  | 39.9  | 35.4  | 32.3  | 29.4  | 26.3  | 24.1  | dB/100m |
| ACR                                                         | 63.2  | 52.32 | 44.0  | 39.2  | 36.8  | 31.5  | 21.8  | 14.0  | 5.2   |       |       | dB/100m |
| PS ACR                                                      | 60.2  | 49.3  | 41.0  | 36.2  | 33.8  | 28.5  | 18.9  | 11.0  | 2.2   |       |       | dB/100m |
| ACR-F                                                       | 64.0  | 52.0  | 44.0  | 39.9  | 38.0  | 34.1  | 28.1  | 24.0  | 20.2  | 16.0  | 13.1  | dB/100m |
| PS ACR-F                                                    | 61.0  | 49.0  | 41.0  | 36.9  | 35.0  | 31.5  | 25.1  | 21.0  | 17.2  | 13.0  | 10.1  | dB/100m |
| Return Loss                                                 | 20.0  | 23.0  | 25.0  | 25.0  | 25.0  | 23.6  | 21.5  | 20.1  | 18.8  | 17.3  | 17.3  | dB/100m |
| TCL level 1                                                 | 40.0  | 34.0  | 30.0  | 28.0  | 27.0  | 25.1  | 22.0  | 20.0  | 17.0  | 16.0  | 14.6  | dB/100m |
| EL TCTL                                                     | 35.0  | 23.0  | 15.0  | 10.9  | 9.0   | 5.5   |       |       |       |       |       | dB/100m |
| Impedance upper limit                                       | 122.2 | 115.2 | 111.9 | 111.9 | 111.9 | 114.1 | 118.3 | 121.9 | 126.0 | 131.5 | 131.6 | Ω       |
| Impedance lower limit                                       | 81.8  | 86.8  | 89.4  | 89.4  | 89.4  | 87.7  | 84.5  | 82.0  | 79.3  | 76.0  | 76.0  | Ω       |
| Propagation delay                                           | 570   | 552   | 545   | 543   | 542   | 540   | 539   | 538   | 537   | 536   | 536   | ns/100m |

NOTE: Limits below 4MHz are for information only

## Mechanical characteristics

|                                               | Specification | Unit |
|-----------------------------------------------|---------------|------|
| Elongation at break of the conductors         | 10            | %    |
| Minimum elongation at break of the insulation | ≥ 100         | %    |
| Minimum elongation at break of the sheath     | ≥ 100         | %    |
| Tensile strength of sheath                    | > 9           | MPa  |

## Environmental and overall characteristics

|                                                                               | Specification | Unit   |
|-------------------------------------------------------------------------------|---------------|--------|
| Maximum operating voltage (for all temperatures cable is intended to be used) | 72            | V D.C. |
| Maximum continuous current per conductor (@25°C)                              | 1.5           | A      |
| Temperature rating installation                                               | 0 / 50        | °C     |
| Temperature rating operation                                                  | - 20 / 60     | °C     |
| Total cable weight                                                            | 30            | kg/km  |
| Minimum bending radius (during operation and installation)                    | 20 / 40       | mm     |
| Maximum pulling strength                                                      | 65            | N      |
| Burning load                                                                  | 335           | kJ/m   |
| Reaction to fire according IEC 60332-1                                        | Pass          |        |
| Reaction to fire according EN 50575                                           | Eca           |        |



Belden declares this product to be in compliance with the environmental regulations EU RoHS (Directive 2002/95/EC, 27 January 2003); this is valid for all material produced after the RoHS compliant date for this product.