7860ENH

Networking Cables
Datatwist® cable
CAT 6 bonded F/UTP LSNH
2017-01-18 V5

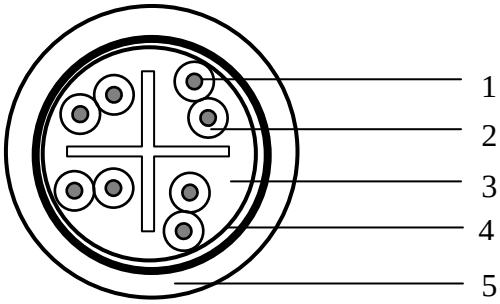
Applications

- Horizontal and building backbone cable
- Support current and future Category 6 and 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



1. Conductor

Material	Solid bare copper ETP
Diameter	AWG 23

2. Insulation

Material	Polyethylene
Nominal diameter over insulation	1.35 mm

3. Cable core

Pair	2 twisted bonded insulated conductors
Cross Web	Polyolefin
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
Foil	Overlapping polyester foil over cable core

4. Foil shielding

Material	Laminated Aluminium / Polyester

Position aluminium	Facing outside, in contact with drain wire
Drain wire material	Solid tinned copper
Drain wire diameter	AWG 26

5. Jacket

Material	LSNH
Diameter	7.3 ± 0.3 mm

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 and conductor-screen (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
Transfer impedance according IEC 61156-5	Grade 2	
Coupling attenuation according IEC 61156-5	Type II	

High frequency (at 20°), reference standard: ISO/IEC61156-5												
TYPE	**1***	**4**	**10**	**16**	**20**	**31.2**	**62.5**	**100**	**155**	**200**	**250**	**MHz**
Attenuation	2.1	3.8	6.0	7.6	8.5	10.7	15.5	19.9	25.3	29.1	33.0	dB/100m
NEXT	75.3	66.3	60.3	57.2	55.8	52.9	48.4	45.3	42.4	40.8	39.3	dB/100m
PS NEXT	72.3	63.3	57.3	54.2	52.8	49.9	45.4	42.3	39.4	37.8	36.3	dB/100m
ACR	73.2	62.4	54.3	49.6	47.3	42.1	32.9	25.4	17.1	11.6	6.3	dB/100m
PS ACR	70.2	59.4	51.3	46.6	44.3	39.1	29.9	22.4	14.1	8.6	3.3	dB/100m
ACR-F	70.0	58.0	50.0	45.9	44.0	40.1	34.1	30.0	26.2	24.0	22.0	dB/100m
PS ACR-F	67.0	55.0	47.0	42.9	41.0	37.1	31.1	27.0	23.2	21.0	19.0	dB/100m
Return Loss	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	18.8	18.0	17.3	dB/100m
TCL level 1	40.0	34.0	30.0	28.0	27.0	25.1	22.0	20.0	18.1	17.0	16.0	dB/100m
EL TCTL	35.0	23.0	15.0	10.9	9.0	5.1						dB/100m
Impedance upper limit	122.2	115.2	111.9	111.9	111.9	114.1	118.3	121.9	126.0	128.8	131.5	Ω
Impedance lower limit	81.8	86.8	89.4	89.4	89.4	87.7	84.5	82.0	79.3	77.6	76.0	Ω
Propagation delay	570	552	545	543	540	539	538	537	537	537	536	dB/100m

NOTE: Limits below 4MHz are for information only

Mechanical characteristics

	Specification	Unit
Elongation at break of the conductors	8	%
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	- 30 / 60	°C
Total cable weight	50	kg/km
Minimum bending radius (during operation and installation)	29 / 58	mm
Maximum pulling strength	80	N
Burning load	745	kJ/m
Smoke density acc. to IEC 61034-1/2 & EN50268-1/2; transmittance	> 60	%
Amount of halogen acid gas acc. to IEC 60754-1/2 & EN50267-1/2; pH	> 4.3	
Amount of halogen acid gas acc. to IEC 60754-1/2 & EN50267-1/2; Conductivity	< 10	µS/mm
Reaction to fire according IEC 60332-1	Pass	
Reaction to fire according EN50575	Dca-s2,d1,a1	

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.