

Technical Data Sheet

1633ENH

Networking Cables Datatwist® cable Cat. 5E F/UTP LSNH

2017-01-06 V4

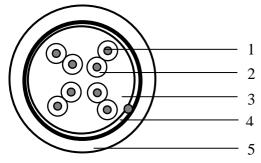
Applications

- 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



1. Conductor

Material Solid bare copper ETP Diameter AWG 24

2. Insulation

Material Polyethylene Nominal diameter over insulation 1.05 mm

3. Cable core

Pair

Number of pairs

Colour code pair 1

Colour code pair 2

Colour code pair 2

Colour code pair 3

Colour code pair 4

2 twisted insulated conductors

4, all twisted together

White / Blue & Blue

White / Orange & Orange

White / Green & Green

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

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Drain wire diameter AWG 26

5. Jacket

Material LSNH Diameter $6.0 \pm 0.3 \text{ mm}$

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	С
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	31.25	62.5	100	MHz
Attenuation	2.1	4.0	6.3	8.0	9.0	11.4	16.5	21.3	dB/100m
NEXT	65.3	56.3	50.3	47.2	45.8	42.9	38.4	35.3	dB/100m
PS NEXT	62.3	53.3	47.3	44.2	42.8	39.9	35.4	32.3	dB/100m
ACR	63.2	52.32	44.0	39.2	36.8	31.5	21.9	14.0	dB/100m
PS ACR	60.2	49.3	41.0	36.2	33.8	28.5	18.9	11.0	dB/100m
ACR-F	64.0	52.0	44.0	39.9	38.0	34.1	28.1	24.0	dB/100m
PS ACR-F	61.0	49.0	41.0	36.9	35.0	31.5	25.1	21.0	dB/100m
Return Loss	20.0	23.0	25.0	25.0	25.0	23.6	21.5	20.1	dB/100m
TCL level 1	40.0	34.0	30.0	28.0	27.0	25.1	22.0	20.0	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	Ω
Impedance lower limit	81.8	86.8	89.4	89.4	89.4	87.7	84.5	82.0	Ω
Propagation delay	570	552	545	543	540	539	538	537	ns/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	Α
Temperature rating installation	0 / 50	°C
Temperature rating operation	- 30 / 60	°C
Total cable weight	39	kg/km
Minimum bending radius (during operation and installation)	24 / 48	mm
Maximum pulling strength	72	N
Burning load	440	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	≤ 2.5	μS/mm
Fire performance according IEC 60332-1	Pass	
Reaction to fire according EN50575	Dca-s2,d2,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.