

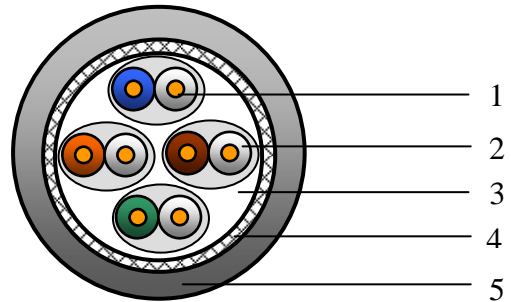
1885ELV

Networking Cables

Datatwist® cable

Cat. 7 S/FTP LSZH AWG23, B2ca

2017-03-14 V1



Applications

- Horizontal and building backbone cable
- Support current and future Category 6a and 7 applications, such as:
10GBase-T (10 Gigabit Ethernet), 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)
- European standard EN 50575 (2014)

Construction & Dimensions

1. Conductor	
Material	Solid bare copper ETP
Diameter	AWG 23
2. Insulation	
Material	Foamed polyethylene
Nominal diameter over insulation	1.45 mm
3. Cable core	
Pair	2 twisted insulated conductors with overall foil
Foil	Laminated aluminium-polyester Aluminium facing outside
Number of shielded pairs	4, all twisted together
Colour code pair 1	White / Blue
Colour code pair 2	White / Orange
Colour code pair 3	White / Green
Colour code pair 4	White / Brown
4. Braid	
Material	Solid tinned copper
Coverage	≥ 30%
5. Jacket	
Material	LSZH
Diameter	7.6 ± 0.3 mm
Ripcord	Nylon ripcord under jacket

Electrical characteristics

Reference standard : ISO/IEC 61156-5 edition 2.0 A2 (2010)

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)	0.78	c
Delay skew (differential delay)	≤ 25	ns/100m
Transfer impedance according IEC 61156-5	Grade 2	
Coupling attenuation according IEC 61156-5	Type II	

High frequency (at 20°)														
TYPE	1*	4	10	16	31.2	62.5	100	125	200	250	300	600	1000*	MHz
Attenuation	2.0	3.7	5.9	7.4	10.4	14.9	19.0	21.4	27.5	31.0	34.2	50.1	66.9	dB/100m
NEXT	78.0	78.0	78.0	78.0	78.0	75.5	72.4	70.9	67.9	66.4	65.2	60.7	57.4	dB/100m
PS NEXT	75.0	75.0	75.0	75.0	75.0	72.5	69.4	67.9	64.9	63.4	62.2	57.7	54.4	dB/100m
ACR	76.0	74.3	72.1	70.6	67.6	60.6	53.4	49.6	40.4	35.5	31.1	10.6		dB/100m
PS ACR	73.0	71.3	69.1	67.6	64.6	57.6	50.4	46.6	37.4	32.5	28.1	7.6		dB/100m
ACR-F	78.0	78.0	75.3	71.2	65.4	59.4	55.3	53.4	49.3	47.3	45.8	39.7	35.3	dB/100m
PS ACR-F	75.0	75.0	72.3	68.2	62.4	56.4	52.3	50.4	46.3	44.3	42.8	36.7	32.3	dB/100m
Return Loss	20.0	23.0	25.0	25.0	23.6	21.5	20.1	19.4	18.0	17.3	17.3	17.3	15.1	dB/100m
TCL level 1	40.0	34.0	30.0	28.0	25.1	22.0	20.0	19.0	17.0	16.0				dB/100m
EL TCTL	35.0	23.0	15.0	10.9	5.1									dB/100m
Impedance upper limit	122.2	115.2	111.9	111.9	114.1	118.3	121.9	123.9	128.8	131.5	131.6	131.6	142.8	Ω
Impedance lower limit	81.8	86.8	89.4	89.4	87.7	84.5	82.0	80.7	77.6	76.0	76.0	76.0	70.0	Ω
Propagation delay	570	552	545	543	540	539	538	537	536	536	536	535	535	ns/100m

NOTE: Limits below 4MHz are for information only. Values at 1000 MHz are for information only.

Typical performance

TYPE	1*	4	10	16	31.2	62.5	100	125	200	250	300	600	1000	MHz
Attenuation	1.8	3.4	5.5	6.9	9.7	13.9	17.7	19.9	25.6	28.8	31.8	46.6	62.2	dB/100m
NEXT	103	100	98	97	95	94	93	92	91	90	90	89	88	dB/100m
PS NEXT	100	97	95	94	92	91	90	89	88	87	87	86	85	dB/100m
ACR	101	97	92	90	85	80	75	72	65	61	58	42	26	dB/100m
PS ACR	98	94	89	87	82	77	72	69	64	58	55	39	23	dB/100m
ACR-F	95	94	93	91	90	87	85	83	77	74	74	60	50	dB/100m
PS ACR-F	92	91	92	88	87	84	82	80	74	71	71	57	47	dB/100m
Return Loss	27	30	32	32	35	33	32	31	30	25	25	23	21	dB/100m

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	- 30 / 60	°C
Total cable weight	52	kg/km
Minimum bending radius (during operation and installation)	30 / 60	mm
Maximum pulling strength	85	N
Burning load	650	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
Fire performance CPR class according EN 50575	B2ca-s1,a1,d1	

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.

