

ToughCAT 7

S/FTP Installation Cable for tougher environments



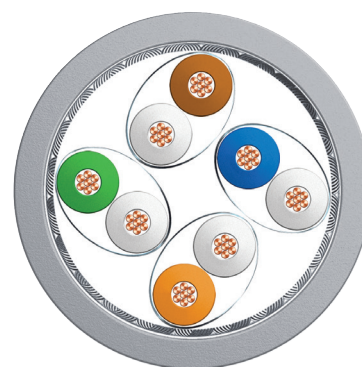
Draka

A brand of the

Prysmian
Group



Lloyd's
Register



Application

Generic Data transmission. This cable is a Cat7 S/FTP cable meant for use as installation/horizontal cable in tougher electrical and mechanical environment, including ships and offshore units.

Cable Design

Conductor	Stranded copper wire Ø 0.27 mm ² , AWG23
Insulation	PE, Ø 1.6 mm
Pair assembly	2 cores to the pair
Cable Lay Up	4 pairs. wh-bu, wh-or, wh-gn, wh-bn
Pair Screen	Al-laminated plastic foil around each pair
Braid	Tinned copper wire braid. Ø 6,6 mm
Outer Jacket	Oil resistant, Fire retardant and halogen free LSHF-FR, SHF1, acc. to IEC60092-360

Standards

Industrial Standards	EN 50173-1; EN 50288-4-1 ISO/IEC 11801; IEC 61156-5 Power over Ethernet(PoE/PoE+) Det Norske Veritas (DNV GL) Class Program DNVGL-CP-0403 and Lloyd Register approval system, 2002
Flammability Rating	EN 50399. Class Dca s2d1a1 IEC 60754-2; IEC 61034, IEC 60332-3-24
Chemical resistance	Mineral oils IRM 902 (IEC60811-404) : 7 days/23°C, 4 hours/70°C Diesel - IRM 903 (IEC60811-404) : 7 days/23°C, 4 hours/70°C



ToughCAT 7

S/FTP Installation Cable for tougher environments

Thermal & Mechanical Characteristics

Bending radius	Installation	8	x Ø
Bending radius	Installed	4	x Ø
Temperature range	During operation	-40 to +85	°C
Temperature range	During installation	-15 to +50	°C
Maximum tensile load	During operation	No Load	
Maximum tensile load	During installation	140	N
Fire load	4 pair	670	MJ/km

Electrical Characteristics

DC loop resistance		≤	138	Ω/km
Resistance unbalance		≤	2	%
Insulation resistance	(500 V)	≥	5000	MΩ x km
Capacitance	at 800 Hz	nom.	43	nF/km
Capacitance unbalance	(pair to ground)	≤	1500	pF/km
Mean characteristic impedance	@ 100 MHz		100±5	Ω
Nominal velocity of propagation			0,76	c
Propagation delay		≤	450	ns/100m
Delay skew		≤	15	ns/100m
Transfer impedance	at 1 MHz	≤	10	mΩ/m
Transfer impedance	at 10 MHz	≤	8	mΩ/m
Transfer impedance	at 30 MHz	≤	10	mΩ/m
Coupling attenuation		≥	85	dB
Segregation classification	Acc. to EN 50174-2		"D"	

ToughCAT 7

S/FTP Installation Cable for tougher environments

Nominal Transmission characteristics at 20°C

Frequency (MHz)	Attenuation (dB/100m)	NEXT (dB)	ACR (dB/100m)	Return Loss (dB)	PS-NEXT (dB)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)
1	2,0	90	88	-	87	85	85	82
4	3,6	90	86	27	87	83	85	82
10	5,5	90	84	30	87	81	79	76
16	7,5	90	82	30	87	79	75	72
20	7,7	90	82	30	87	79	73	70
31,25	9,8	90	80	30	87	77	69	66
62,5	14,0	86	72	30	83	69	63	60
100	17,9	83	65	30	80	62	59	56
155	22,4	81	59	26	78	55	57	54
200	25,6	78	52	25	75	49	53	50
250	28,8	77	48	25	74	45	51	48
300	31,6	73	41	23	70	38	47	44
600	45,7	71	25	20	68	22	44	41

Specification

Part no.	Description	Colour	Outer diameter [mm]	Euro Class	Fire load		Weight
					MJ/km	kWh/m	
60011617	ToughCat C7 LSHP-FR 4x2/0.27mm ²	Grey RAL7035	8,10	Dca s2d1a1	670	0,186	75

Belcom Cables Ltd. ("Belcom") reserves the right to make changes to the product described in this specification without prior notice. Belcom does not assume any liability which may occur due to the use of the specification described herein. Drawings are not to scale unless otherwise specified and are provided for general and informational purposes only. All values represented in this specification should be used as a guide only and exact product details can be confirmed at point of enquiry.