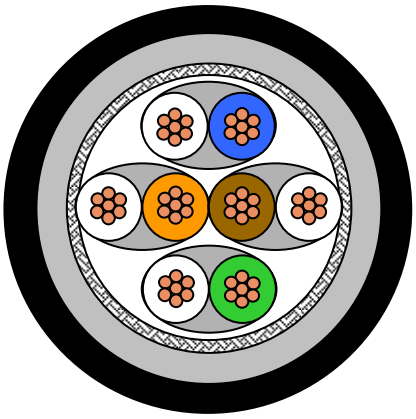
ToughCat 7 MUD Protected

S/FTP Installation Cable for tougher environments



Application

Generic Data transmission. This cable is a **Cat7 S/FTP** cable is based on our **DNV certified ToughCat**, but with an additional fire retardant, halogen-free, low smoke MUD protecting outer jacket. This cabel is meant for use as installation/horisontal cable in tougher electrical and mechanical environment, including ships and offshore units.

Standards

EN 50173-1; EN 50288-4-1
ISO/IEC 11801; IEC 61156-5

Fire rating

Inner sheath: LSHF-FR (SHF1)	: IEC 60754-2; IEC 61034, IEC 60332-3-24
MUD protecting outer sheath	: IEC 60754-2; IEC 61034, IEC 60332-3-24

Chemical resistance

Mineral oils IRM 902 (IEC60811-2-1)	: - 7 days/100°C
Diesel - IRM 903 (IEC60811-2-1)	: - 7 days/100°C

Certification

Pending.

Construction

Conductor	Stranded copper wire Ø 0.27 mm2
Insulation	PE, Ø 1.6 mm
Twisting	2 cores to the pair
Cable lay up	4 pairs
Pair screen	Al-laminated plastic foil around each pair
Overall screen	Copper braid, tinned Ø 6,6 mm
Inner sheath	Oil resistant, Fire retardant and halogen free LSHF-FR (SHF1).
Outer sheath	MUD protecting

Mechanical Properties

Bending radius	Without load	8 x D
	With load	4 x D

We reserve the right to alter this specification without notice

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Temperature range	During operation	-40°C to + 85°C
	During installation	-15°C to + 50°C
Fire load	4 pair	(on request) MJ/km
Maximum tensile load	During operation	No load
	During installation	100 N

Electrical Properties

at 20°C

DC loop resistance		≤ 138 Ω/km
Resistance unbalance		≤ 2%
Insulation resistance	(500 V)	≥ 5000 MΩxkm
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		0,76c
Propagation delay		≤ 450 ns/100 m
Delay skew		≤ 15 ns/100 m
Transfer impedance	at 1 MHz	≤ 10 mΩ /m
	at 10 MHz	≤ 8 mΩ /m
	at 30 MHz	≤ 10 mΩ /m
Coupling attenuation		≥ 85 dB

Nominal Transmission characteristics

at 20°C

F (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
62.50	14,0	86	72	30	83	69	63	60
100	17,9	83	65	30	80	62	59	56
155.00	22,4	81	59	26	78	55	57	54
200.00	25,6	78	52	25	75	49	53	50
250.00	28,8	77	48	25	74	45	51	48
300.00	31,6	73	41	23	70	38	47	44
600.00	45,7	71	25	20	68	22	44	41

Technical Data

Description	Variant	Colour	Outer diameter (D) mm	Delivery form	Weight kg/km	Material code		El. No	DCN No.
ToughCat 7 LSHF-FR 4x2/0.27 + MUD	MUD Protected	Grey RAL7024	10,1	Drum 500m	112	1019269		1082669	799091

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