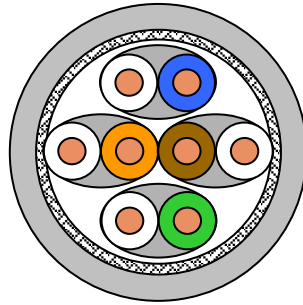


Bergen Cabling DNV & BV approved Maritime LAN S/FTP Cat7 cable



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. The cable is tested up to 900 MHz and will give good margin for application like 10 Gigabit Ethernet at a bandwidth up to 500 MHz.

Standards

EN 50173-1; EN 50288-4-1
ISO/IEC 11801; IEC 61156-5
DNV specification No. 262.1-010028, DNVGL-CP-0403

Fire rating

LSHF-FR(SHF1) : IEC 60754-2; IEC 61034, IEC 60332-3-24

Construction

Conductor	Solid copper wire, \varnothing 0.56 mm (AWG 23)
Insulation	Foamskin PE, \varnothing 1.4 mm
Twisting	2 cores to the pair
Pair screen	Al-laminated plastic foil
Cable lay up	4 pairs (PiMF) to the core
Screen	Copper braid, tinned
Sheath	Oil resistant, fire retardant and halogen free LSHF-FR (SHF1). Compliant to ISO 4892-3, UVA-lamp 340, exposure mode 1

Chemical resistance

Mineral oils IRM 902 (IEC60811-2-1)	: 7 days/23°C
	4 hours/70°C
Diesel - IRM 903 (IEC60811-2-1)	: 7 days/23°C
	4 hours/70°C



Mechanical properties

Bending radius	Without load	8 x D
	With load	4 x D
Temperature range	During operation	-40°C to + 85°C
	During installation	-15°C to + 50°C
Fire load	4 pair	670 MJ/km
Maximum tensile load	During operation	No load
	During installation	200 N

Electrical properties

at 20°C± 5°C

Loop resistance		≤ 150 Ω/km
Resistance unbalance		≤ 2%
Insulation resistance	(500 V)	≥ 5000 MΩ*km
Mutual capacitance	at 800 Hz	Nom. 43 nF/km
Capacitance unbalance	(pair/ground)	≤ 1500 pF/km
Characteristic impedance	(1-100 MHz)	(100 ± 5) Ω
	(100 - 250) MHz	(100 ± 10) Ω
	(250 - 600) MHz	(100 ± 15) Ω
Nominal velocity of propagation		ca. 79 %
Propagation delay		≤ 570 ns/100m
Delay skew		≤ 9 ns/100m
Test voltage	(DC, 1 min) core/core and core/screen	1000 V
Transfer impedance(Grade 1)	at 1 MHz	≤ 10 mΩ/m
	at 10 MHz	≤ 10 mΩ/m
	at 30 MHz	≤ 10 mΩ/m
	at 100MHz	≤ 20 mΩ/m
Coupling attenuation		≥ 85 dB

Certification

DNV approved for Maritime and Offshore. Certificate No: TAE0000009

Bureau Veritas approved for Maritime and Offshore. Certificate No: 34693/B0 BV

UV-protection

The Bergen Cabling Cat7 BC-10-001 cable includes additional UV-stabilizer system, compared to indoor cables. The outer sheathing material is compliant to ISO 4892-3, UVA-lamp 340, exposure mode 1.

The Cat7 cable can be installed in outdoor environments, but direct sunlight is not advised, as this will increase the degradation process. Stronger sun radiation, as close to tropical areas, would accelerate the reduction of lifetime, as also additional exposure to such as chemicals.

Exposure to sun light could also to some degree affect the colour of the outer sheath. In northern areas, as the Nordics, the reduction of lifetime may be only marginal, even if exposed to direct sun light. For installations in more extreme conditions where the highest possible chemical resistance is required, we advise to use the MUD protected version BC-10-005. For tropical or close to tropical conditions, in general we advise not to expose the cables to direct sun light, especially not the mid-day exposure, when the radiation is at its strongest, as this will accelerate the ageing process of all plastic materials, and could drastically reduce the lifetime of the cables. If sunlight exposure is expected in such areas, we recommend using the MUD version, to ensure longest possible lifetime.



Electrical data (nominal)

acc. to Cat.7 (at 20°C)

F (MHZ)	Attenuation (dB/100m)	NEXT (dB)	PS-NEXT (dB)	ACR (dB/100m)	PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	Return loss (dB)
1,0	1,8	100	97	98	95	105	105	-
4,0	3,4	100	97	97	94	105	102	27
10,0	5,4	100	97	95	92	97	94	30
16,0	6,8	100	97	93	90	93	90	30
20,0	7,7	100	97	92	89	91	88	30
31,2	9,6	100	97	90	87	87	84	30
62,5	13,7	100	97	86	83	81	78	30
100,0	17,4	100	97	83	80	77	74	30
125,0	19,5	95	92	75	72	75	72	26
155,5	21,9	94	91	72	69	73	70	26
175,0	23,3	93	90	70	67	72	69	25
200,0	25,0	92	89	67	64	71	68	25
250,0	28,1	90	87	62	59	69	66	24
300,0	30,9	89	86	58	55	67	64	24
450,0	38,3	87	84	48	45	64	61	23
600,0	44,8	85	82	40	37	61	58	22
750,0	52,0	83	80	31	28	59	56	21
900,0	59,4	82	79	23	20	58	55	20

Fumigation

No fumigation needed for 500m drums. The cable is delivered on environmental plastic reels.

Technical Data/Ordering info

Description	Variant	Colour	Outer diameter (D) mm	Delivery form	Weight kg/km	BC No.	EI No.
Maritime LAN Cat.7 S/FTP 4x2/0.56	LSHF-FR(SHF1)	Grey RAL7035	7,8	Reel 500m EuroPallet 6000m	67	BC-10-001	1000801
Maritime LAN Cat.7 S/FTP 4x2/0.56	LSHF-FR(SHF1)	Grey RAL7035	7,8	Reel 2000m Pallet 8000m	67	BC-10-001-2K	1000849