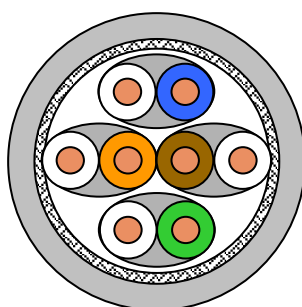


Bergen Cabling DNV GL approved Maritime LAN S/FTP Cat.6A cable



Application

Generic Data transmission. This cable is a **Cat6A 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 500 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
Det Norske Veritas (DNV GL) approved according to DNV GL CP-0403

Fire rating

LSHF-FR(SHF1) : IEC 60754-1/2; IEC 61034-1/2, IEC 60332-3-22, 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).

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	110 N

Electrical properties

at 20°C± 5°C

Loop resistance		≤ 165 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	≤ 15 mΩ/m
	at 10 MHz	≤ 10 mΩ/m
	at 30 MHz	≤ 30 mΩ/m
	at 100MHz	≤ 30 mΩ/m
Coupling attenuation		≥ 80 dB



Electrical data (nominal)

acc. to Cat.6A (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
500,0	43,0	86	83	43	40	61	58	22
600,0	44,8	85	82	40	37	61	58	22

Fumigation

No fumigation needed. The cable is delivered on environmental plastic reels.

Technical Data

Description	Variant	Colour	Outer diameter (D) mm	Delivery form	Weight kg/km	BC No.
Maritime LAN Cat.6A S/FTP 4x2/0.56	LSHF-FR(SHF1)	Grey RAL7035	7,6	Reel 500m EuroPallet 6000m	60	10-021

Certification

DNV GL approved for Maritime and Offshore. Certificate No: TAE00002HN