

Fibre Optic Cable SHF1
DNV-GL Certified No:
TAE00004AX



Application

A Central Loose Tube Fibre Optic Cable suitable for Indoor & outdoor applications where there is little to no risk of mechanical stress.

DNV approval makes it suitable for Maritime Environments & Offshore Applications.

General Construction

The cable contains upto 24 colour coded optical fibres contained in a single loose tube filled with a thixotropic gel to prevent the ingress of water. Fibreglass strength member yarns reinforce the cable core beneath an inner jacket of SHF-1 according to IEC60092-360.

...continued

Fibre Optic Cable SHF1
DNV-GL Certified No:
TAE00004AX

Design & Materials

Buffer Material:	PBT (Ø 2,1mm nom.)
Fibre colours:	according to EIA/TIA 598
Strength Elements:	E-Glass Yarns
Jacket Material:	LSZH SHF-1
Rip-Cord:	Yes
Overall Diameter :	Ø 6,5 mm Nom.
Weight :	55 kg/km

Performance

Tensile Strength - Short Term:	1500 N max.
Tensile Strength - Long Term:	900 N max.
Impact Resistance:	10 N*m
Impact Resistance:	3 cycles
Max. Crush Resistance:	400 N/cm
Min. Bend Radius for Installation:	20xD mm
Min. Bend Radius for Operation:	10xD mm
Repeated Bending:	25 cycles
Max. Operating Temperature:	+70 °C
Min. Operating Temperature:	-40 °C
Max. Storage Temperature:	+50 °C
Min. Storage Temperature:	-40 °C
UV resistance:	Yes



Fibre Optic Cable SHF1
DNV-GL Certified No:
TAE00004AX

Standards

Applicable Standards:	DNV Certified No: TAE00004AX, IEC 60794-1-21/22, IEC 60794, IEC 60092-360
Flammability Rating:	IEC 60332-3-22, IEC 60332-3-24, IEC 60754-1, IEC 60754-2, IEC61034-1/2
Installation:	Guidelines as per IEC TR 62691

Specification

Part Number
AMO02**-C***
AMO04**-C***
AMO06**-C***
AMO08**-C***
AMO12**-C***
AMO16**-C***
AMO24**-C***

** = OM1 / OM2 / OM3 / OM4 / SM

*** = ZF1 (SHF1)

FRC Fibre Optic Cable SHF1
DNV-GL Certified No:
TAE00004AX

Single Mode Fibre Characteristics *ITU-T G652D*

Nominal MFD range at 1310 nm		8,6 - 9,4	µm
Nominal MFD range at 1550 nm		9,6 - 10,6	µm
Cladding diameter		125±0,7	µm
Coating diameter		245±10	µm
Core/cladding concentricity error		≤ 0,50	µm
Cladding non-circularity		≤ 0,70	%
Attenuation	1310 nm	≤ 0,36	dB/km
Attenuation	1383 nm	≤ 0,36	dB/km
Attenuation	1550 nm	≤ 0,23	dB/km
Attenuation	1285÷1330 nm	≤ 0,40	dB/km
Attenuation	1530÷1565 nm	≤ 0,25	dB/km
Attenuation	1565÷1625 nm	≤ 0,27	dB/km
Chromatic Dispersion coefficient	1285÷1330 nm	≤ 3,0	ps/nm • km average
Chromatic Dispersion coefficient	1285÷1330 nm	≤ 3,5	ps/nm • km maximum
Chromatic Dispersion coefficient	1550 nm	≤ 18	ps/nm • km
Chromatic Dispersion coefficient	1625 nm	≤ 22	ps/nm • km
Zero chromatic dispersion wavelength		1302 ≤ ≤ 1322	nm
Cut-off wavelength		≤ 1260	nm
Individual fibre polarization mode dispersion (PMD)		≤ 0,20	

...continued

FRC Fibre Optic Cable SHF1
DNV-GL Certified No:
TAE00004AX

Multi Mode Fibre Characteristics

Parameter	50/125 μm			62,5/125 μm	Units
ISO/IEC 11801 Performance Category	OM2	OM3	OM4	OM1	
Attenuation @ 850 nm	≤ 2,8			< 3,2	dB/km
Attenuation @ 1300 nm	≤ 0,9			< 1,0	dB/km
Bandwidth @ 850 nm	≥ 500	≥ 1500	≥ 3500	≥ 200	MHz • km
Bandwidth @ 1300 nm	≥ 500	≥ 500	≥ 500	≥ 500	MHz • km
Effective Model Bandwidth @ 850 nm	N/A	≥ 2000	≥ 4700	N/A	MHz • km
Supported Ethernet Link Lengths (max.)					
1 GbE @ 850 nm (1000BASE-SX)	550	970	1040	220	m
1 GbE @ 1300 nm (1000BASE-LX)	950	550	600	550	m
10 GbE @ 850 nm (10GBASE-SR)	82	300	550	33	m
10 GbE @ 1300 nm (10GBASE-LX4)	450	300	300	300	m
40/100 GbE @ 850 nm (40/100 GBASE-SR4/10)	N/A	100	150	N/A	m
Numerical Aperture	0,20 ± 0,015			0,275 ± 0,015	
Core Diameter	50 ± 2,5			62,5 ± 3	μm
Cladding Diameter	125 ± 1			125 ± 2	μm
Core Non-Circularity	≤ 4			≤ 5	%
Cladding Non-Circularity	≤ 0,7			≤ 1	%
Core/Cladding Offset	≤ 1,5			≤ 1,5	μm
Coating Diameter (Un-dyed)	245 ± 10			245 ± 10	μm
Proof-Test Level	0,7			0,7	GN/m²
Induced Macrobend Attenuation					
100 turns on 37,5 mm radius	0,5 / 0,5			0,5 / 0,5	dB (max.) 850/1300 nm
2 turns on 15 mm radius	0,1 / 0,3			0,5 / 0,5	
2 turns on 7,5 mm radius	0,2 / 0,5			0,5 / 0,5	