

QFAI UNI

Fire resistant

4 - 24 optical fibres, loose tube

SHF1

DNV

Application

A robust fibre cable suited for harsh ship- and offshore environment. It has no metal content, which leaves it immune to electric and electromagnetic shockwaves. For LAN and WAN installations as well as telecommunication and data transmission on board. UV-resistant and rodent protected, SHF1 outer jacket. Fire resistant; operational for 90 minutes if exposed to fire.



Construction Fiber

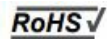
Sub unit sheath	Løs kledning fettfylt PBTP rør, 3,5 mm	
Colorcode fiber	1- Natural	13- Turkis
	2- Rød	14- Rød (m/sorte ringer)
	3- Grønn	15- Grønn (m/sorte ringer)
	4- Gul	16- Gul (m/sorte ringer)
	5- Brun	17- Brun (m/sorte ringer)
	6- Blå	18- Blå (m/sorte ringer)
	7- Fiolett	19- Fiolett (m/sorte ringer)
	8- Oransje	20- Oransje (m/sorte ringer)
	9- Grå	21- Grå (m/sorte ringer)
	10- Hvit	22- Hvit (m/sorte ringer)
	11- Sort	23- Rosa (m/sorte ringer)
	12- Rosa	24- Turkis (m/hvite ringer)
Fire barrier	Mica tape	
Armour	E-glass	
Jacket	Oransje eller rød, SHF1 UV-bestndig	
Diameter	9,5 [mm]	
Weight	95 [kg/km]	

Specifications fiber

Temperature range	-40 – +70 [°C]
Temperaturerange at inst.	-5 – +50 [°C]
Tensile strength	3200 [N] IEC 60794-1-2 E1
Crush resistance	3200 [N/10cm] IEC 60794-1-2 E3
Impact resistance	10 [J]
Bending radius flexible	15 [x outer diam.]
Bending radius	10 [x outer diam] IEC 60794-1-2 E11A

Norms

Halogenfree, max content corrosive and toxic gases	<0,3% målt i henhold til IEC 60754-1,2
Flame resistance	IEC 60332-3-22
Flame retardant	IEC 60332-1-2
Fire resistant	IEC 60331-25
Smoke emission	IEC 61034-1 & IEC 61034-2
Test and material	Integritetstest IEC 60331-11 / IEC 60331-25 (1000 ° C, 90 min.) maks endring demping 2,0 dB Integritetstest EN 50200 (842 ° C, 90 min.) maks endring demping 2,0 dB Brannbelastning: 1,03 MJ / m
UV-resistant	ASTM G 154 IEC 60068-2-5
Certification	DNV



Fiber data

Properties	MM 62.5 OM1	MM 50 OM2	MM 50 OM3	MM 50 OM4
Core Diameter	62.5 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm	50 ± 2.5 µm
Core non-circularity	< 5%	< 5%	< 5%	< 5%
Cladding diameter	125 ± 1.0 µm	125 ± 1.0 µm	125 ± 1.0 µm	125 ± 1.0 µm
Coating diameter	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm	242 ± 5 µm
Cladding non-circularity	<0.7%	<0.7%	<0.7%	<0.7%
Core/Cladding concentricity error	<1 µm	<1 µm	<1 µm	<1 µm
Coating/cladding concentricity error	<10 µm	<6 µm	<6 µm	<6 µm
Numerical Aperture	0.275 ± 0.015 µm	0.275 ± 0.015 µm	0.275 ± 0.015 µm	0.275 ± 0.015 µm
Attenuation @ 850 nm	<3.50 dB/km	<2.89 dB/km	<2.89 dB/km	<2.89 dB/km
Attenuation @1300 nm	<1.00 dB/km	<0.80 dB/km <0	<0.80 dB/km <0	<0.80 dB/km <0
Bandwidth @ 850 nm	>200 MHz*km	>500 MHz*km	>1500 MHz*km	>3500 MHz*km
Bandwidth @ 1300 nm	>500 MHz*km	>500 MHz*km	>500 MHz*km	>500 MHz*km
Effective Modal Bandwidth (EMB)@ 850 nm	-	-	>2000 MHz*km	>4700 MHz*km
Fibre capacity 10GBase-SR	33 m	83 m	300 m	550 m
Fibre capacity 1GBase-SR	274 m	600 m	1000 m	1100 m
Fibre cap. 40GBase-SR4/100BaseRS10	-	-	140 m	170 m
Proof test	>100kpsi	>100kpsi	>100kpsi	>100kpsi

Properties	SMR ITU-T G652D	SMR ITU-T G657A	SMR ITU-T G657B / - B2	SMR NZD ITU-T G655.E
Mode field Diameter @ 1310 nm	9,0±0,4 µm	9,0±0,4 µm	9,0±0,4 µm	-
Mode field Diameter @ 1550 nm	10,1±0,5µm	10,1±0,5µm	9,9±0,5µm	9,2±0,5µm
Cladding diameter	125±0,7µm	125±0,7µm	125±0,7µm	125±1,0µm
Coating diameter	242±7 µm	242±7 µm	242±7 µm	242±7 µm
Cladding non-circularity	≤ 0,7 %	≤ 0,7 %	≤ 0,7 %	≤ 0,7 %
Core/Cladding concentricity error	≤ 0,5 µm	≤ 0,5 µm	≤ 0,5 µm	≤ 0,5 µm
Coating/cladding concentricity error	≤ 12 µm	≤ 12 µm	≤ 12 µm	≤ 12 µm
Cable Cut off wavelength	≤ 1260 nm	≤ 1260 nm	≤ 1260 nm	≤ 1300 nm
Zero dispersion wavelength (λ)	1300-1322 µm	1300-1322 µm	1300-1322 µm	1440 µm
Dispersion slope (S) @ (λ)	≤ 0,090 ps/(nm ² * km)	≤ 0,090 ps/(nm ² * km)	≤ 0,092 ps/(nm ² * km)	-
Chromatic dispersion @ 1285-1330 nm	≤ 3,5 ps/(nm * km)	≤ 3,5 ps/(nm * km)	-	-
Chromatic dispersion @ 1550 nm	≤ 18 ps /(nm * km)	≤ 18 ps /(nm * km)	-	-
Chromatic dispersion @ 1625 nm	≤ 22 ps/(nm * km)	≤ 22 ps/(nm * km)	-	-
Chromatic dispersion @ 1530-1565 nm	-	-	-	5,5 - 10 ps/(nm * km)
Chromatic dispersion @ 1565-1625 nm	-	-	-	5,5 - 10 ps/(nm * km)
PMD @ 1550 nm	≤ 0,1 ps/√ km	≤ 0,1 ps/√ km	≤ 0,1 ps/√ km	≤ 0,2 ps/√ km
Attenuation @ 1310 nm	≤ 0,35 dB/km	≤ 0,35 dB/km	≤ 0,35 dB/km	≤ 0,40 dB/km
Attenuation @ 1383nm	≤ 0,35 dB/km	≤ 0,35 dB/km	≤ 0,35 dB/km	≤ 0,40 dB/km
Attenuation @ 1550 nm	≤ 0,25 dB/km	≤ 0,25 dB/km	≤ 0,25 dB/km	≤ 0,25 dB/km
Attenuation @ 1625 nm	≤ 0,28 dB/km	≤ 0,28 dB/km	≤ 0,28 dB/km	≤ 0,28 dB/km
Attenuation with bending:				
Mandreal Radius 15mm @1550 10 turns	-	≤ 0,25 dB	≤ 0,03 dB	-
Mandreal Radius 15mm @1625 10 turns	-	≤ 1,0 dB	≤ 1,0 dB	-
Mandreal Radius 10mm @1550 1 turn	-	≤ 0,75 dB	≤ 0,1 dB	-
Mandreal Radius 10mm @1625 1 turn	-	≤ 1,5 dB	≤ 0,2 dB	-
Mandreal Radius 7,5mm @1550 1 turn	-	-	≤ 0,5 dB	-
Mandreal Radius 7,5mm @1625 1 turn	-	-	≤ 1,0 dB	-
Proof test	≥ 100 kpsi	≥ 100 kpsi	≥ 100 kpsi	≥ 100 kpsi

Table

Number of fibers	Weight [kg/km]	Part.no.
G4 50/125 SHF1 - OM4 - orange	60	1028778
G6 50/125 SHF1 - OM4 - orange	60	1028779
G8 50/125 SHF1 - OM4 - orange	60	1028780
G12 50/125 SHF1 - OM4 - orange	60	1028781
G24 50/125 SHF1 - OM4 - orange	70	1028782
G4 9/125 SHF1 - OS2 - red	60	1028783
G4 9/125 SHF1 - OS2 - orange	60	1091123
G6 9/125 SHF1 - OS2 - orange	60	1028784
G8 9/125 SHF1 - OS2 - red	60	1028785
G8 9/125 SHF1 - OS2 - orange	60	1091127
G12 9/125 SHF1 - OS2 - red	60	1028786
G24 9/125 SHF1 - OS2 - orange	70	1028787
G4 50/125 SHF1 - OM2 - orange	60	1028788
G6 50/125 SHF1 - OM2 - orange	60	1028789
G8 50/125 SHF1 - OM2 - orange	60	1028790
G12 50/125 SHF1 - OM2 - orange	60	1028791
G24 50/125 SHF1 - OM2 - orange	70	1028792
G4 62,5/125 SHF1 - OM1 - red	60	1028793
G6 62,5/125 SHF1 - OM1 - orange	60	1028794
G8 62,5/125 SHF1 - OM1 - orange	60	1028795
G12 62,5/125 SHF1 - OM1 - orange	60	1028796
G24 62,5/125 SHF1 - OM1 - orange	70	1028797
G4 50/125 SHF1 - OM3 - red	60	1091149
G6 50/125 SHF1 - OM3 - orange	60	1091148
G8 50/125 SHF1 - OM3 - orange	60	1091151
G12 50/125 SHF1 - OM3 - red	60	1028776
G12 50/125 SHF1 - OM3 - orange	60	1028771
G24 50/125 SHF1 - OM3 - red	70	1028777
G24 50/125 SHF1 - OM3 - orange	70	1028772