

QFAI UNI SHF2 MUD

Fire resistant

4 – 24 fibres, loose tube

Nonmetallic

SHF2 - MUD

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, SHF2 MUD outer jacket. Fire resistant; operational for 90 min. if exposed to fire.



Construction Fiber

Fibertype	SM OM3 50/125
Colorcode fiber	TIA / EIA 598 1 - Blue 13 - Blue w/ black stripes 2 - Orange 14 - Orange w/ black stripes 3 - Green 15 - Green w/ black stripes 4- Brown 16- Brown w/ black stripes 5 - Grey 17 - Grey w/ black stripes 6 - White 18 - White w/ black stripes 7 - Red 19 - Red w/ black stripes 8 - Black 20 - Black w/ yellow stripes 9 - Yellow 21 - Yellow w/ black stripes 10 - Purple 22 - Purple w/ black stripes 11 - Pink 23 - Pink w/ black stripes 12 - Turquoise 24 - Turquoise w/ black stripes
Fiber tube	Central tube gel filled + Mica tape $\varnothing = 4.2 \pm 0.2$ mm
Moisture barrier	Glass yarn
Jacket	Red SHF2 MUD-resistant
Diameter	9.5 ± 0.3 [mm]
Weight	103 [kg/km]

Specifications fiber

Temperature range	-40 – +70 [°C] (IEC 60794-1-22-F1)
Temperaturerange at inst.	-5 – +50 [°C]
Tensile strength	3200 [N] (IEC 60794-1-21-E1)
Crush resistance	3200 [N/10cm] (IEC 60794-1-21-E3)
Impact resistance	10 [J] (IEC 60794-1-21-E4)
Bending radius flexible	15 [x outer diam.] (IEC 60794-1-21-E11)
Bending radius installed	10 [x outer diam.] (IEC 60794-1-21-E11)



Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Flame resistance	IEC 60332-3-22
Flame retardant	IEC 60332-1
Fire resistant	IEC 60331-25 – 90 min. @ 830°C
Smoke emission	IEC 61034-2
Oil and fuel resistant	IEC 60811-2-1 IRM 902 & IRM 903 4h @ 70°C
Certification	DNV

Part No.	G8 - 8012403
----------	--------------

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	0.200 ± 0.015 µm	0.200 ± 0.015 µm	0.200 ± 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	< 0.80 dB/km	< 0.80 dB/km
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 10GBase-LX4	274 m	600 m	1000 m	1100 m
Fibre cap. 40GBase-SR4/100BaseRS10	-	-	140 m	170 m
Proof test	> 100 kpsi	> 100 kpsi	> 100 kpsi	> 100 kpsi

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 ± 0.5 µm	10.1 ± 0.5 µm	9.9 ± 0.5 µm	9.2 ± 0.5 µm



Properties	SMR ITU-T G652D	SMR ITU-T G657A	SMR ITU-T G657B / -B2	SMR NZD ITU-T G655.E
Cladding diameter	125 ± 0.7 µm	125 ± 0.7 µm	125 ± 0.7 µm	125 ± 1.0 µm
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_0)	1300 - 1322 µm	1300 - 1322 µm	1300 - 1324 µm	1400 µm
Dispersion slope (S_0) @ (λ_0)	≤ 0.090 ps/(nm ² * km)	≤ 0.090 ps/(nm ² * km)	≤ 0.092 ps/(nm ² * km)	-
Chromatic dispersion @ 1285- 1330 nm	5 - 1330 nm ≤ 3.5 ps/(nm * km)	5 - 1330 nm ≤ 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