AICI - SHF1

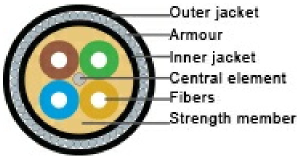
Tight buffered optical cable
Steel wire braid armour
UV resistant, SHF1, F6
DNV

Application

Optical fiber cable for industry environments. The cable is suitable for both indoor and outdoor use.
Continuos submergence in water is not recommended. Outer sheath of UV-, oil- and weather resistant material.
Strength elements of glass yarn around the cable core allow easy installation of long lengths.
The 0,9mm tight buffer is easy to strip allowing fast and reliable splicing and connector mounting.
Each fibre is color coded for easy identification. Outer jacket is marked to show fibre type and cable type.

Construction Fiber

Fibertype	OM1, OM2, OM3, OM4 or OS2
Tight buffer fiber	Yes, (0.9mm)
No. of tight buffer fibers	2 to 12 fibers
Waterblock	Reinforced fiberglass yarns
Colorcode fiber	TIA/EIA 598 Blue Brown Red Purple Orange Grey Black Pink Green White Yellow Turquoise
Central element	≥ 6 fibers, yes
Inner jacket	SHF1
Armour	Galvanized steel wire braid
Outer Jacket	Black SHF1



Specifications fiber

Temperature range	-20 – +70 [°C] (IEC 60794-1-21 F1)
Crush resistance	1500 [N/10cm] (IEC 60794-1-21 E3)
Bending radius	20 [x outer diam] (IEC 60794-1-21 E11)

Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Design and testing standards	IEC 60794-1-21 & IEC 60794-1-22
Flame resistance	IEC 60332-3
Flame retardant	IEC 60332-1
Toxic gases max.	IEC 61034-2
CPR classification	Dca-s1, d1, a1
DoP No.:	DOP02300
Certification	DNV

No. fibres	Tensile load perm / inst [N]	Outer diam. [mm]	Weight [kg/km]
2	700 / 1250	9.0 ± 0.3	98
4	700 / 1250	9.3 ± 0.3	104
6	800 / 1450	9.5 ± 0.3	111
8	800 / 1450	10.7 ± 0.3	138
12	900 / 1600	11.5 ± 0.3	157

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 diamete	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	< 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	500 m
Fibre capacity 1GBase-SR	274 m	600 m	1000 m	1100 m
Fibre cap. 40GBase-SR4/100Base-RS10	-	-	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 ± 0.5 µm	10.1 ± 0.5 µm	9.9 ± 0.5 µm	9.9 ± 0.5 µm
Cladding diameter	125 ± 0.7µm	125 ± 0.7µm	125 ± 0.7µm	125 ± 0.7µm
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	1440 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	≤ 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	≤ 1.0 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	≤ 1.0 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