AICI-I/O/RM-JM SHF1

Tight buffered
Steel wire braid armour
SHF1, F6, UV resistant
DNV / ABS

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
No. of tight buffer fibers	4, 8, 12 or 24
Waterblock	Reinforced fiberglass yarns
Colorcode fiber	TIA/EIA 598 Blue Brown Red Purple Orange Grey Black Pink Green White Yellow Turquoise
Inner jacket	SHF1
Armour	Armour alt.1: Galvanised steel wire braid Armour alt.2: Tinned Cu-braid Armour alt.3: Bronze wire braid
Jacket	SHF1 UV-resistant

Specifications

Operating temperature normal	-40 – +70 [°C]
Temperature @ installation	-10 to +70 [°C]
Crush test	2000 [N/10cm] IEC 60794-1-21 (E3)
Impact	1 impacts, 25J, IEC 60794-1-21 (E4, E7)
Min. bending radius flexible	15 [x outer diam]
Min. bending radius installed	10 [x outer diam]

Norms

Halogenfree, max content corrosive and toxic gases	IEC 60754-1 & IEC 60754-2
Material properties, insulation and sheath	IEC 60092-360
Flame resistance	IEC 60332-3-22 Cat.A
Flame retardant	IEC 60332-1-2
Smoke emission	IEC 61034-2
Certification	DNV / ABS

RoHS

Dimensions fibercable

Number of fibers	Outer diam. (mm)	Weight (kg/km)	Tensile strength (N) (at installation/in operation)
4	8.5	105	700/250
8	9.4	125	800/350
12	10.3	145	1,200/500
24	12.1	185	1,700/750

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 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	8,9±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_0)	1300-1322 µm	1300-1322 µm	1300-1324 µm	1440 µm
Dispersion slope (S_0) @ (λ_0)	≤ 0,090 ps/(nm² * km)	≤ 0,090 ps/(nm² * km)	≤ 0,092 ps/(nm² * 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	-	-	≤ 0,5dB	-
Mandreal Radius 7,5mm @1625 1 turn	-	-	≤ 1,0dB	-
Proof test	≥ 100 kpsi	≥ 100 kpsi	≥ 100 kpsi	≥ 100 kpsi

Part No.Fiber

62.5/125	50/125 OM2	50/125 OM3	50/125 OM4	9/125
1028888 - G4-62,5/125 AICI-I/O/RM-JM/SHF1	1028884 - G4-OM2-50/125 AICI-I/O/RM-JM/SHF1	1028892 - G4-OM3 AICI-I/O/RM-JM/SHF1	1028860 - G4-OM4-50/125 AICI-I/O/RM-JM/SHF1	1028880 - G4-9/125 AICI-I/O/RM-JM/SHF1
1028889 - G8-62,5/125 AICI-I/O/RM-JM/SHF1	1028885 - G8-OM2-50/125 AICI-I/O/RM-JM/SHF1	1028893 - G8-OM3 AICI-I/O/RM-JM/SHF1	1028861 - G8-OM4-50/125 AICI-I/O/RM-JM/SHF1	1028881 - G8-9/125 AICI-I/O/RM-JM/SHF1
1028890 - G12-62,5/125 AICI-I/O/RM-JM/SHF1	1028886 - G12-OM2-50/125 AICI-I/O/RM-JM/SHF1	1028894 - G12-OM3 AICI-I/O/RM-JM/SHF1	1028862 -12G4-OM4-50/125 AICI-I/O/RM-JM/SHF1	1028882 - G12-9/125 AICI-I/O/RM-JM/SHF1
1028891 - G24-62,5/125 AICI-I/O/RM-JM/SHF1	1028887 - G24-OM2-50/125 AICI-I/O/RM-JM/SHF1	1028895 - G24-OM3 AICI-I/O/RM-JM/SHF1	1028863 - G24-OM4-50/125 AICI-I/O/RM-JM/SHF1	1028883 - G24-9/125 AICI-I/O/RM-JM/SHF1

Updated

Date	Rev.	Description
10.03.2015	1	Armour
30.03.2016	2	Dimensions
14.10.2016	3	Fire properties (BS)
23.01.2017	4	Fiber data
23.10.2018	5	Part numbers
26.02.2020	6	Norms
16.03.2021	7	Norms
26.09.2023	8	Colour code