

*AICI Fibre Optic Cable
SHF-1*



Cable Design

Central Support Element	Dielectric strength member (FRP)
Optical Fibres	850µm tight buffered optical fibres
Colour Code	EIA/TIA 598
Stranding	The fibres are bundled around a central strength member (FRP)
Strain Relief	Water blocking aramid yarns
Inner Jacket	LSZH FireFighter SHF-1, Black
Armour	DataGuard Galvanised steel wire braid (GSWB)
Outer Jacket	LSZH SHF-1, UV-Stabilised Black

Fire Behaviour

Flame retardant	IEC 60332-1-2
No-Fire propagation	IEC 60332-3-22
Halogen content	IEC 60754-1-2
Smoke density	IEC 61034-1-2

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Mechanical & Thermal Characteristics

Tensile strength (max.)		see specification table
Bending Radius (min.)	Static	10 x Ø
	Dynamic	20 x Ø
Crush resistance	Operation	2000 N/100mm
Impact		1 impacts, 25J
Torsion		± 1 turns/ 1m
Watertightness*		< 3 m/24 hours
Temperature range	Storage	-40 °C to +70 °C
	Installation	-10 °C to +70 °C
	Operating	-40 °C to +70 °C

* steel wire braid is not watertight

Specification

No. of Fibres	Tight Buffered Diameter [µm]	Overall Diameter [mm]	Weight [kg/km]	Tensile Strength (Inst./Oper.) [N]
2	850 ± 50	7,8	88	500 / 200
4	850 ± 50	8,0	98	600 / 240
8	850 ± 50	9,0	110	800 / 350
12	850 ± 50	10,0	130	1000 / 400
16	850 ± 50	10,5	165	1000 / 400
24	850 ± 50	12,0	190	1200 / 480

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Characteristics Of Optical Fibre Multimode 62,5/125 IEC 60793-2-10 A1b

Core Diameter		62,5 ± 3	µm
Cladding Diameter		125 ± 2	µm
Coating Diameter		245 ± 10	µm
Core non-circularity		≤ 6	%
Cladding non-circularity		≤ 2	%
Numerical aperture		0,275 ± 0,015	
Attenuation	850 nm	≤ 3,5	dB/km
Attenuation	1300 nm	≤ 1,5	dB/km
Attenuation	850 nm	Min. 200	MHz • km
Attenuation	1300 nm	Min. 500	MHz • km

Characteristics of Optical Fibre MULTIMODE 50/125 IEC 60793-2-10 TYPE A1a.1

Core diameter		50 ± 3	µm
Cladding diameter		125 ± 2	µm
Coating diameter		245±10	µm
Core non-circularity		≤ 6	%
Cladding non-circularity		≤ 2	%
Numerical aperture		0,2 ± 0,02	
Attenuation	850 nm	≤ 3	dB/km
Attenuation	1300 nm	≤ 0,8	dB/km
Bandwidth	850 nm	Min. 500	MHz • km
Bandwidth	1300 nm	Min. 500	MHz • km

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Characteristics of Optical Fibre 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	