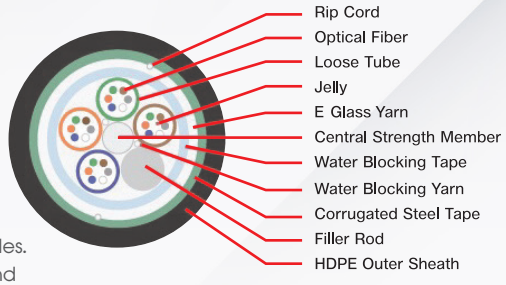
Anti-Rodent Self Support (ARSS)
SINGLE JACKET



Model : W-FOARSSSx1

General

- This specification covers the requirements for the supply of single-mode optical fiber cables.
- The single-mode optical fiber cable comply with the requirements of this specification and generally meet any latest relevent ITU-T Recommendation G.652D.
- Self-supporting aerial outdoor installation
- Fiber optic type Anti-Rodent Self Support Protection

Standard

- ISO/IEC 9001 : 2015 , ISO/IEC 11801
- ANSI/TIA/EIA-568-B.3, ANSI/TIA-568-C.3
- Telcordia (Bellcore) GR-20-CORE, GR-409-CORE
- ANSI/ICEA 696, ANSI/ICEA 596
- ITU-T G.651 (Multi Mode)
- ITU-T G.652D (Single Mode)
- IEEE802.3 ATM FDDI, TIS 2166-2548
- IEC60332-3, IEC60332-1
- IEC61034-2, IEC60754-2
- IEC60793, IEC60794-1-2
- EIA-455 ICEA 640
- EN 50173-1 IEC 60793 RoHS
- Compliant

Specification

Table 1 : Geometrical Performance

Item		Specification
Fiber Type		Single mode (ITU-T G.652D)
Optical fiber	Material	High Grade Silica
Max. Attenuation	1310 nm	≤ 0.34 dB/km
	1383 nm	≤ 0.34 dB/km
	1490 nm	≤ 0.24 dB/km
	1550 nm	≤ 0.21 dB/km
	1625 nm	≤ 0.23 dB/km
Core	Mode Field Diameter	9.2 ± 0.4 µm @ 1310 nm 10 ± 0.6 µm @ 1550 nm
Cladding Diameter		125 ± 1.0 µm
Coating Diameter(Primary Coating)		245 ± 10 µm
Cladding Non-circularity		≤ 1.0%
Core/Cladding Concentricity error		≤ 0.5 µm
Coating/Cladding Concentricity error		≤ 12 µm
Zero Disperson Wavelength		1300 ~1324 nm
Zero Disperson Slope		≤ 0.092 ps/(nm ^{2}.km)
Cable Cut-off Wavelength (cc)		≤ 1260 nm Comply to EIA/TIA-455-170
Attenuation coefficient @1285~1330 nm		≤ Measured attenuation @1310 nm + 0.03 dB/km
Attenuation coefficient @1525~1575 nm		≤ Measured attenuation @1550 nm + 0.02 dB/km
Proof Test Stress		0.69GPa (100 Kpsi) Comply to EIA-455-31B and IEC 60793-1-30
Chromatic Dispersion	1310 nm	≤ 3.5 ps/nm.km
	1550 nm	≤ 18 ps/nm.km
	1625 nm	≤ 22 ps/nm.km
Maximum Individual Fiber PMD and PMD link design value , PMDq		≤ 0.20 ps/nm.km
Attenuation with macro bending	100 turns, 30 mm radius @ 1550 nm	≤ 0.10 dB
Numerical Aperture		0.130 ± 0.010

Table 2 : cable construction

Item		Specification						
Number of fibers		6 Fiber	12 Fiber	24 Fiber	48 Fiber	60 Fiber	72 Fiber	96 Fiber
Filling Compound	Material	Thixotropic Jelly Compound						
Loose Tube	Material	(PBT) Polybutylene Terephthalate with color coding						
	Diameter	2.1 ± 0.05 mm						
	Fiber per Tube	6			12			
	Number	1	2	4	4	5	6	8
	Assembly	Fiber are brought together with the filling compound and placed in the extruded tube						
Filler Rod	Non-Metallic Material	Plastic rod, natural color						
	Diameter	2.1 ± 0.05 mm						
	Number	4	3	1	2	1	0	0
Stranding	Method	Reverse oscillating lay (ROL) technique (SZ Direction)						
Central Strength Member	Non-Metallic Material	FRP (Fiberglass Reinforce with Plastic)						
	Diameter	1.7 ± 0.05 mm			2.2 ± 0.05 mm			2.5 ± 0.05 mm
	PE coating	1.7 ± 0.05 mm			2.2 ± 0.05 mm			3.5 ± 0.05 mm
Water Blocking Yarn	Material	Suitable Water Swellable Materials (Dry-Core Technology)						
Binder & Wrapping	Material	Polyester yarn						
Water Blocking Tape	Material	Water Blocking Tape						
	Assembry	The tape shall be wrapped longitudinally over the cable core						
Additional Strength Member	Non-Metallic Material	Water blocking E-Glass Yarns						
Ripcord	Material	Polyester ripcord (Ripcords provided under the armour to be diametrically opposite of each other and to provide a means for quick armour and sheath removal for a continuous length of one meter.)						
Amoured	Material	Corrugated Steel Armour tape coated with a polymer on both sides						
	Thickness	Steel & Polymer coating : 0.25 mm						
	Overlap armour	≤ 3.0 mm						
Outer Sheath	Material	UV-Proof, Black High Density Polyethylene						
	Thickness	≥ 1.6 mm						
	Diameter	> 11.00 mm						
Cable Diameter (Approx.)		11.0	11.0	11.0	11.6	11.6	11.6	12.9
Cable Weight (Approx.)		126	126	126	139	136	139	176

Table 3 : HDPE Properties

Parameters	Specification	Test Procedure
1. Carbon Black	2.6 ± 0.25 %	ASTM D1603
2. Minimum Tensile Strength	168 kg/cm^2	ASTM D470
3. Minimum Elongation	300 %	ASTM D470
4. Environment Stress Cracking: Max. Failure From 10 Specimens	2	ASTM D1693
5. Max. Shrinkback	5%	Slap specimens 50x13 mm in the oven at 115 ± 1°C for 4 hours
6. Carbon Black Dispersion	Well dispersed : Grading ≤ 3	IEC 60811 -607
7. Thermal oxidative stability (OIT-Test)	OIT at 200 °C	IEC 60811 -410

Table 4 : Mechanical Specation

Item		Specification
Maximum Span Length		80 m
Initial Sag		0.5% of span length
Maximum Wind Velocity		126 km/hr
Minimum bending Radius (IEC-60794-1-21 E11B)	Installation	20 x External Diameter of Cable
	Operation	10 x External Diameter of Cable
Maximum Tensile load (IEC 60794-1-2-E1)		3,600 N
Maximum Crush resistance IEC 60794-1-2-E3		3,400 N/100 mm

Table 5 : Temperature range

Temperature Cycling Test	Storage	Installation	Operation
(IEC-60794-1-2-F1)	-40 ˚C to 75˚C	-40 ˚C to 70˚C	-40 ˚C to 70˚C

Table 6 : The color code of the loose tubes Identification (Standard : TIA/EIA-598-A)

No.	Fiber Color	No.	Fiber Color
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Slate	11	Rose
6	White	12	Aqua

Table 7 : Part Number

No.	Description
W-FOARSSS61	“Widen” ARSS cable 6F,SM Single Jacket , 9/125 um
W-FOARSSS121	“Widen” ARSS cable 12F,SM Single Jacket , 9/125 um
W-FOARSSS241	“Widen” ARSS cable 24F,SM Single Jacket , 9/125 um
W-FOARSSS481	“Widen” ARSS cable 48F,SM Single Jacket , 9/125 um
W-FOARSSS601	“Widen” ARSS cable 60F,SM Single Jacket , 9/125 um