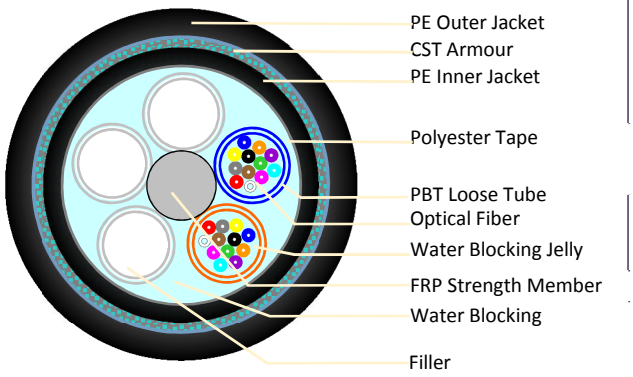
Outdoor Double Jacket Armoured Fiber Optic Cable

DSF Series



Description

The fibers, either single mode or multimode type, are positioned in a loose tube made of a high modulus plastic. The tubes are filled with a water-resistant jelly. A FRP strength member locates in the center of the core. Tubes (including fillers and water blocking filling compound) are stranded(SZ) around the strength member into a compact and circular cable core. A clear polyester tape is wrapped around to ensure consistent round. A inner Polyethylene (PE) sheath is applied to the overall bundle. It is further enhance by a layer of corrugated steel tape armour, longitudinally applied over the inner sheath. The cable is completed with a smooth Polyethylene (PE) sheath.

Application

This cable is suitable for Outdoor Direct Burial, Tunnel and Duct installation in harsh environment. The armouring provides rodent and termite protection and the PE Sheath provides UV and Chemical/Oil resistance.

Standards

ISO/IEC 11801, ANSI/TIA/EIA 568.2: 2002, ITU G652.D

Characteristics

- Accurate fiber excess length ensures good mechanical and temperature performance
- High strength loose tube that is hydrolysis resistant and special tube filling jelly ensure a critical protection of fiber
- Specially designed compact structure is good at preventing loose tube from shrinking
- High crush and tensile resistance
- Corrugated steel tape armour enhances the cable crush resistance, impact resistance and moisture proof
- Loose tubes are filled with filling compound to ensure tubes are watertight.
- 100% cable core filling ensures cable is watertight
- Temperature Range of -40℃ to 70℃

Part Number #	Description
306-STA7xx-a000-DSF0	
306-STA706-a000-DSF0	6 core 9/125 Single mode Outdoor Double Jacket Armoured Fiber Optic Cable
306-STA712-a000-DSF0	12 core 9/125 Single mode Outdoor Double Jacket Armoured Fiber Optic Cable
306-STA730-a000-DSF0	30 core 9/125 Single mode Outdoor Double Jacket Armoured Fiber Optic Cable

Note: Substitute xx : Number of fiber core

*-a000, a = production code, subjected to change upon shipping

Cable Properties

Item		Description		
		6 Fiber	12 Fiber	30 Fiber
Cable Diameter		11.0mm ±0.2mm	11.0mm ±0.2mm	11.0mm ±0.2mm
Cable Weight		210KG /KM	228KG /KM	~256KG /KM
Central Strength member	Material	FRP	FRP	FRP
	Diameter	1.4mm	1.4mm	1.4mm
Loose Tube	Material	PBT (polybutelene terathylate)	PBT (polybutelene terathylate)	PBT (polybutelene terathylate)
	Outer diameter	1.7 mm	1.7 mm	1.8 mm
	Thickness	0.3mm	0.3mm	0.3mm
	Type of filling compound	Jelly	Jelly	Jelly
	No. of Fiber in tube	6	6	6
	No. of Tubes	1	2	5
	No. of Fillers	4	3	0
Filler	Material	PP	PP	No filler
	Outer diameter	1.7mm	1.7mm	No filler
Tube Assembly	Tube Layout	1+5	1+5	1+5
	Stranding type	SZ	SZ	SZ
Water-blocking system		Filling Compound	Filling Compound	Filling Compound
Core wrap	Material	polyester tape	polyester tape	polyester tape
Inner Sheath	Material	PE	PE	PE
	Thickness	1.0mm	1.0mm	1.0mm
Armour	Material	Steel Tape	Steel Tape	Steel Tape
	Thickness	0.25mm	0.25mm	0.25mm
	Coating material	Plastic	Plastic	Plastic
	Coating thickness	0.1mm	0.1mm	0.1mm
Outer Sheath	Material	PE	PE	PE
	Thickness	1.8mm	1.8mm	1.8mm
Sheath marking	Type of marking	Laser printing	Laser printing	Laser printing

Fibers Colour

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Orange	Green	Brown	Grey	Natural	Red	Black	Yellow	Violet	Pink	Aqua

Loose Tubes Colour

Fiber No.	1	2	3	4	5	6	7	8	9	10	11	12
Colour	Blue	Orange	Green	Brown	Grey	Natural	Red	Black	Yellow	Violet	Pink	Aqua

Optical Properties

Technical parameter of ITU-T G.652D Single-mode Optical Fiber			
Characteristics	**Conditions**	**Specified Values**	**Units**
Optical Characteristics			
Mode field diameter (MFD)	1310nm 1550nm	9.0 ±0.4 10.1 ±0.5	μm μm
Attenuation coefficient	1310nm 1383nm 1460nm 1550nm 1625nm	0.33 - 0.35 0.32 - 0.35 0.25 0.19 - 0.21 0.20 - 0.23	dB/km dB/km dB/km dB/km dB/km
Attenuation with Bending	1turn, Φ10mm, 1550nm 1turn, Φ10mm, 1625nm 10turn, Φ15mm, 1550nm 10turn, Φ15mm, 1625nm	≤ 0.75 ≤ 1.50 ≤ 0.25 ≤ 1.00	dB
Cut-off wavelength (λccf)		≤ 1260	nm
Chromatic Dispersion	1285~1330nm 1550nm 1625nm	≤ 3.0 ≤ 18.0 ≤ 22.0	Ps/(nm.km) Ps/(nm.km) Ps/(nm.km)
Zero dispersion wavelength		1300~1322	nm
Nominal Zero Dispersion Slope **Max Zero Dispersion Slope**		≤ 0.085 ≤ 0.090	Ps/(nm^2.km) Ps/(nm^2.km)
Polarization Mode Dispersion Link Design	IEC 60794 –3, Ed 3 (Q=0.01%)	≤ 0.06	(ps√km)
Effective group index	1310nm 1550nm 1625nm	1.467 1.468 1.468	
Geometric characteristic			
Cladding diameter		125.0 ±0.7	μm
Core/cladding concentricity error		≤ 0.5	μm
Cladding non-circularity		≤ 0.7	%
Coating diameter		242.0 ±7	μm
Cladding/coating concentricity error		≤ 12.0	μm
Coating non-circularity		≤ 5	%
Mechanical characteristic			
Proof stress		≥ 0.7	Gpa
Coating strip force	Average value Peak value	1.0 - 3.0 1.2 - 8.9	N N
Dynamic fatigue, unaged and aged* **Static fatigue, aged***	*Aging: • 0°C and 45°C • 30 days at 85°C and 85% RH • 14 days water immersion at 23°C • Wasp spray exposure (Telcordia)	≥ 20 ≥ 23	n_d n_s