

ADSS Optical Fiber Cable 144FO 7kN

Cable Design

Buffer Tube Optical Fiber Cable-Aramid Yarn Reinforcing-Dielectric-Dry Core-G.652D Fiber



- **Central Strength Member (CSM):** glass fiber reinforced plastic rod (FRP), with PE sheath covering when needed
- **Buffer Tube:** PBT plastic material, containing 12 fibers and filled with a suitable water tightness compound.
- **Filler Elements:** Nature PP plastic rods, when needed.
- **Stranding:** loose tubes (and fillers), SZ stranded around the CSM.
- **Longitudinal Water Tightness:** dry core with water swellable elements (water blocking tape & yarn).
- **Aramid Yarns:** additional strength member.
- **Ripcord(s):** 2 polyester ripcords under sheath.
- **Outer Sheath:** Black HDPE.

Cable Specification

Cable Cores		144
No. of Tubes		12
No. of Fillers		0
Fiber Counts in Tube		12
Tube/Filler- Φ	mm	2.4
CSM- Φ	mm	3.0
Coated CSM- Φ	mm	7.6
Nominal Thickness of Outer PE Sheath	mm	1.8
Nominal Cable Diameter	mm	15.5 \pm 0.2
Nominal Cable Weight	Kg/km	186
MAT	N	7000

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-30 \sim +70 $^{\circ}$ C	Load	20 \times D
Operation	-30 \sim +70 $^{\circ}$ C	Unload	15 \times D

Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	MAT, 10min	$\Delta\alpha\leq 0.05$ dB, fiber strains $\leq 0.6\%$
Crush	IEC 60794-1-2-E3	2000N/10cm, 5min 3 times	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	5J, R=300mm, 3 times	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D,2500N,20cycles	$\Delta\alpha\leq 0.05$ dB, no damage
Bend	IEC 60794-1-2-E11	R=10D, 3 cycles,5 turns, -15 $^{\circ}$ C	$\Delta\alpha\leq 0.05$ dB, no damage
Torsion	IEC 60794-1-2-E7	4m, 10cycles, +/-180 $^{\circ}$	$\Delta\alpha\leq 0.05$ dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-40 \sim +70 $^{\circ}$ C, 2cycles,	$\Delta\alpha\leq 0.05$ dB/km, no damage
Water Penetration	IEC 60794-1-2-F5	3m cable, 1m water, 24h	No water leakage
Drip performance	IEC 60794-1-2-F5	70 $^{\circ}$ C, 24h	No drip

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Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.34dB/km
	@1550nm	≤0.21dB/km
	@1625nm	≤0.23dB/km
Mode Field Diameter	@1310nm	9.2±0.4 μm
	@1550nm	10.4±0.5 μm
Dispersion	@1300 +30/-15nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1300nm~1324nm
Zero-Dispersion slope		≤0.092ps/(nm ² ·km)
Cable cutoff wavelength λ _{cc} (nm)		≤1270nm
Cladding diameter		125±1.0μm
Cladding non-circularity		≤1.0%
Core/cladding concentricity error		≤0.6μm
Fiber diameter with coating (colored)		245±10μm
Cladding/coating concentricity error		≤12.0μm
Proof stress		≥0.69GPa(100kpsi)
Dynamic stress corrosion susceptibility parameter (typical value)		≥20

Fiber & Tube Color

Color Identification of Fiber

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

Color Identification of Tube

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

Sheath Marking

The outer sheath is marked in 1 meter intervals as follows:

In Accordance with Custom's Requirement

Delivery Length

Standard delivery length will be 4 km.