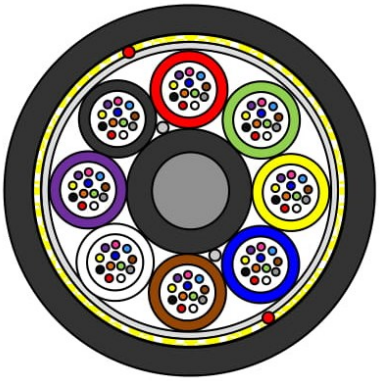
ADSS Cable

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 4/8/12 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		20	24	48	12	24	48	96
No. of Tubes MPa		5	6	6	1	2	4	8
No. of Fillers		0	0	0	5	4	2	0
Fiber Counts in Tube		4		8	12			
Tube/Filler- Φ	mm	2.8	2.2		2.4			2.4
CSM- Φ	mm	2.1	2.3		2.5			3.0
Coated CSM- Φ	mm	/						4.2
Thickness of Outer PE Sheath	mm	1.5						
Nominal Cable Diameter	mm	11.5	10.6		11.2			13
Nominal Cable Weight	Kg/km	93	90		94			127
Coefficient of the Thermal Expansion		6.8E-6	6.3E-6		5.8E-6			6.1E-6
Modulus of Elasticity	MPa (N/mm2	8000						

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-30~+70℃	Load	20×D
Operation	-30~+70℃	Unload	15×D

Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	4000N, 5min	△α≤0.1dB, no fiber strain
		6000N, 5min	△α≤0.1dB, fiber strain≤0.3%
Crush	IEC 60794-1-2-E3	3000N/10cm, 15min, 3times	△α≤0.1dB, no damage
Impact	IEC 60794-1-2-E4	10J, R=20mm, 3impacts	△α reversible, no damage

Repeated Bending	IEC 60794-1-2-E6	R=20D, 100N, 35cycles	△α reversible, no damage
Torsion	IEC 60794-1-2-E7	100N, 10cycles, +/-180^0	△α≤0.1dB, no damage
Temperature Cycling	IEC 60794-1-2-F1	-30~+70℃, 2cycles, 8h	△α≤0.10dB/km, no damage
Water Penetration	IEC 60794-1-2-F5	3m sample, 1m height, 24h	No water leakage

Fiber and 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	Purple	Black	Gray	Orange	Aqua	Pink

Color Identification of Tube

No	1	2	3	4	5	6	7	8
Color	Red	Green	Yellow	Blue	Brown	White	Purple	Black

Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.34dB/km
	@1550nm	≤0.21dB/km
Mode Field Diameter	@1310nm	9.2±0.4μm
	@1550nm	10.4±0.5μm
Dispersion	@1300+30/-15nm	≤3.5ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1302nm～1322nm
Zero-Dispersion slope		≤0.092ps/(nm^2·km)
Cable cutoff wavelength λ_{cc}(nm)		≤1260nm
Polarization Mode Dispersion	Max. individual	≤0.10ps/km$^{1/2}$
Cladding diameter		125±0.7μm
Cladding non-circularity		≤0.7%
Core/cladding concentricity error		≤0.5μm
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

Sheath Marking, Delivery Length

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

In Accordance with Custom's Requirement

Standard delivery length could be 2,3, 4 or 6km.