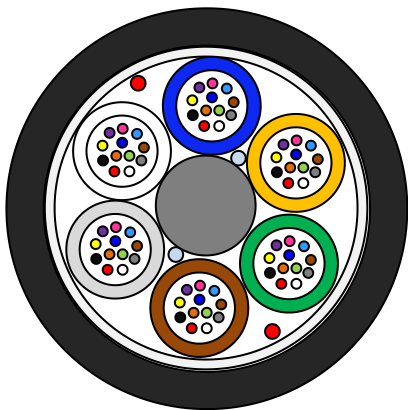


Duct Cable Specification

Cable Design

Loose Tube Optical Fiber Cable-Dielectric-Dry Core-G.652D Fiber



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

Cable Specification

Cable Cores		12	24	48	96	144
No. of Tubes		1	2	4	8	12
No. of Fillers		5	4	2	0	0
Fiber Counts in Tube		12				
Tube/Filler- Φ	mm	1.8				
CSM- Φ	mm	1.9			2.5	3
Coated CSM- Φ	mm	/			3.2	5.5
Thickness of Outer PE Sheath	mm	1.5				
Nominal Cable Diameter	mm	9.0			10.2	12.5
Nominal Cable Weight	Kg/km	64			81	122
Tensile	N	1500			2000	2500

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-30~+70℃	Load	20×D
Operation	-30~+70℃	Unload	10×D

Main Mechanical and Environmental Characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	Tensile, 1min	Δα reversible, fiber strain≤0.6 %
Crush	IEC 60794-1-2-E3	1500N/10cm, 1min, 3times	Δα reversible, no damage
Impact	IEC 60794-1-2-E4	3J, R=10mm, 3impacts	Δα reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 100N, 100cycles	Δα reversible, no damage
Bending	IEC 60794-1-2-E11	R=10D, 5turns, 5cycles	Δα reversible, no damage
Torsion	IEC 60794-1-2-E7	40N, 5cycles, +/-180 ⁰	Δα reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-20~+70℃, 2cycles, 4h	Δα≤0.1dB/km, no damage
Water Penetration	IEC 60794-1-2-F5	3m sample, 1m height, 24h	No water leakage

Fiber & Tube Color

Color Identification of Fiber

Number	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Purple	Pink	Aqua

Color Identification of Tube

Number	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Purple	Pink	Aqua

* if the color number is more than 12, the tube color code will be repeated again.

Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/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	≤18.0ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1300nm~1324nm
Zero-Dispersion slope		≤0.092ps/(nm²·km)
Cable cutoff wavelength λ _{cc} (nm)		≤1260nm
Cladding diameter		125±1.0μm
Cladding non-circularity		≤0.8%
Core/cladding concentricity error		≤0.6μm
Fiber diameter with coating (uncolored)		245±10μm
Cladding/coating concentricity error		≤12.0μm
Proof stress		≥0.69GPa(100kpsi)
Dynamic stress corrosion susceptibility parameter (typical value)		≥20

Sheath Marking

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

According to customer’s requirement

Delivery Lengths

Standard delivery length will be 4km with -1%/+3% tolerance.