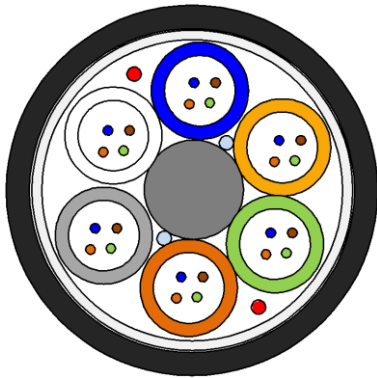


Duct Cable Specification

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 4 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.
- **Ripcord(s):** 2 polyester ripcord under sheath.
- **Outer Sheath:** Black HDPE.

Cable Specification

Cable Cores		24
No. of Tubes		6
No. of Fillers		0
Fiber Counts in Tube		4
Tube/Filler- Φ	mm	2.05
CSM- Φ	mm	2.1
Coated CSM- Φ	mm	/
Thickness of Outer PE Sheath	mm	1.5
Nominal Cable Diameter	mm	9.6
Nominal Cable Weight	Kg/km	71
Tensile	N	1500

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-40~+70°C	Load	20×D
Operation	-30~+60°C	Unload	10×D

Main Mechanical and Environmental Characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	Tensile, 5min	$\Delta\alpha\leq0.05\text{dB}$, fiber strain $\leq0.6\%$
Crush	IEC 60794-1-2-E3	2000N/10cm, 1min, 3times	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	2.4J, R=300mm, 3impacts	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=15D, 100cycles	$\Delta\alpha$ reversible, no damage
Bending	IEC 60794-1-2-E11	R=10D, 5turns, 5cycles	$\Delta\alpha$ reversible, no damage
Torsion	IEC 60794-1-2-E7	4m, 10cycles, +/-180°	$\Delta\alpha$ reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-30~+60°C, 2cycles, 6h	$\Delta\alpha$ reversible, 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

* if the color number is more than 12, the fiber color code will be repeated again and be colored with rings

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

Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/km
	@1550nm	≤0.22dB/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/(nm ² 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 2km or 4km with -1%/3% tolerance.