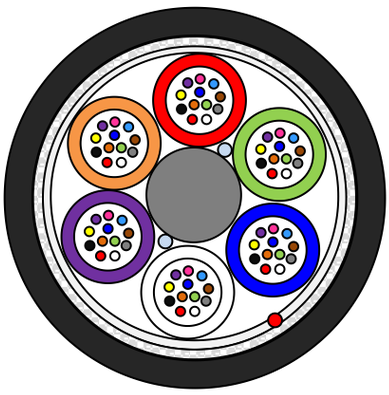
Duct Cable Specification (Tensile-2000N)

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 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):** 1 polyester ripcord under sheath.
- **Outer Sheath:** Black HDPE.

Cable Specification

Cable Cores		**48**
No. of Tubes		4
No. of Fillers		2
Fiber Counts in Tube		12
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	9.7
Nominal Cable Weight	Kg/km	74
Tensile	N	2000

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	△α reversible, fiber strain≤0.6 %
Crush	IEC 60794-1-2-E3	1500N/10cm, 1min, 3times	△α reversible, no damage
Impact	IEC 60794-1-2-E4	3J, R=10mm, 3impacts	△α reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 100N, 100cycles	△α reversible, no damage
Bending	IEC 60794-1-2-E11	R=10D, 5turns, 5cycles	△α reversible, no damage
Torsion	IEC 60794-1-2-E7	100N, 5cycles, +/-180^0	△α reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-25~+70℃, 2cycles, 4h	△α≤0.05dB/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	Red	Green	Blue	White	Violet	Orange	Grey	Yellow	Brown	Pink	Black	Aqua

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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/(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 4km with -1%/+3% tolerance.