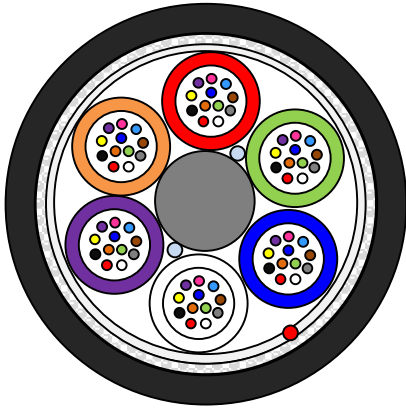


Duct Cable Specification (Tensile-2000N)

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 6/12 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		12	24	24	48	72	96	144
No. of Tubes		2	4	2	4	6	8	12
No. of Fillers		4	2	4	2	0	0	0
Fiber Counts in Tube		6		12				
Tube/Filler- Φ	mm	2.05						
CSM- Φ	mm	2.1					2.5	3.0
Coated CSM- Φ	mm	/					3.5	6.3
Thickness of Outer PE Sheath	mm	1.5						
Nominal Cable Diameter	mm	9.7±0.5					11.0	13.8
Nominal Cable Weight	Kg/km	74					93	144
Tensile	N	2000						

Cable Application

Temperature Range		Minimum Bend Radius	
Transportation & Storage	-30~+70°C	Load	20×D
Operation	-30~+70°C	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	100N, 5cycles, +/-180°	Δα reversible, no damage
Temperature Cycling	IEC 60794-1-2-F1	-25~+70°C, 2cycles, 4h	Δα≤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

Color Identification of Tube

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

Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	$\leq 0.35\text{dB/km}$
	@1550nm	$\leq 0.21\text{dB/km}$
Mode Field Diameter	@1310nm	$9.2 \pm 0.4\mu\text{m}$
	@1550nm	$10.4 \pm 0.5\mu\text{m}$
Dispersion	@1300 +30/-15nm	$\leq 3.5\text{ps}/(\text{nm km})$
	@1550nm	$\leq 18.0\text{ps}/(\text{nm km})$
	@1625nm	$\leq 22\text{ps}/(\text{nm km})$
Zero-Dispersion wavelength		1300nm ~ 1324nm
Zero-Dispersion slope		$\leq 0.092\text{ps}/(\text{nm}^2 \text{ km})$
Cable cutoff wavelength $\lambda_{cc}(\text{nm})$		$\leq 1260\text{nm}$
Cladding diameter		$125 \pm 1.0\mu\text{m}$
Cladding non-circularity		$\leq 0.8\%$
Core/cladding concentricity error		$\leq 0.6\mu\text{m}$
Fiber diameter with coating (uncoated)		$245 \pm 10\mu\text{m}$
Cladding/coating concentricity error		$\leq 12.0\mu\text{m}$
Proof stress		$\geq 0.69\text{GPa}(100\text{kpsi})$
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.