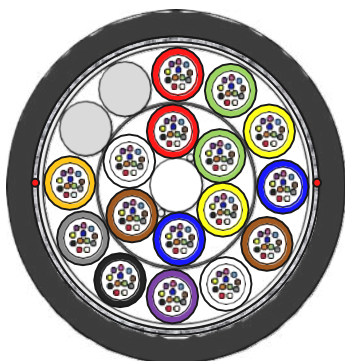


## Cable Design

### Buffer Tube Optical Fiber Cable-Glass Yarn Reinforcing-Dielectric-Dry Core-G.652D Fiber



- **Central Strain-support Element (CE):** glass fiber reinforced plastic rod (FRP), with PE sheath covering when needed.
- **Buffer 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 CE.
- **Longitudinal Water Tightness:** dry core with water swellable elements.
- **Glass Yarns:** glass yarn flat tape.
- **Ripcord(s):** 2 polyester ripcords under sheath.
- **Outer Sheath:** Black HDPE.

## Cable Specification

Cable Cores		12	24	48	72	96	144	192
No. of Tubes		1	2	4	6	8	12	16
No. of Fillers		5	4	2	0	0	0	2
Fiber Counts in Fiber		12						
Tube/Filler- Ø	mm	2.05						
CE- Ø	mm	2.1			2.5	3.0	2.1	
Coated CE- Ø	mm	/			3.5	6,3	/	
Thickness of Outer PE Sheath	mm	1.5						
Nominal Cable Diameter	mm	9.6			11.0	13.8	14-0	
Nominal Cable Weight	Kg/km	71			92	140	141	
Tensile Force	N	1500						

## Cable Application

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

## Main Mechanical and Environmental Characteristic

Test	Test Standard	Specified Value	Acceptance Criteria
Tensile	IEC 60794-1-2-E1	1500N, 5min	$\Delta\alpha\leq 0.05\text{dB}$ , fiber strains $\leq 0.33\%$
Crush	IEC 60794-1-2-E3	2000N/10cm, 5min, 3times	$\Delta\alpha$ reversible, no damage
Impact	IEC 60794-1-2-E4	5J, R=300mm, 3impacts	$\Delta\alpha$ reversible, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20D, 100N, 35cycles	$\Delta\alpha$ reversible, no damage
Torsion	IEC 60794-1-2-E7	100N, 10cycles, +/-1800	$\Delta\alpha\leq 0.1\text{dB}$ , no damage
Temperature Cycling	IEC 60794-1-2-F1	-30~+70°C, 2cycles, 6h	$\Delta\alpha\leq 0.10\text{dB/km}$ , no damage
Water Penetration	IEC 60794-1-2-F5	3m sample, 1m height, 24h	No water leakage

## Cabled Fiber Performance (G.652D)

Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35dB/km
	@1383nm	≤0.34dB/km
	@1550nm	≤0.21dB/km
	@1625nm	≤0.23dB/km
Mode Field Diameter	@1310nm	9.2±0.4 μm
	@1550nm	10.4±0.5 μm
Dispersion	@1300 +30/-15nm	≤3.0ps/(nm·km)
	@1550nm	≤18ps/(nm·km)
	@1625nm	≤22ps/(nm·km)
Zero-Dispersion wavelength		1302nm~1322nm
Zero-Dispersion slope		≤0.092ps/(nm <sup>2</sup> ·km)
Cable cutoff wavelength $\lambda_{CC}$ (nm)		≤1260nm
Cladding diameter		125±0.7μm
Cladding non-circularity		≤0.7%
Core/cladding concentricity error		≤0.5μm
Proof stress		≥0.69GPa(100kpsi)
Dynamic stress corrosion susceptibility parameter (typical value)		≥20

## 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	Grey	Violet	Black	Orange	Aqua	Pink

## Color Identification of Tube

No	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Green	Yellow	Blue	Brown	White	Grey	Violet	Black	Orange	Aqua	Pink

Note: If the tube number is more than 12, the tube color code will be repeated again.

## Sheath Marking, Delivery Length

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

In Accordance with Custom's Requirement

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