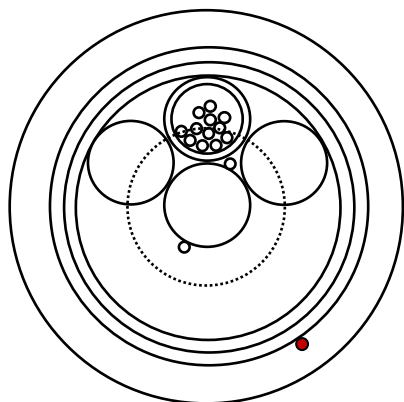




Cable Design



- **Central Strength Member** : Glass Fiber Reinforced Plastic rod (FRP)
- **Loose Tube** : Thermoplastic material, containing 6 or 12 fibers and filled with a suitable water tightness compound
- **Dummy Elements** : As fillers, if needed
- **Stranding** : Loose tubes(and fillers), SZ stranded around the CSM
- **Longitudinal Water Tightness** : Dry core with water swellable elements
- **Tensile element** : Glass yarns
- **1 Ripcord**
- **Outer Sheath** : Flame retardant PE

Cable Configuration

Core No	Fiber No. per tube	No. of Tube	No. of Active Tubes	Central Member	Cable	
					Diameter(mm)	Weight(kg)
2-36	6	6	1-6	Dielectric FRP	10.9	110
37-72	12	6	3-6		11.5	120
73-96	12	8	7-8		12.9	150
97-120	12	10	9-10		14.5	185
121-144	12	12	11-12		16.1	220
145-216	12	18	13-18		16.5	225
217-288	12	24	19-24		18.5	280

Main Mechanical and Environmental Characteristics

Test	Test Standard	Specified Value	Acceptance Criteria
Tension	IEC 60794-1-2-E1	2000N	$\Delta\alpha \leq 0.1\text{dB}$, after test
Crush	IEC 60794-1-2-E3	1000N/100mm, max. 5min	$\Delta\alpha \leq 0.1\text{dB}$, no damage
Impact	IEC 60794-1-2-E4	10Nm, 3 impacts, R=300mm	$\Delta\alpha \leq 0.1\text{dB}$ after test
Torsion	IEC 60794-1-2-E7	100N, $\pm 180^\circ$, 10 cycles	$\Delta\alpha \leq 0.1\text{dB}$, no damage
Repeated Bending	IEC 60794-1-2-E6	R=20 x D, 100N, 35 cycles	no damage
Cable Bend	IEC 60794-1-2-E11	R=20 x D, 4 turns, 3 cycles	$\Delta\alpha \leq 0.1\text{dB}$, no damage
Temperature Cycling	IEC 60794-1-2-F1	-40°C to +70°C	$\Delta\alpha \leq 0.1\text{dB/km}$
Water Penetration	IEC 60794-1-2-F5B	Sample=3m, Water column=1m, 24hr	no water leakage

OPTICAL CHARACTERISTICS:

CHARACTERISTICS OF FIBER		VALUE/DESCRIPTION	
		G.652D	NZDSF
Mode Field Diameter		9.1 ± 0.4μm (at 1310nm)	9.1 ± 0.4μm (at 1550nm)
Mode Field Concentricity error		≤0.8μm	
Cladding Diameter		125 ± 1μm	
Cladding non circularity		≤1%	
Primary Coating Diameter		245 ± 10μm	
Attenuation	@ 1310nm	≤0.36dB/km	N.A
	@ 1383nm	≤0.36dB/km	N.A
	@ 1550nm	≤0.22dB/km	≤0.22dB/km
	@ 1625nm	≤0.25dB/km	≤0.25dB/km
Dispersion	@ 1285~1330nm	≤3.0ps/(nm.km)	N.A
	@ 1550nm	≤18ps/(nm.km)	N.A
	@ 1530~1565nm	N.A	5.5~10ps/(nm.km)
	@ 1565~1625nm	N.A	7.8~13.8ps/(nm.km)
Zero dispersion wavelength		1300nm - 1324nm	N.A
Zero dispersion slope (ps/(nm ² .km))		≤0.092	≤0.064
Cable cut off wavelength		≤ 1260nm	≤ 1460nm
Fiber proof test level		100kpsi	
Polarization Mode Dispersion		≤0.2ps/√km	

COLOR CODING OF OPTICAL FIBER IN TUBE

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

COLOR CODING OF LOOSE TUBE

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
36 cores		Blue	Orange	Green	Brown	Slate	White	-	-	-	-	-	-	-	-	-
72 cores		Blue	Orange	Green	Brown	Slate	White	-	-	-	-	-	-	-	-	-
96 cores		Blue	Orange	Green	Brown	Slate	White	Red	Black	-	-	-	-	-	-	-
120 cores		Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	-	-	-	-	-
144 cores		Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua	-	-	-
216 cores	1'st	Blue	Orange	Green	Brown	Slate	White	-	-	-	-	-	-	-	-	-
	2'nd	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua	-	-	-
288 cores	1'st	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	-	-	-	-	-	-
	2'nd	Violet	Pink	Aqua	Blue	Orange	Green	Brown	Slate	White	Red	Black	Yellow	Violet	Pink	Aqua