

STRUCTURE CABLING OPTICAL FIBER

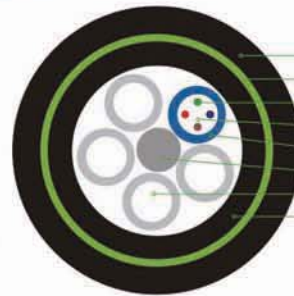
Layer-stranded single Armored and Double Sheathed Optical Cable(GYTY53)



D177S/D179S

Introduction

The fibers are placed in a loose tube made of PBT. The tubes are filled with a water-resistant filling compound. A steel wire sometimes sheathed with PE for cable with high fiber count, locates in the center of core as a metallic strength member. Tubes (and fillers) are stranded around the strength member into a compact and circular cable core. The cable core is filled with the filling compound to protect it from water ingress, over which a thin PE inner sheath is applied. After the PSP is longitudinally applied over the inner sheath, the cable is completed with a PE outer sheath.



- PE Sheath
- PSP
- Fiber
- Tube Filling Compound
- Loose tube
- CSM-steel Wire
- Filler
- PE Inner Sheath

Fiber color code

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	—	—	—	—	—	—	—	—

Fiber color in each tube starts from No. 1:Blue.

Color codes for loose tube & filler rod

1	2	3	4	5	6	7	8	9	10	11	12
Blue	—	—	—	—	—	—	—	—	—	—	—

Tube color in each layer starts from No. 1:Blue. If there are fillers, the color is nature.

Cable structure and parameter

SN	Item	Unit	Value
1	No. of fibers	count	4
2	No. of fibers per tube(max)	count	4
3	No. of elements	count	1
4	Tube diameter	mm	1.7
5	Outer sheath wall thickness	mm	1.8
6	Cable diameter	mm	11.2
7	Cable weight	kg/km	140
8	Short term tension	N	3000
9	Short term crush	N/100mm	3000

Note: Mechanical sizes are nominal values.

G652D fiber information

- Mode field diameter (1310nm): $9.2\mu\text{m}\pm 0.4\mu\text{m}$.
- Mode field diameter (1550nm): $10.4\mu\text{m}\pm 0.8\mu\text{m}$.
- Cladding diameter: $125\mu\text{m}\pm 1.0\mu\text{m}$.
- Coating diameter: $245\mu\text{m}\pm 7\mu\text{m}$.
- Cut off wavelength of cabled fiber (λ_{cc}): $\leq 1260\text{nm}$.
- Attenuation at 1310nm: $\leq 0.35\text{dB/km}$.
- Attenuation at 1550nm: $\leq 0.21\text{dB/km}$.
- Bending loss at 1550nm (100 turns, 30mm radius): $\leq 0.05\text{dB}$.
- Dispersion in the range 1288 to 1339nm: $\leq 3.5\text{ps}/(\text{nm}\cdot\text{km})$.
- Dispersion at 1550nm: $\leq 18\text{ps}/(\text{nm}\cdot\text{km})$.
- Dispersion slope at zero dispersion wavelength: $\leq 0.092\text{ps}/(\text{nm}^2\cdot\text{km})$.

Characteristic of Optical Cable

Mechanical characteristic and test method		
Tensile strength	conform to IEC 794-1-E1	
Crush	conform to IEC 794-1-E3	
Impact	conform to IEC 794-1-E4	
Repeated bending	conform to IEC 794-1-E6	
Torsion	conform to IEC 794-1-E7	
Flexing	conform to IEC 794-1-E8	
Cable bend	conform to IEC 794-1-E11	
Water penetration	conform to IEC 794-1-F5B	
Temperature requirement	Operation	-40°C~+60°C
	Installation	-10°C~+60°C
	Storage/transportation	-40°C~+60°C
Temperature cycling test	conform to IEC 794-1-F1	
Bending Radius	Unloaded	10 times of outer diameter
	loaded	20 times of outer diameter

Order Information

Item	Specification	Description
D177S	2-144 cores	Single Mode
D179S	2-144 cores	Multimode