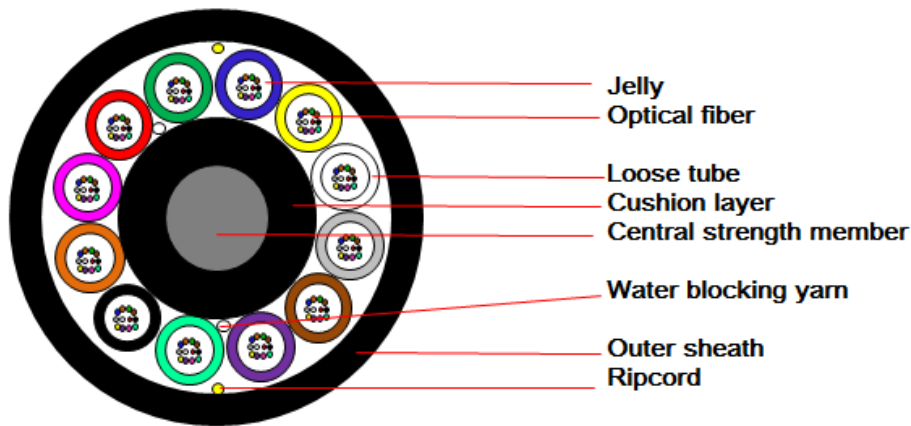


GCYFY

1. Cable cross-section



2. Cable Specification

2.1 Introduction

Loose tube construction, tubes jelly filled, elements (tubes and filler rods) laid up around non-metallic central strength member, aramid yarns used to bind the cable core, dry cable core, then HDPE outer sheath.

2.2 Fiber color code

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

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Purple	Pink	Aqua

2.3 Color codes for loose tube & filler rod

Tube color starts from No. 1 Blue. If there are fillers, the color is natural.

1	2	3	4	5	6	7	8	9	10	11	12
Blue	Orange	Green	Brown	Gray	White	Red	Black	Yellow	Purple	Pink	Aqua

2.4 Cable structure and parameter

SN	Item	Unit	Value				
1	No. of fibers	count	24	48	72	96	144
2	No. of fibers per tube	count	6	8	12	12	12
3	No. of elements	count	5	6	6	8	12



4	Cable diameter($\pm 5\%$)	mm	4.5	5.3	5.3	6.3	7.8
5	Cable weight($\pm 10\%$)	kg/km	17	24	26	39	59
6	Short term tension	N	200	400	400	1000	1000
7	Short term crush	N/100mm	450				

3. Characteristic of Optical Cable

3.1 Min. bending radius for installation

Static: 10 x cable diameter

Dynamic: 20 x cable diameter

3.2 Application temperature range

Operation: $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Installation: $-20^{\circ}\text{C} \sim +60^{\circ}\text{C}$

Storage/transportation: $-40^{\circ}\text{C} \sim +60^{\circ}\text{C}$

3.3 Main mechanical & environmental performance test

Item	Test Method	Acceptance Condition
Tensile Strength IEC 60794-1-2-E1	- Load: Short term tension - Length of cable: about 50m - Load time: 1min	- Fiber strain $\leq 0.6\%$ - No fiber break and no sheath damage.
Crush Test IEC 60794-1-2-E3	- Load: Short term crush - Load time: 1min	- No fiber break and no sheath damage.
Impact Test IEC 60794-1-2-E4	- Points of impact: 3 - Times of per point: 1 - Impact energy: 5J	- No fiber break and no sheath damage.
Torsion IEC 60794-1-2-E7	- Length: 1m - Twist angle: $\pm 180^{\circ}$ - No. of cycle: 10	- No fiber break and no sheath damage.

4. Characteristic of Optical Fiber

G652D fiber information

Mode field diameter (1310nm):

$9.2\mu\text{m} \pm 0.4\mu\text{m}$



Mode field diameter (1550nm):	$10.4\mu\text{m}\pm0.8\mu\text{m}$
Cladding diameter:	$125\mu\text{m}\pm1.0\mu\text{m}$
Core/cladding concentricity error:	$\leq0.6\mu\text{m}$
Cladding non-circularity:	$\leq1.0\%$
Cut off wavelength of cabled fiber (λ_{cc}):	$\leq1260\text{nm}$
Attenuation at 1310nm:	$\leq0.36\text{dB/km}$
Attenuation at 1550nm:	$\leq0.23\text{dB/km}$
Bending loss at 1550nm (100 turns, 30mm radius):	$\leq0.1\text{dB}$
Zero dispersion wavelength:	1300nm-1324nm
Dispersion in the range 1288 to 1339nm:	$\leq3.5\text{ps}/(\text{nm}\cdot\text{km})$
Dispersion at 1550nm:	$\leq18\text{ps}/(\text{nm}\cdot\text{km})$
Dispersion at 1625nm:	$\leq22\text{ps}/(\text{nm}\cdot\text{km})$
Dispersion slope at zero dispersion wavelength:	$\leq0.092\text{ps}/(\text{nm}^2\cdot\text{km})$