Optical Fiber Cable Technical Specification

Double Armoured Direct Buried Optical Cable

GYTA53-nB1.3

This Specification covers the design requirements and performance standard for the supply of optical fibre cable in the industry. Ensures a stable quality control system for our cable products through several programs including ISO 9001.

Cable type	Application
GYTA53-nB1.3	Direct buried installation

n represent the number of fibers in the cable.

1.1 Cable Description

Steel wire central strength member.

Filling compound for waterproof.

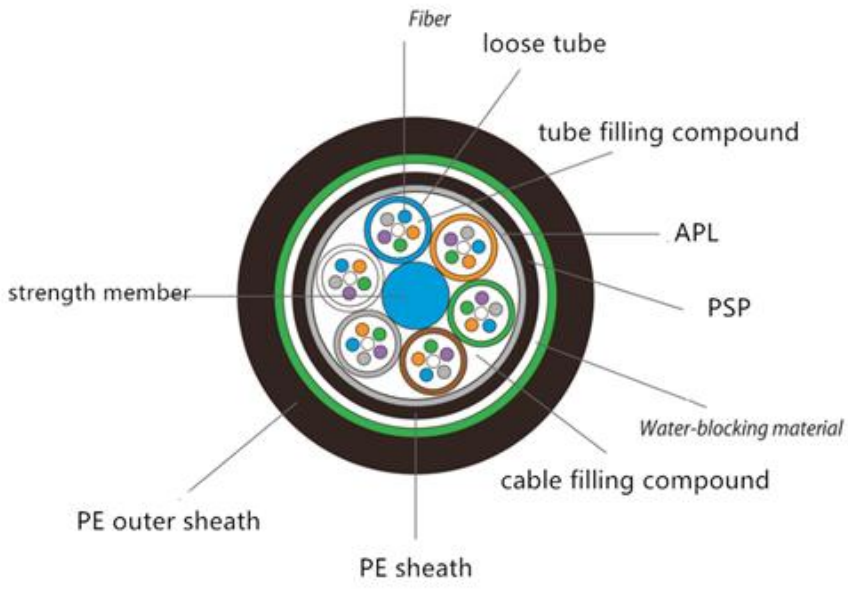
Aluminum tape & Corrugate steel tape double armoured.

Good performance of tensile strength and temperature.

Design Life time over 30 years.

1.2 Cross Section of Cable





1.3 Fibre and Loose Tube Identification

The color code of fibre and loose tube will be identification in accordance with the following color sequence, other sequence also is available.

Fibre Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua

Tube Color Code	1	2	3	4	5	6
	Blue	Orange	Green	Brown	Grey	White
	7	8	9	10	11	12
	Red	Black	Yellow	Violet	Pink	Aqua

1.4 Dimensions and Descriptions

The standard structure of GYTA53 cable is shown in the following table, other structure and fibre count are also available according to customer requirements.

SN	Item	Unit	Value				
1	No. of fibers	count	12	24	48	96	144
2	No. of fibers per tube	count	6		12		
3	Loose tube&filler	count	2&3	4&1	4&1	8&0	12&0
4	Loose tube size	mm	1.6		1.9		
5	Central strength/coating size	mm	1.2		1.4	1.8/3.3	2.0/5.7
6	Cover	material/color	PE black				
7	Armoured	material	APL&PSP tape				
8	Inner thickness	mm	0.8				
9	Outer thickness	mm	1.6				
10	Cable diameter	mm	11.2		12.3	14.4	16
11	Cable weight	kg/km	115	112	132	185	220
12	Tensile Long/Short	N	1000/3000				
13	Minimum bend radius	D	During installation: 20 x cable diameter				
			After installed: 10 x cable diameter				

1.5 Environmental Performance

Operation temperature:	-30℃/+60℃
Installation temperature	-30℃/+60℃
Storage temperature	-40℃/+70℃

2 Fiber characteristics

2.1 G.652D

2.1.1 Geometric characteristics

Item		Construction
Mode field diameter	At 1310nm	9.2±0.4μm
Cladding diameter		125±1μm
Core concentricity error		≤0.6μm
Cladding non-circularity		≤1.0%
Cut-off wavelength (λcc) (for cable)		≤1260nm
Cut-off wavelength (λc) (for fiber)		1180nm~1330nm
Primary coating diameter	(Not included color layer)	245±10μm
	(Included color layer)	250±15μm
Coating-cladding concentricity error		≤12.5μm
Fiber curl radius		≥4m

2.1.2 Transmission characteristics

Item		Performance
Attenuation	At 1310nm	≤0.36dB/km(max.)
	At 1550nm	≤0.21dB/km(max.)
Macro bending loss	Φ=60mm, 100turns at 1550nm	≤0.1dB
Chromatic dispersion	Within 1288~1339nm	≤3.5ps/nm·km
	At 1550nm	≤17ps/nm·km
Zero dispersion wavelength		1300~1324nm
Zero dispersion slope		≤0.092ps/nm^2·km
Dispersion mode bias		0.5ps/km1/2

3 Packaging and Drum

3.1 Cable Sheath Marking

Unless otherwise specified, the cable sheath marking shall be as follows:

Color: White

Contents: Brand,the year of manufacture, the type of cable, cable number, length marking

Interval: 1±0.2% m

Outer sheath marking legend can be changed according to user's requests.

3.2 Reel Length

Standard reel length: 2/3/4 km/reel, other length is also available.

3.3 Cable Drum

The cables are packed in fumigated wooden drums.

3.4 Cable Packing

Both ends of the cable will be sealed with suitable plastic caps to prevent the entry of moisture during shipping, handling and storage. The inner end is available for testing.