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Optical Fiber Cable Technical Specification

Double Armored Cable

GYTA53-12B1.3

1. Scope

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

Cable type	Application
GYTA53-12B1.3	Directly Duct installation

1.1 Cable Description

Optical fibers are housed in loose tubes that are made of high-modulus plastic and filled with waterproof compounds.

Steel wire is applied as central strength member.

Loose tubes are SZ stranded around the central strength member.

Steel tape, aluminium tape and double PE sheath are used in and over the cable core to protect it.

1.2 Reference

The cables are designed, manufactured and tested according to the standards as follows:

ITU-T G.652	Characteristics of a single-mode optical fibre
IEC 60794-1-1	Optical fibre cables-part 1-1: Generic specification-General
IEC 60794-1-2	Optical fibre cables-part 1-2: Generic specification-Basic optical cable test procedure
IEC 60794-3	Optical fibre cables-part 3: Sectional specification-Outdoor cables
IEC 60794-3-10	Optical fibre cables-part 3-10: Outdoor cables-Family specification for duct and direct buried optical communication cables
IEC 60794-3-11	Optical fibre cables-Part 3-11: Outdoor cables-Detailed specification for duct and directly buried single-mode optical fibre telecommunication cables

1.3 Life Time

Optical fibre cables supplied in compliance with this specifications is capable to withstand the typical service condition for a period of THIRTY (30) years without detriment to the operation characteristics of the cable.

2. Optical Fibre

2.1 Optical Fibers supplied in this specification meet the requirements of ITU-T G.652D

Characteristics	Conditions	Specified Values	Units
Optical characteristics			
Attenuation	1310 nm 1550 nm	<0.36 <0.22	[dB/km] [dB/km]
Chromatic Dispersion	1310 nm 1550 nm 1625 nm	≤3.5 ≤18 ≤22	[ps/(nm • km)] [ps/(nm • km)] [ps/(nm • km)]
Zero dispersion wavelength		1312±10	[nm]
Zero dispersion slope		≤0.092	[ps/(nm2 • km)]
PMD Maximum Individual Fibre Link Design Value (M=20,Q=0.01%)		 ≤0.1 ≤0.06	 [ps/km] [ps/km]
Cable cutoff wavelengthλ cc		≤1260	[nm]
Mode field diameter (MFD)	1310 nm 1550 nm	9.2±0.4 10.3±0.5	[μ m] [μ m]
Core-clad Concentricity		≤0.5	[μ m]
Cladding diameter		125±1	[μ m]
Cladding Non-circularity		≤0.8	[%]
Coating diameter		245±5	[μ m]
Proof test		≥0.69	[Gpa]

3. Optical Cable

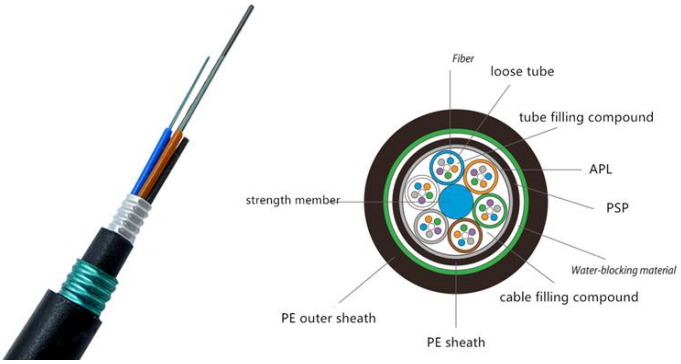
3.1 Technical Characteristics

- The unique second coating and stranding technology provide the fibers with enough space and bending endurance, which ensure good optical property of the fibers in the cable
- Accurate process control ensures good mechanical and temperature performance
- High quality raw material guarantees the long service life of cable

3.2 Cross Section of Cable

GYTA53-nB1.3

Schematic for reference only



Structure of other fibre counts refer to 3.4

3.3 Fibre and Loose Tube Identification

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

Fibre/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

The color of the fillers will be natural.

3.4 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. All the parameters here is only for reference. And please contact with us to get more details.

Item	Contents	Value
		12
Structure	Type	1+5
Loose tube	Fiber counts/tube	12
	Outer diameter (mm)	1.9
Central strength member	Material	Steel wire
	Diameter (mm)	1.4
Inner Sheath	Material	PE
	Color	Black
	Thickness (mm)	0.7
Outer sheath	Material & Color	HDPE & Black
	Thickness(mm)	1.5
Cable diameter(mm) Approx.		11.8
Cable weight(kg/km) Approx.		126

Min. Bending radius	Installation	10D
	Operating	20D
Max. Available tensile	Long term	1000N
	Short term	3000N
Available crush resistance	Long term	1000N
	Short term	3000N

4 Packaging and Drum

4.1 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.

4.2 Reel Length

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

4.3 Cable Drum

The cables are packed in fumigated wooden drums.

4.4 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.