



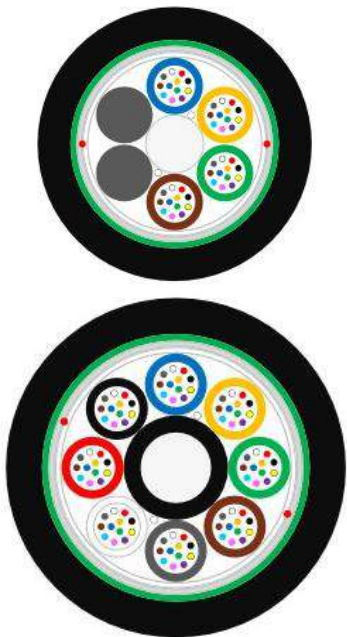
MAINTRONICS

Optical Fiber Cable Specification

GYFS Duct Cables 6/12/24/48/96 FO G.652D/OM3

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Cable Design



- **Central Strength Member (CSM):** Glass fiber reinforced plastic rod (GFRP), with PE sheath covering when needed.
- **Loose Tube:** PBT plastic material, containing 6/12 fibers and filled with a suitable water tightness jelly.
- **Filler Elements:** PP plastic rods, when needed.
- **Stranding:** Loose tube & filler SZ stranded around CSM.
- **Longitudinal Water Tightness:** Dry core with water swellable elements.
- **Ripcord:** 2 polyester ripcords under each sheath.
- **Steel Type:** Anti rodents.
- **Outer Sheath:** Black LSZH.

Cable Specification

Cable description						
Item	Specified	Measure	Measure	Measure	Measure	Measure
Cable Cores		6	12	24	48	96
No. of Tubes		1	2	4	4	8
Fiber Counts in Tube		6	6	6	12	12
No. of Fillers		5	4	2	2.3	2.4
Tube/Filler- Φ	mm	2	2	2	2.2	2.2
CSM- Φ	mm	2.1	2.1	2.1	2.3	2.5
Coated CE- Φ	mm	/	/	/	/	3.7
Thickness of Outer Sheath	mm	1.6	1.6	1.6	1.6	1.6
Nom. Cable Diameter (±0.5)	mm	10.8	10.8	10.8	11.4	12.7
Nom. Cable Weight	kg/km	130	130	130	145	180
Tensile Strength	N	2200	2200	2200	2300	2500
Crush Strength	N/10cm	1500	1500	1500	1500	1500

GYFY53 Duct Cables 12/24 FO G.652D

Cable Design



- **Central Strength Member (CSM):** Glass fiber reinforced plastic rod (GFRP), with PE sheath covering when needed.
- **Loose Tube:** PBT plastic material, containing 6 fibers and filled with a suitable water tightness jelly.
- **Filler Elements:** PP plastic rods, when needed.
- **Stranding:** Loose tube & filler SZ stranded around CSM.
- **Longitudinal Water Tightness:** Dry core with water swellable elements.
- **Ripcord:** 2 polyester ripcords under each sheath.
- **Steel Type:** Anti rodents.
- **Inner Sheath:** Black MDPE.
- **Outer Sheath:** Black HDPE.

Cable Specification

Cable description			
Item	Specified	Measure	
Cable Cores		12	24
No. of Tubes		2	4
Fiber Counts in Tube		6	6
No. of Fillers		4	2
Tube/Filler- Φ	mm	2	2
CSM- Φ	mm	2.1	2.1
Coated CE- Φ	mm	/	/
Thickness of Inert Sheath	mm	0.7	0.7
Thickness of Outer Sheath	mm	1.7	1.7
Nom. Cable Diameter (±0.5)	mm	12.8	12.8
Nom. Cable Weight	kg/km	145	145
Tensile Strength	N	2200	2200
Crush Strength	N/10cm	2000	2000

Color Code for Fiber and Loose Tube

Fiber color



Loose tube color(s)



Cable Performance

Cable performance		
Test	Specified Value	Acceptance Criteria
Tensile IEC 60794-1-21, E1	Tensile Strength	$\Delta\alpha\leq0.1$ dB, fiber strain $\leq0.60\%$
Crush IEC 60794-1-21, E3	2000 N/10cm	$\Delta\alpha\leq0.1$ dB, no sheath damage
Impact IEC 60794-1-21, E4	4.5 J	$\Delta\alpha\leq0.1$ dB, no sheath damage
Repeated Bending IEC 60794-1-21, E6	R=30D, 25 cycles	$\Delta\alpha\leq0.1$ dB, no sheath damage
Torsion IEC 60794-1-21, E7	1m, 10 cycles, $\pm180^\circ$	$\Delta\alpha\leq0.1$ dB, no sheath damage
Temperature Cycling IEC 60794-1-22, F1	2 cycles, $-25\sim+70^\circ\text{C}$	$\Delta\alpha\leq0.10\text{dB/km}$, no sheath damage
Water Penetration IEC 60794-1-22, F5	3m sample, 1m height, 24 h	No water leakage

Fiber Performance

G.652D performance		
Characteristics		Acceptance Value
Attenuation	@1310nm	≤0.35 dB/km
	@1383nm	≤0.35 dB/km
	@1550nm	≤0.21 dB/km
	@1625nm	≤0.24 dB/km
Mode field diameter (MFD)	@1310nm	9.2 ± 0.4 μm
	@1550nm	10.4 ± 0.5 μm
Chromatic dispersion coefficient	1288~1339nm (absolute value)	≤3.5 ps/(nm·km)
	1271~1360nm (absolute value)	≤5.3 ps/(nm·km)
	@1550 nm	≤18 ps/(nm·km)
Zero-dispersion wavelength		1302nm~1322 nm
Zero-dispersion slope		≤0.092 ps/(nm ² ·km)
Cable cut-off wavelength λ_{cc} (nm)		≤1260 nm
Polarization mode dispersion (PMD, for fiber on the reel)		≤0.20 ps/km ^{1/2}
Cladding diameter		125 ± 1.0 μm
Cladding non-circularity		≤0.70 %
Core/cladding concentricity error		≤0.7 μm
Proof test		≥0.69 GPa (100kpsi)

Sheath Marking

The outer sheath is marked in 1 meter intervals as follows:

2026 Maintronics < Type designation (defined by purchaser > **** m

Note: Telephone Symbol is like 

Laser Symbol is like 

Cable Packing and Marking

1.1 Standard cable length for each reel

Standard length: 4000m per reel Tolerance: ± 2%.

Other cable length available.

1.2 Reel type

Each length of the cable shall be wound on a separate iron wooden reel.

The arbor holes provided in the reels shall be approximately 105 mm with a wood or steel hub in the arbor hole (in lieu of fiberboard).

1.3 Reel marking

Details given below shall be distinctly marked with a weather-proof material on both outer sides of the reel flange:

Purchaser's name

Reel number

Name of the manufacturer

Year of manufacture

Arrow showing the direction the drum shall be rolled

1.4 Cable end retaining methods

Iron wooden reel: inner retaining.

Wooden reel: outer retaining recommended, inner retaining or groove retaining available.



Iron wooden reel



Wooden reel

----- End of Specification -----