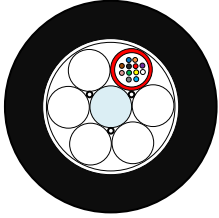


1. Application / Construction

Identification	GYFTY-12 G.652D		
Application	Duct Installation Cable		
Cross Section (not to scale)	12 fibers 		
Configuration	<ul style="list-style-type: none"> - Loose tube with 12 optical fibers, filled with thixotropic compound - Stranded loose tubes and fillers if necessary - Central strength member made of fibre reinforced plastic (FRP) - Cable strand with water blocking yarns and tape - Outer sheath: Black PE, UV proof 		
Temperature Range	Storage and transport -30 to +70°C	Installation -5 to +50°C	Operation -20 to +60°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-3-10, ITU-T G.652		
ZTT Specification	21-116461-3-B		
Customer Reference	3424000107		

2. Dimensions

Number of fibers		12
Loose tubes x fibers		1x12
Loose tubes / Dummies		1/5
Outer sheath thickness	mm	Min. 1.8
Outer diameter (±0.4)	mm	10.6(≤11.0)
Weight/km	kg	90

Note: sizes and values without tolerances are nominal values

3. Mechanical Properties

Max. tensile load (N)	1500
Crush resistance (N/10cm)	1000
Bending radius (installation)	20x cable Ø
Bending radius (operation)	15x cable Ø

See Point 7: Test Methods

4. Marking

Fiber Colors	1 red	2 green	3 blue	4 yellow	5 white	6 grey	7 brown	8 violet	9 aqua	10 black	11 orange	12 pink
Tube Colors	1 red											

Outer Sheath: black, ink jet or hot print, marking in 1 meter intervals as follows (for example):

telephone handset HT SVK <number of fibers> ZTT 2021 xxxxM

5. Optical Fiber

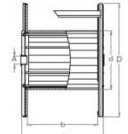
Standard	ITU-T G.652D ZTT-ALF®		
Optical	Fibre attenuation .. cabled	@ 1310 nm ≤0.38 dB/km	@ 1550 nm ≤0.23 dB/km
	Refractive index profile	Step	
	Mode field diameter (MFD)	9.2 ± 0.5 μm	-
	Zero dispersion wavelength	1300~1324 nm	
	Zero dispersion slope	≤0.092 ps/nm ² ·km	
	Dispersion coefficient	@ 1310 nm ≤3.5 ps/nm.km	@ 1550 nm ≤19.0 ps/nm.km
	PMD individual value	≤0.2 ps/√km	
	Cut-off wavelength	≤1260 nm	
	Macro bending loss .. 100 turns Ø60 mm	@1550 nm ≤0.05 dB	@1625 nm ≤0.10 dB
	Geometric	Cladding diameter	125 ± 1.0 μm
Coating Diameter		250 ± 15 μm	
Core/clad concentricity error		Max. individual value: 1μm Max. average value: ≤0.5μm	
Cladding non-circularity		≤1.0 %	
Mechanical	Proof stress	≥0.69 Gpa	

6. Test Methods

Test	Conditions	Acceptance criteria
Tensile strength IEC 60794-1-2 E1	Tensile strength: see Point 3 Length: ≥ 50 m, Duration: 1 min	- Fiber strain: ≤0.6%, Δα ≤0.15dB - Δα reversible after test
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min, test number: 3	- Δα ≤0.05dB after test - No damage
Impact IEC 60794-1-2 E4	Impact energy: 3J R = 10 mm, number of places: 3	- Δα ≤0.05dB after test - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable Ø 25 cycles	- Δα ≤0.05dB after test - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m ± 180°, 10 cycles	- Δα ≤0.05dB after test - No damage
Bend IEC 60794-1-2 E11A	Bending radius: 10x cable Ø 3 turns, 3 cycles	- Δα ≤0.05dB after test - No damage
Temperature cycling IEC 60794-1-2 F1	-20°C → +60°C 12 hours at each step, 2 cycles	- Δα ≤0.15dB/km and reversible
Water penetration IEC 60794-1-2 F5	Sample length: 3 m Water column height: 1 m Test duration: 24 h	- No water leakage

All optical measurements at 1550 nm

7. Logistics

Cable type	Length Tolerance	4km -1% / +3%	 D*d*B in cm
GYFTY-12 G.652D	Drum Type Dimensions Weight	Wood 125*60*75 436 kg	

Dimensions including protection. Indicative values, actually delivered drum sizes and weights may deviate. Cable ends sealed with caps