


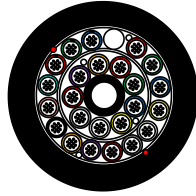


1. Application / Construction

Identification	GYFHTY-12/24/36/48/72/96/144 B1.3			
Application	Duct Cable			
Cross Section (not to scale)	12~72 fibers	96 fibers	144 fibers	288 fibers
				
Configuration	<ul style="list-style-type: none"> - PBT loose tube with up to 12 optical fibers, filled with thixotropic compound - Natural PP fillers, when needed - Stranded loose tubes - Central strength member made of fibre reinforced plastic (FRP) or coated FRP - Cable strand: dry, with water blocking yarns and water blocking tape - Outer sheath: HDPE, black, two polyester ripcords under the sheath 			
Temperature Range	Storage and transport -30 to +70°C	Installation -10 to +50°C	Operation -30 to +70°C	
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-3-10			
ZTT Specification	20-107087-3-C			
Customer Reference	Common standard			

2. Dimensions

Number of fibers	/	12		24		36		48		72	96	144	288
Fibers per tube	/	12	6	12	6	6	12	12	8	12	12	12	12
Loose tubes / Dummies	/	1/5	2/4	2/4	4/2	6/0	3/3	4/2	6/0	6/0	8/0	12/0	(9+15)/1
Loose tube / filler Ø	mm	1.9											
Central strength member	mm	2.0									3.2	5.8 (3.5)	4.0 (3.0)
Outer sheath thickness	mm	1.1											
Outer diameter (±0.3)	mm	8.0									9.6	12.2	14.6
Weight/km	kg	52									80	126	146

Note: sheath thickness not consider ripcord portion, sizes and values without tolerances are nominal values

3. Mechanical Properties

MAT	1500 N	2000 N
Crush resistance / 10 cm	1500 N	
Bending radius (installation)	20x cable Ø	
Bending radius (operation)	10x cable Ø	

See Point 6: Test Methods

4. Marking

Fiber Colors	1	2	3	4	5	6	7	8	9	10	11	12
	blue	orange	green	brown	slate	white	red	black	yellow	violet	rose	aqua
Tube Colors 12~144F	1	2	3	4	5	6	7	8	9	10	11	12
	blue	orange	green	brown	slate	white	red	black	yellow	violet	rose	aqua

Tube Colors 288F	1	2	3	4	5	6	7	8	9					
	blue	orange	green	brown	slate	white	red	black	yellow					
	10	11	12											
	violet	rose	aqua											
	13	14	15	16	17	18	19	20	21	22	23	24		
	blue	orange	green	brown	slate	white	red	black	yellow	violet	rose	aqua		

Note: 22~24 tube colors: violet with black tracer, rose with black tracer, aqua with black tracer

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

ZTT OPTICAL CABLE GYFHTY-36 B1.3 <fiber counts> <batch ID> <meter marking >

5. Optical Fiber

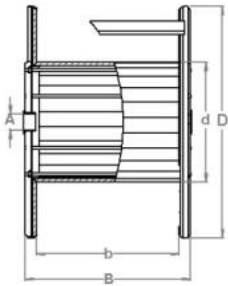
Standard	ITU-T G.652D		
Optical	Fibre attenuation.. cabled		
	Typical		@ 1310 nm
	Maximum		@ 1550 nm
			≤0.32 dB/km
			≤0.36 dB/km
	Mode field diameter (MFD)		9.2 ± 0.4 μm
			10.4 ± 0.5 μm
	Dispersion		@ 1300 +30/-15 nm
		@ 1550 nm	
		@ 1625 nm	
		≤3.5ps/(nm·km)	
		≤18.0ps/(nm·km)	
		≤22ps/(nm·km)	
Zero dispersion wavelength		1300~1324 nm	
Zero dispersion slope		≤0.092 ps/nm ² ·km	
Polarisation mode dispersion (PMD)		≤0.2 ps/√km	
Cut-off wavelength		≤1260 nm	
Macro bending loss		@1550 nm	@1625 nm
.. 100 turns Ø50 mm		≤0.05 dB	≤0.10 dB
Geometric	Coating diameter (uncolored)		245 ± 10 μm
	Cladding diameter		125 ± 1.0 μm
	Core/clad concentricity error		≤0.6 μm
	Cladding non-circularity		≤0.8 %
	Cladding/coating concentricity error		≤12.0 μm
Mechanical	Proof stress		≥0.69 Gpa (100kpsi)
	Dynamic stress corrosion susceptibility parameter (typical value)		≥20

6. Test Methods

Test	Conditions	Acceptance criteria
Tensile strength IEC 60794-1-2 E1	Tensile strength: see Point 3 Sample length: ≥ 50 m, Duration: 1 min	- Fiber strain:≤0.6%, Δα reversible
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min, number of test: 3	- Δα reversible - No damage
Impact IEC 60794-1-2 E4	Impact energy: 3 J R = 10 mm, number of places/tests: 3	- Δα reversible - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable Ø 100 cycles, 100N	- Δα reversible - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m ± 180°, 5 cycles, 40N	- Δα reversible - No damage
Bend IEC 60794-1-2 E11A	Bending radius: 10x cable Ø 5 bends, 5 cycles	- Δα reversible - No damage
Temperature cycling IEC 60794-1-2 F1	-20°C→ +70°C 4 hours at each step, 2 cycles	- Δα≤0.1dB/km - No damage
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%	 <p>D*d*B in cm</p>
GYFHTY-12~72 B1.3	Drum Type Dimensions Weight	Wood 105*50*75 272	
GYFHTY-96 B1.3		Wood 115*50*75 393	
GYFHTY-144 B1.3		Wood 125*60*110 610	
GYFHTY-288 B1.3		Wood 165*70*75 810	

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

C	Nov. 25, 2024	Kaka	Tim	Erica	Modify the fiber attenuation
B	Jun.09, 2020	Dendi	Erica	Felix	Add 36/96/144/288F
A	Feb.15, 2020	Dendi	Erica	Felix	/
Version	Date	Prepared	Reviewed	Approved	Remark