



Project: Infovia 002, 003, 004 Project
Doc. No: ZT29005-CAB-TS-002
Doc.Title: Technical Specification

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Technical Specification
For
Terrestrial Optical Fiber Cable
Type: GYMXTY33-48B1.3

MA

01	Dec 06, 2022	Issued for Approval	Wright	Shenbingbing	Erica
Version	Date	Description	Prepared	Reviewed	Approved


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1. Application / Construction

Identification	GYMXTY33-48B1.3		
Application	Direct buried or duct cable		
Cross Section (not to scale and only for reference)	48 fibers 		
Configuration	<ul style="list-style-type: none"> - Stainless steel tube with up to optical fibers, filled with thixotropic compound - Inner sheath: Black PE - Armor: galvanized steel wire - Wrapping tape: water blocking tape - Outer sheath: Black HDPE 		
Temperature Range	Storage and transport -40 to +70°C	Installation -15 to +60°C	Operation -40 to +70°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-3-10, YD/T 769		
ZTT Specification	ZTT2022-ZL002998-B		
Customer Reference	RFP Cabos Subaquáticos		

2. Dimensions

Material code		GL028224
Number of fibers		48
Outer diameter (±0.5)	mm	12.0
Weight (±15%)	kg	211


Sizes and values without tolerances are nominal values

Zinc content of galvanized steel wire before cabling: $\geq 20\text{g/m}^2$

3. Mechanical Properties

Max. tensile load	3000N
Crush resistance / 10 cm	3000N
Bending radius (installation)	30x cable Ø
Bending radius (operation)	15x cable Ø

See Point 6: Test Methods


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4. Marking

Fiber Colors	1	2	3	4	5	6	7	8	9	10	11	12
	green	yellow	white	blue	red	violet	brown	pink	black	grey	orange	aqua
	13	14	15	16	17	18	19	20	21	22	23	24
	green	yellow	white	blue	red	violet	brown	pink	natural	grey	orange	aqua
	25	26	27	28	29	30	31	32	33	34	35	36
	green	yellow	white	blue	red	violet	brown	pink	natural	grey	orange	aqua
	37	38	39	40	41	42	43	44	45	46	47	48
	green	yellow	white	blue	red	violet	brown	pink	natural	grey	orange	aqua

ZTT OPTICAL CABLE GYMXY33-24/48B1.3 <batch ID> <meter marking>

Outer Sheath: black, ink jet or hot foil, marking in 1 meter intervals as follows:

5. Optical Fiber

Standard	ITU-T G.652D ZTT-ALF®		
Optical	Fibre attenuation .. cabled	@ 1310 nm ≤0.36 dB/km	@ 1550 nm ≤0.19 dB/km
	Mode field diameter (MFD)	9.2 ± 0.4 μm @ 1310 nm	
	Zero dispersion wavelength	1300~1324 nm	
	Zero dispersion slope	≤0.092 ps/nm² · km	
	Dispersion	@1550nm ≤18 ps/nm·km	
	Cut-off wavelength	≤1260 nm	
	PMD	≤0.2ps/√km	
	Macro bending loss .. 100 turns Ø50 mm	@1550 nm ≤0.05 dB	@1625 nm ≤0.10 dB
Geometric	Cladding diameter	125 ± 1 μm	
	Core/clad concentricity error	≤0.6 μm	
	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 Sample length: ≥ 50 m, Test duration: 1 min	- Fiber strain: ≤0.6%, Δα≤0.15dB - No damage
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min, number of tests: 1	- Δα ≤0.05dB after test - No damage
Impact IEC 60794-1-2 E4	Impact energy: 20 J R = 300 mm, 3 points, 1 time each point	- Δα ≤0.05dB after test - No damage
Temperature cycling IEC 60794-1-2 F1	+20℃→-40℃→+70℃→+20℃ 12 hours at each temperature step, 2 cycles	- Δα≤0.05dB/km
Water penetration IEC 60794-1-2 F5	Sample length: 3 m Water column height: 1 m Test duration: 24 h	- No water leakage of cable core

All optical measurements at 1550 nm



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7.Logistics

Cable type	Length Tolerance	6000m -1% / +3%	 D*d*B in cm
GYMXTY33-48B1.3	Drum Type Dimensions Weight	Iron wooden 155*80*105 1435 kg	

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



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 SERGIO RENAN KERN
 Data: 07/12/2022 11:03:23-0300
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