

Micro Module Aerial Optic Cable (60m Span)



1 Application / Construction

Identification	OFC-6~144 G.657A2/G.652D-FASA(W)-S1 Module 6		
Application	Micro module cable for aerial or duct installation		
Cross section	6~144 fibres  ..not to scale..		
Configuration	- Micro module with 6 optical fibres and water blocking yarn - Aramid yarns - Cable strand: Dry, with water-blocking yarns and water-blocking tape - Outer sheath: HDPE, with 2 FRP embedded in the sheath symmetrically - Max span: 60m		
Temperature range	Storage and transport -40 to +70°C	Installation -5 to +40°C	Operation -30 to +60°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-4-20, EN 50290-2-24		
ZTT Specification	ZTT 19-101002-6-A Module 6		
Customer Reference	Common standard		

2 Dimensions

Fiber Counts		6	12	24	36	48	72	96	144
Outer diameter	mm	6.7	7.9	8.3	9.0	9.6	11.0	12.0	14.0
OD tolerance		±0.5mm					±5%		
Weight/km (Nominal)	kg	30	38	43	50	56	75	88	121

Sizes and values without tolerances are reference values

3 Mechanical Properties

Fiber Counts	6	12	24	36	48	72	96	144
Tensile load	800N	1400N				1600N	1800N	2400N
Crush resistance	2000N/10cm							
Min. bending radius	Without tension 10D							

See Point 6: Test Methods

4 Marking

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

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

ZTT	Aerial	CABLE	Cable Type	M6	Batch No.	<meter marking >
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5 Optical Fiber

Standard	ITU-T G.657A2		
Optical	Fibre attenuation .. cabled	@1310 nm ≤0.40 dB/km	@1550 nm ≤0.30 dB/km
	Zero Dispersion Wavelength	1300~1324 nm	
	Zero Dispersion Slope	≤0.092 ps/nm ² ·km	
	Macro bending Loss (10 turns; Φ30 mm) @1550 nm (10 turns; Φ30 mm) @1625 nm (1 turns; Φ20 mm) @1550 nm (1 turns; Φ20 mm) @1625 nm (1 turns; Φ15 mm) @1550 nm (1 turns; Φ15 mm) @1625 nm	≤ 0.03 dB ≤ 0.10 dB ≤ 0.10 dB ≤ 0.20 dB ≤ 0.50 dB ≤ 1.00 dB	
	Mode Field Diameter @1310 nm	(8.6~9.2)±0.4 μm	
Geometric	Cladding Diameter	125±1 μm	
	Cladding non circularity	≤ 1.0%	
	Core/clad concentricity error	≤ 0.5μm	
Mechanical	Proof stress	≥ 0.69 GPa	

Standard	ITU-T G.652D		
Optical	Fibre attenuation .. cabled	@1310 nm ≤0.40 dB/km	@1550 nm ≤0.30 dB/km
	Zero Dispersion Wavelength	1300~1324 nm	
	Macro bending Loss (100 turns; Φ50 mm) @1550 nm (100 turns; Φ50 mm) @1625 nm	≤ 0.05 dB ≤ 0.10 dB	
	Mode Field Diameter	9.2±0.4μm@1310nm	
Geometric	Cladding Diameter	125±1.0μm	
	Cladding non circularity	≤1.0%	
	Core/clad concentricity error	≤0.6μm	
Mechanical	Proof stress	≥0.69 GPa	

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6 Test Methods

Test	Conditions	Acceptance criteria
Tension Loading IEC 60794-1-2 E1	Tensile strength: see Point 3 Sample length: ≥ 25 m, Test duration: 10 min	- Attenuation change reversible - No damage
Crush/Compression IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 1 min, number of tests: 3	- Attenuation change reversible - No damage
Impact Resistance IEC 60794-1-2 E4	Impact energy: 5 J R = 300 mm, number of places/tests: 3	- Attenuation change reversible - No damage
Repeated Bending IEC 60794-1-2 E6	Bending radius: 20D, 25 cycles	- Attenuation change reversible - No damage
Torsion/Twist IEC 60794-1-2 E7	Sample length: 2 m ± 180°, 5 cycles	- Attenuation change reversible - No damage
Bend IEC 60794-1-2 E11	Bending radius: 10D 4 bends, 3 cycles	- Attenuation change reversible - No damage
Temperature cycling IEC 60794-1-2 F1	-40°C .. +70°C 12 hours at each temperature step 2 cycles	- Change of attenuation ≤ 0.10 dB/km at 1550nm - 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	Standard length 4000 m		
OFC-6 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	105*60*75	
	Weight	179	
OFC-12 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	115*60*75	
	Weight	220	
OFC-24 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	115*60*75	
	Weight	240	
OFC-36 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	125*60*75	
	Weight	276	
OFC-48 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	125*60*75	
	Weight	300	
OFC-72 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	135*60*75	
	Weight	396	
OFC-96 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	145*70*75	
	Weight	461	
OFC-144 G.657A2/G.652D-FASA(W)-S1 (Module 6)	Drum type	Wooden	
	Dimensions	145*70*110	
	Weight	615	

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

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A	July 22, 2019	Yury	Erica	Felix	/
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