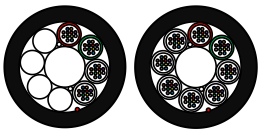
Mini Optical Fiber Cable A-DQ2Y nx12 kN+

1. Application / Construction

MN03

Identification	Mini A-DQ2Y nx12 E9 G.652D Mini A-DQ2Y nx12 E9 G.657A1		
Application	Mini cable for blowing into microducts. Improved stiffness for ring gap 1..4,5 mm		
Cross Section (not to scale)	12..96 fibers 	144 fibers 	288 fibers 
Recommended for microduct dimension (O/I-Ø in mm)	≥ 14/10	≥ 14/10	≥ 16/12
Configuration	- Loose tubes with up to 12 optical fibers, filled with thixotropic compound - Stranded loose tubes - Central strength member made of fibre reinforced plastic (FRP) or coated FRP - Cable strand: dry, with water blocking materials - Outer sheath: HDPE, one ripcord 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 60794-5		
ZTT Specification	18-91310-C, 18-91369-A		
Customer Reference	Common standard		

2. Dimensions

Number of fibers		12	24	48	72	96	144	288
Loose tubes x fibers		1x12	2x12	4x12	6x12	8x12	12x12	24x12
Loose tubes / Dummies	1.L 2.L	1/7	2/6	4/4	6/2	8/0	12/0	9/0 15/0
Loose tube Ø	mm	1.4						
Central Strength Member	mm	2.4					4.2 (2.7)	2.8
Outer sheath thickness	mm	0.5						
Outer diameter (±0.3)	mm	6.2					8.0	9.3
Weight (± 20%)	kg	40					60	75

Sizes and values without tolerances are reference values

3. Mechanical Properties

Max. tensile load (Install.)	1500 N	2000 N	2500 N
Max. tensile load (operation)	500 N		
Crush resistance / 10 cm	700 N		
Bending radius (installation)	20x cable Ø		
Bending radius (operation)	15x cable Ø		

See Point 6: Test Methods

4. Marking

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

Tube Colors	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	RD	GN	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT	WT

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Outer Sheath: black, ink jet or laser print, marking in 1 meter intervals as follows:

ZTT OPTICAL CABLE MINI A-DQ2Y <n>x12 <fiber type> <batch ID> <meter marking >

5. Optical Fiber

Standard	ITU-T G.652D		
Optical	Fibre attenuation .. cabled	@ 1310 nm ≤0.36 dB/km	@ 1550 nm ≤0.22 dB/km
	Mode field diameter (MFD)	9.0 ± 0.4 µm	10.4 ± 0.6 µm
	Zero dispersion wavelength	1300~1324 nm	
	Zero dispersion slope	≤0.092 ps/nm² ·km	
	Polarisation mode dispersion (PMD)	≤0.2 ps/√km	
	Cut-off wavelength	≤1260 nm	
	Macro bending loss .. 100 turns Ø50 mm	@1550 nm ≤0.05 dB	@1625 nm ≤0.10 dB
Geometric	Outer diameter	245 ± 15 µm	
	Cladding diameter	125 ± 1.0 µm	
	Core/clad concentricity error	≤0.6 µm	
	Cladding non-circularity	≤1.0 %	
Mechanical	Proof stress	≥0.69 Gpa	

Standard	ITU-T G.657A1			
Optical	Fibre attenuation .. cabled	@ 1310 nm ≤0.36 dB/km	@ 1550 nm ≤0.21 dB/km	@ 1625 nm ≤0.23 dB/km
	Mode field diameter (MFD)	8.8 ± 0.4 µm	9.9 ± 0.5 µm	
	Zero dispersion wavelength	1300..1324 nm		
	Zero dispersion slope	≤0.092 ps/nm² ·km		
	Polarisation mode dispersion (PMD)	≤0.1 ps/√km		
	Cut-off wavelength	≤1260 nm		
	Macro bending loss .. 10 turns Ø30 mm .. 1 turn Ø20 mm	@1310 nm -	@1550 nm ≤0.25 dB ≤0.75 dB	@1625 nm ≤1.0 dB ≤1.5 dB
Geometric	Outer diameter	245 ± 10 µm		
	Cladding diameter	125 ± 0.7 µm		
	Core/clad concentricity error	≤0.5 µm		
	Cladding non-circularity	≤0.7 %		
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:≤0.60%, △α reversible - No damage
Crush resistance IEC 60794-1-2 E3	Crush: see Point 3 Test duration: 15 mins, number of tests: 3	- △α ≤0.05dB - No damage
Impact IEC 60794-1-2 E4	Impact energy: 1 J R = 300 mm, number of places/tests: 3	- △α ≤0.05dB after test - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable Ø 25 cycles, 100N load	- △α ≤0.05dB after test - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m ± 180°, 10 cycles, 100N	- △α ≤0.05dB after test - No damage
Bend IEC 60794-1-2 E11A	Bending radius: 10x cable Ø 4 bends, 3 cycles	- △α ≤0.05dB after test - No damage
Temperature cycling IEC 60794-1-2 F1	-30℃.. +70℃ 4 hours at each temperature step, 2 cycles	- △α≤0.05dB/km and reversible - 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

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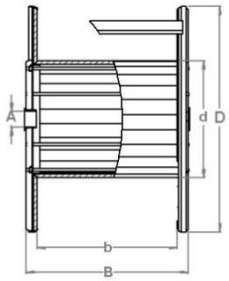
7. Logistics

Cable type	Length Tolerance	6km -1% / +3%	
Mini A-DQ2Y 1..8x12	Drum Type Dimensions Weight	Wood 105*60*75 355 kg	
Mini A-DQ2Y 12x12		Wood 135*70*75 485 kg	
Mini A-DQ2Y 24x12		Wood 145*80*75 561 kg	D*d*B in cm

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

Version	Date	Prepared	Reviewed	Approved
B	July 31, 2019	Amy	Erica	Felix
A	Oct 16&17, 2018	Kuck	Erica	Felix

www.zttcable.com

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