Mini Optical Fiber Cable A-DQ2Y nx12 (G1+)

1. Application / Construction

Identification	Mini A-DQ2Y nx12 E9 G.652D Mini A-DQ2Y nx12 E9 G.657A1		
Application	Micro cable for blowing into microducts		
Cross Section (not to scale)	12 ... 72 fibers		96 fibers
			
Recommended for microduct dimension (O/I-Ø in mm)	12/8		
Configuration	Loose tubes with up to 12 optical fibers, filled with thixotropic compound Stranded loose tubes Central strength member made of fiber reinforced plastic (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 -5 to +50°C	Operation -25 to +70°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-5		
Customer Reference	Common standard		

2. Dimensions

Number of fibers		12	24	48	72	96
Loose tubes x fibers		1x12	2x12	4x12	6x12	8x12
Loose tubes / Dummies		1/5	2/4	4/2	6/0	8/0
Loose tube Ø	mm	1.5				1.4
Central Strength Member	mm	1.7				2.3
Outer sheath thickness	mm	0.5				
Outer diameter (±0.2)	mm	5.7				6.1
Weight (± 20%)	kg	29				39

Sizes and values without tolerances are reference values

3. Mechanical properties

Max. tensile load	1000 N	1500N
Crush resistance / 10 cm	700 N	
Bending radius (installation)	20x cable-Ø	
Bending radius (operation)	15x cable-Ø	

See Point 6: Test Methodsv

4. Marking

Fiber Color	1	2	3	4	5	6	7	8	9	10	11	12
DIN VDE 0888	Red	Green	Blue	Yellow	White	Grey	Brown	Violet	Aqua	Black	Orange	Pink

Tube Colors	1	2	3	4	5	6	7	8
	Red	Green	Blue	Yellow	White	Grey	Brown	Violet

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

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 ± 15µm	
	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	@ 1310 nm	@ 1550 nm	@ 1625 nm

	.. cabled	≤0.36 dB/km	≤0.21 dB/km	≤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
	Outer diameter	245 ± 15 µm		
	Cladding diameter	125 ± 0.7 µm		
	Core/clad concentricity error	≤0.5 µm		
Geometric	Cladding non-circularity	≤0.7 %		
Mechanical	Proof stress	≥0.69 Gpa		

6. Test Methods

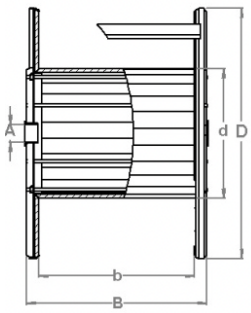
Test	Conditions	Acceptance criteria
Tensile strength **IEC 60794-1-2 E1**	Tensile strength: see Point 3 Sample length: ≥ 50 m, Test duration: 1 min	- Fiber strain:≤0.60%, Δα reversible - No damage
Crush resistance **IEC 60794-1-2 E3**	Crush: see Point 3 Test duration: 15 min, number of tests: 3	- Δα ≤0.05dB - No damage
Impact **IEC 60794-1-2 E4**	Impact energy: 1 J R = 300 mm, number of places/tests: 3	- Δα ≤0.05dB after test - No damage
Repeated bending **IEC 60794-1-2 E6**	Bending radius: 20x cable Ø 25 cycles , 100N load	- Δα ≤0.05dB after test - No damage
Torsion **IEC 60794-1-2 E7**	Sample length: 2 m ± 180°, 10 cycles, 100N	- Δα ≤0.05dB after test - No damage
Bend **IEC 60794-1-2 E11A**	Bending radius: 10x cable Ø 4 bends, 3 cycles	- Δα ≤0.05dB after test - No damage
Temperature cycling **IEC 60794-1-2 F1**	Ta1-Tb1: -15°C →+50°C Ta2-Tb2: -25°C →+70°C 4 hours at each temperature step, 2 cycles	- Ta1-Tb1: Δα≤0.05dB/km, - Ta2-Tb2: Δα≤0.10dB/km and reversible - No damage
Water penetration **IEC 60794-1-2 F5**	Sample length: 3 m, Test duration: 24 h Water column height: 1 m	- No water leakage

All optical measurements at 1550 nm

7. Ordering Details

Number of Fibers	DIN Code
12 G.652D	A-DQ2Y 1x12 G.652D
24 G.652D	A-DQ2Y 2x12 G.652D
48 G.652D	A-DQ2Y 4x12 G.652D
72 G.652D	A-DQ2Y 6x12 G.652D
96 G.652D	A-DQ2Y 8x12 G.652D
12 G.657A1	A-DQ2Y 1x12 G.657A1
24 G.657A1	A-DQ2Y 2x12 G.657A1
48 G.657A1	A-DQ2Y 4x12 G.657A1
72 G.657A1	A-DQ2Y 6x12 G.657A1
96 G.657A1	A-DQ2Y 8x12 G.657A1

8. Logistics

Cable type	Length Tolerance	3000 m -1% / +3%	6000 m -1% / +3%	
Mini A-DQ2Y 1..6x12	Drum Type	Wood 105*60*50 220 kg	Wood 115*60*50 271 kg	
Mini A-DQ2Y 8x12	Dimensions Weight	Wood 115*60*50 289 kg	Wood 120*60*50 354 kg	D*d*B in cm

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