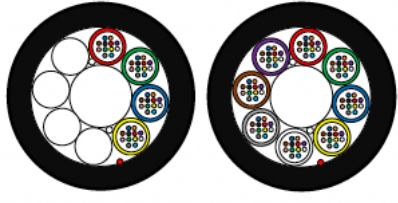




1. Application / Construction

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)	48..96 fibers	144 fibers	288 fibers
			
Recommended for microduct dimension (O/I-Ø in mm)	≥ 14/10	≥ 14/10	≥ 16/12
Configuration	<ul style="list-style-type: none"> - 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		
Customer Reference	Common standard		

2. Dimensions

Number of fibers		48	72	96	144	288
Loose tubes x fibers		4x12	6x12	8x12	12x12	24x12
Loose tubes / Dummies	1.L 2.L	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 (±0.2)	mm	6.2			8.0	9.6
Weight (± 20%)	kg	40			60	84

Sizes and values without tolerances are reference values

3. Mechanical properties

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

See Point 6: Test Methods

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	9	10	11	12	13	14	15
	rd	gn	bl	yl	wh	gr	br	vt	tq	bk	or	pk	wt	wt	wt

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

5. Optical Fiber

Standard	ITU-T G.652D		
Optical	Fibre attenuation	@ 1310 nm	@ 1550 nm
	.. cabled	≤0.36 dB/km	≤0.22 dB/km
	Mode field diameter (MFD)	9.0 ± 0.4 μm	
	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	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
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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/nm ² ·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 ± 15 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%, 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	-30°C.. +70°C 4 hours at each temperature step, 2 cycles	- Ta1-Tb1: Δα≤0.05dB/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

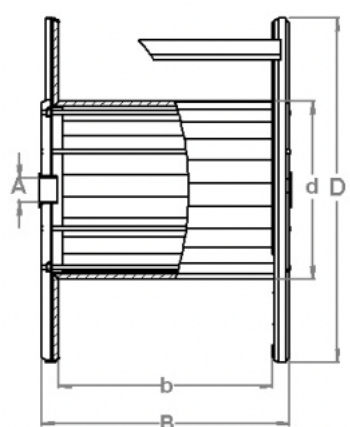
6. Ordering Details

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Number of Fibers	DIN Code modified
48 G.652D	MINI A-DQ2Y 4x12 G.652D 1.5kN OD6.2 MN03
72 G.652D	MINI A-DQ2Y 6x12 G.652D 1.5kN OD6.2 MN03
96 G.652D	MINI A-DQ2Y 8x12 G.652D 1.5kN OD6.2 MN03
144 G.652D	MINI A-DQ2Y 12x12 G.652D 2.0kN OD8.0 MN03
288 G.652D	MINI A-DQ2Y 24x12 G.652D 2.5kN OD9.6 MN03
48 G.657A1	MINI A-DQ2Y 4x12 G.657A1 1.5kN OD6.2 MN03
72 G.657A1	MINI A-DQ2Y 6x12 G.657A1 1.5kN OD6.2 MN03
96 G.657A1	MINI A-DQ2Y 8x12 G.657A1 1.5kN OD6.2 MN03
144 G.657A1	MINI A-DQ2Y 12x12 G.657A1 2.0kN OD8.0 MN03
288 G.657A1	MINI A-DQ2Y 24x12 G.657A1 2.5kN OD9.6 MN03

6. Logistics

Cable type	Length Tolerance	3000 m	6000 m	
		-1% / +3%	-1% / +3%	
Mini A-DQ2Y 4..8x12	Drum Type Dimensions Weight	Wood	Wood	
		105*60*75	115*60*75	
226 kg		355 kg		
Mini A-DQ2Y 12x12		Wood	Wood	
		115*60*75	125*60*575	
315 kg		485 kg		
Mini A-DQ2Y 24x12	Wood	Wood		
	135*70*75	145*70*75		
443 kg	659 kg			
D*d*B in cm				

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