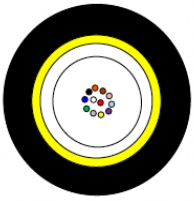
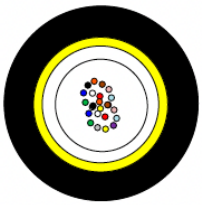
Micro Optical Fiber Cable A-D(ZN)2Y 1xn

1. Application / Construction

Identification	Micro A-D(ZN)2Y 1xn E9 G.657A1		
Application	Micro cable for blowing into microducts		
Cross Section (not to scale)	4..6 fibers	12 fibers	24 fibers
			
Recommended for microduct dimension (O/I-Ø in mm)	7/4		
Configuration	Central loose tube with 4..24 optical fibers, filled with thixotropic compound		
	Strength member: Aramid yarns		
	Outer sheath: Low shrinkage HDPE		
Temperature Range	Storage and transport	Installation	Operation
	-25 to +70°C	-10 to +50°C	-20 to +60°C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-5		
Customer Reference	Common standard		

2. Dimensions

Number of fibers		4	6	12	24 200µ
Loose tubes x fibers		1x4	1x6	1x12	1x24
Loose tube Ø	mm	1.6		1.8	2.0
Outer sheath thickness	mm	0.3			
Outer diameter (±0.2)	mm	2.4		2.5	2.8
Weight (± 20%)	kg	7		8	9

3. Mechanical properties

Max. tensile load	100 N
Crush resistance / 10 cm	300 N
Bending radius (installation)	20x cable-Ø
Bending radius (operation)	10x cable-Ø

4. Marking

Fiber Colors DIN VDE 0888 13...24 with color ring	1	2	3	4	5	6	7	8	9	10	11	12
	Red	Green	Blue*	Yellow	White	Grey	Brown	Violet	Aqua	Black	Orange	Pink
	13	14	15	16	17	18	19	20	21	22	23	24
	Red	Green	Blue*	Yellow	White	Grey	Brown	Violet	Aqua	Natural	Orange	Pink

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

5. Optical Fiber

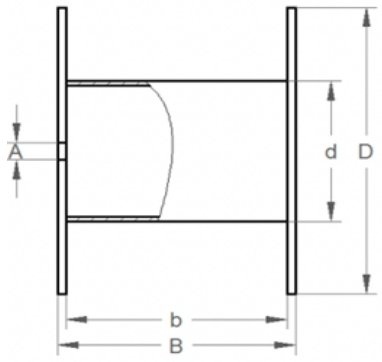
Standard	**ITU-T G.657A1**			
Optical	Fibre attenuation ... cabled	@ 1310 nm ≤0.36 dB/km	@ 1550 nm ≤0.21 dB/km	@ 1625 nm ≤0.23 dB/km
	Mode field diameter (MFD)	8.8 ± 0.4 µm	9.9 ± 0.5 µm	
	Zero dispersion wavelength	1300..1324 nm		
	Zero dispersion slope	≤0.092 ps/nm² ·km		
	Polarisation mode dispersion (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	200 ± 10 µm	250 ± 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	- Attenuation change reversible - No damage
Crush resistance **IEC 60794-1-2 E3**	Crush: see Point 3 Test duration: 1 min, number of tests: 3	- Attenuation change reversible - No damage
Impact **IEC 60794-1-2 E4**	Impact energy: 1 J R = 300 mm, number of places/tests: 3	- Attenuation change reversible - No damage
Repeated bending **IEC 60794-1-2 E6**	Bending radius: 20x cable Ø 25 cycles	- Attenuation change reversible - No damage
Torsion **IEC 60794-1-2 E7**	Sample length: 2 m ± 180°, 5 cycles	- Attenuation change reversible - No damage
Bend **IEC 60794-1-2 E11A**	Bending radius: 10x cable Ø 4 bends, 3 cycles	- Attenuation change reversible - No damage
Temperature cycling **IEC 60794-1-2 F1**	-20°C .. +60°C -25°C .. +70°C 4 hours at each temperature step, 2 cycles	-20°C .. +60°C: Δα ≤ 0.05 dB/km -25°C .. +70°C: Δα ≤ 0.10 dB/km Δα reversible, no damage
Water penetration **IEC 60794-1-2 F5**	Sample length: 1 m, Test duration: 24 h Water column height: 1 m	- No water leakage

All optical measurements at 1550 nm

7. Logistics

Cable type	Standard Length (-1% +3%)	6000 m	
A-D(ZN)2Y 1x4/6	Drum type Dimensions Weight	Plywood 82*60*35 67 kg	
A-D(ZN)2Y 1x12		Plywood 82*60*35 69 kg	
A-D(ZN)2Y 1x24		Plywood 87*60*35 73 kg	

D*d*B in cm

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