

Optical Standard Cable A-DQ(ZN)(SR)2Y nx12 G.652D (ZT)



1. Construction / Application

Identification	A-DQ(ZN)(SR)2Y nx12 E9 G.652D		
Application	Outdoor cable with metallic rodent protection for universal use		
Cross-section (not to scale)	12 fibres	96 fibres	288 fibres
Construction	<ul style="list-style-type: none"> - Loose tubes with 12 optical fibres, filled with thixotropic compound - 12 fibre cable: central loose tube - From 24 fibres: Stranded loose tubes; central strength member made of fibre reinforced plastic (FRP), if applicable incl. oversheathing; dummies if required - 192, 216 and 288 fibres: 2-layer construction - Cable strand: Dry, with water-blocking materials - Strength members: Aramid yarns - Reinforcement, metallic: ribbed steel strip, coated on both sides, with overlap, wall thickness 0.15 mm; 2 rip cords under it - Outer sheath: HDPE 		
Temperature range	Storage and transport -40 to +70 °C	Installation -10 to +50 °C	Operation -30 to +70 °C
Standards	IEC 60793-1, IEC 60793-2, IEC 60794-3-10		

2. Dimensions

Number of fibres		12	24	48	72	96	144	192	216	288
Loose tubes x fibres		1x12	2x12	4x12	6x12	8x12	12x12	16x12	18x12	24x12
Loose tubes/dummies	1.L 2.L	1 / -	2 / 4	4 / 2	6 / 0	8 / 0	12 / 0	6 / 0 10 / 2	6 / 0 12 / 0	9 / 0 15 / 0
Loose tube Ø	mm	3.5	2.3							
Central strength member / FRP	mm	-	2.5			3.8/2.8	7.0/3.5	2.5		4.7/3.8
Outer sheath thickness	mm	1.5				1.6		1.5		
Outer diameter (± 5%)	mm	10.5	11.9			13.4	16.6	17.4		20.0
Weight (± 15%)	kg	136	130			175	260	278		340

Sizes and values without tolerances are reference values.

3. Mechanical Properties

Max. tensile strength (Installation)	2700 N		4000 N	4200 N	5200 N
Max. tensile strength (Operation)	350 N	0.5*weight (N), min. 1350 N			
Crush resistance	4000 N / 10 cm				
Bending radius (under tension)	20x cable Ø				
Bending radius (without tension)	10x cable Ø				

see point 7: Test Methods

4. Identification

Outer sheath	Colour of outer sheath: black Printing method: Heißprägeverfahren The outer sheath is marked at 1 m spacings as follows:
FABER ZTT OPTICAL CABLE A-DQ(ZN)(SR)2Y <n>x12 G.652D <batch ID> <meter marking >	

Colour sequence of fibres											
1	2	3	4	5	6	7	8	9	10	11	12
red	green	blue	yellow	white	grey	brown	violet	cyan	black	orange	pink

Colour sequence of Loose tubes				Each layer beginning with 1; from the 13th Loose tube only white Dummies are natural coloured										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
red	green	blue	yellow	white	grey	brown	violet	cyan	black	orange	pink	white	white	white

5. Optical Fibre

Standard	ITU-T G.652D		
Fibre manufacturer	ZTT		
Optical-	Fibre attenuation .. cabled .. bare fibre	@1310 nm ≤0.36 dB/km ≤0.34 dB/km	@1550 nm ≤0.22 dB/km ≤0.20 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/nm ² · 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 ± 10 µm	
	Cladding diameter	125 ± 1 µm	
	Core/clad concentricity error	≤0.6 µm	
	Cladding non-circularity	≤ 1.0 %	
Mechanical-	Proof stress	≥ 0.69 Gpa	

6. Order informations

part no.	Number of fibres	part name
071708	12	A-DQ(ZN)(SR)2Y 1X12 G.652D CT 2.7 kN OD10.5 ZT SW
071709	24	A-DQ(ZN)(SR)2Y 2X12 G.652D 2.7 kN OD11.9 ZT SW
071710	48	A-DQ(ZN)(SR)2Y 4X12 G.652D 2.7 kN OD11.9 ZT SW
071711	72	A-DQ(ZN)(SR)2Y 6X12 G.652D 2.7 kN OD11.9 ZT SW
071712	96	A-DQ(ZN)(SR)2Y 8X12 G.652D 2.7 kN OD13.4 ZT SW
071713	144	A-DQ(ZN)(SR)2Y 12X12 G.652D 4.0 kN OD16.6 ZT SW
071714	192	A-DQ(ZN)(SR)2Y 16X12 G.652D 4.2 kN OD17.4 ZT SW
071715	216	A-DQ(ZN)(SR)2Y 18X12 G.652D 4.2 kN OD17.4 ZT SW
071716	288	A-DQ(ZN)(SR)2Y 24X12 G.652D 5.2 kN OD20.0 ZT SW

7. Test Methods

Checked	Conditions	Acceptance criteria
Tensile strength IEC 60794-1-2 E1	Tensile strength (installation): see point 3 Sample length: ≥ 50 m. Test duration: 1 min	- Fibre strain $< 0.33\%$ - Attenuation change reversible - No damage
Tensile strength IEC 60794-1-2 E1	Tensile strength (operation): see point 3 Sample length: ≥ 50 m, Test duration: 1 min	- no Fibre strain - Attenuation change reversible ≤ 0.05 dB
Crush resistance IEC 60794-1-2 E3	Crush resistance: see point 3 Test duration: 15 min, number of tests: 3	- Attenuation change ≤ 0.05 dB - No damage
Impact IEC 60794-1-2 E4	Impact energy: 25J R = 300 mm, number of tests: 3	- Attenuation change ≤ 0.05 dB after test - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable \varnothing 35 cycles, 100 N	- Attenuation change ≤ 0.05 dB after test - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m $\pm 180^\circ$, 200 N, 10 cycles	- Attenuation change ≤ 0.05 dB - No damage
Bend IEC 60794-1-2 E11	Bending radius: 20x cable \varnothing 4 bends, 3 cycles	- Attenuation change ≤ 0.05 dB - No damage
Temperature cycling IEC 60794-1-2 F1	+20 °C .. -30 °C .. +70 °C 12 hours at each temperature step, 2 cycles	- Attenuation ≤ 0.05 dB - Attenuation reversible
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

ZTT 18-87746

The products and information presented here are for technical calculation only. They are subject to technical progress and in no way represent the ability of shipment. Outer diameters are approximately.