

Fibre optic cable A/I-DQ(ZN)BH nx12 G.652D (ZT)



1. Construction / Application

Identification	A/I-DQ(ZN)BH nx12 E9 G.652D		
Application	Outdoor/indoor cable for use in ducts (outdoors) and for exposed laying (indoors)		
View			
Cross-section (not to scale)	<p>72 fibres</p>	<p>144 fibres</p>	<p>216 fibres</p>
Construction	<ul style="list-style-type: none"> - Loose tubes with 12 optical fibres, filled with thixotropic compound - Stranded loose tubes; central strength member made of fibre reinforced plastic (FRP), if applicable incl. overshielding; dummies if required - 192, 216 and 288 fibres: 2-layer construction - Cable strand: Dry, with water-blocking materials - Strength members / metal-free reinforcement: Glass yarns - Outer sheath: LSZH black, 2 underlying rip cords 		
Temperature range	Storage and transport -40 to +70 °C	Installation -10 to +50 °C	Operation -30 to +70 °C
CPR class	Eca		
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 / 5	2 / 4	4 / 2	6 / 0	8 / 0	12 / 0	6 / 0 15 / 0	9 / 0 15 / 0		
Loose tube Ø	mm	1.9									
Central strength member / FRP	mm	2.1			3.2/2.5		5.8/3.0		2.1		3.9/3.0
Glass yarns	tex	3600						4800			
Outer sheath thickness	mm	1.3									
Outer diameter (± 5%)	mm	9.1			10.1		12.7		13.2		15.0
Weight (± 15%)	kg	83			109		162		163		202

Sizes and values without tolerances are reference values.

3. Mechanical Properties

Max. tensile strength	2400 N	3000 N	2500 N	3000 N
Crush resistance	1500 N			
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: ink jet The outer sheath is marked at 1 m spacings as follows:
FABER ZTT OPTICAL CABLE A/I-DQ(ZN)BH <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 Dummy elements 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	
Geometric	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
071525	12	Standard A/I-DQ(ZN)BH 1X12 G.652D 2.4 kN OD9.1 ZT Eca SW
071467	48	Standard A/I-DQ(ZN)BH 4X12 G.652D 2.4 kN OD9.1 ZT Eca SW
071468	72	Standard A/I-DQ(ZN)BH 6X12 G.652D 2.4 kN OD9.1 ZT Eca SW
071469	96	Standard A/I-DQ(ZN)BH 8X12 G.652D 3.0 kN OD10.1 ZT Eca SW
071470	144	Standard A/I-DQ(ZN)BH 12X12 G.652D 3.0 kN OD12.7 ZT Eca SW
071471	192	Standard A/I-DQ(ZN)BH 16X12 G.652D 2.5 kN OD13.2 ZT Eca SW
071472	216	Standard A/I-DQ(ZN)BH 18X12 G.652D 2.5 kN OD13.2 ZT Eca SW
071473	288	Standard A/I-DQ(ZN)BH 24X12 G.652D 3.0 kN OD15.0 ZT Eca SW

7. Test Methods

Checked	Conditions	Acceptance criteria
Tensile strength IEC 60794-1-2 E1	Tensile strength: see point 3 Sample length: ≥ 50 m, Test duration: 1 min	- Fibre strain $< 0.6\%$ - Attenuation change ≤ 0.1 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: 10 J R = 300 mm, number of tests: 3	- Attenuation change ≤ 0.05 dB - No damage
Repeated bending IEC 60794-1-2 E6	Bending radius: 20x cable \varnothing 25 cycles	- Attenuation change ≤ 0.05 dB - No damage
Torsion IEC 60794-1-2 E7	Sample length: 2 m $\pm 180^\circ$, 5 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/km - 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
Flame retardance IEC 60332-1&2	One vertical cable under flame action	- minimum uncharred surface: ≥ 50 mm
Freedom from halogen IEC 60332-1&2		- Halogen components $\leq 0.5\%$, pH value ≥ 4.3 - Weighted conductance: < 10 $\mu\text{s}/\text{mm}$

All optical measurements at 1550 nm

ZTT 17-76379

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.