

Fibre optic data cable U-DQ(ZN)BH 250



1. Construction / Application

Identification	U-DQ(ZN)BH nxm G.652D / G.657A1 / G.657A2 / OM1 / OM2 / OM3 / OM4 250µ		
Application	Outdoor/indoor cable for use in ducts (outdoors) and for exposed laying (indoors)		
View (not to scale)			
cross-section	<p>4..12 /24 fibres</p>	<p>24 /48 fibres</p>	
Construction	<ul style="list-style-type: none"> - Loose tube(s) with up to 12 or 24 optical fibres, filled with thixotropic compound -2x12 and 4x12: Stranded loose tubes, central strength member made of fibre reinforced plastic (FRP); dummies if required; dry cable strand with water blocking materials - Strength members / metal-free reinforcement: Glass yarns - Outer sheath: LSZH black 		
Temperature range	Storage and transport -30 to +70 °C	Installation -10 to +50 °C	Operation -20 to +70 °C
CPR class	Eca		
Standards	IEC 60793, IEC 60794, IEC 60332-1-2, EN50575, ITU-T, VDE 0888		

2. Dimensions

Number of fibres		4	8	12	24		48
Loose tubes x fibres		1x4	1x8	1x12	1x24	2x12	4x12
Loose tubes/dummies				1 / -		2 / 3	4 / 1
Loose tube Ø	mm			2.8			2.3
Central strength member / FRP	mm			-			1.8
Outer sheath thickness	mm			1.2			1.5
Outer diameter (± 5%)	mm			6.5			10
Weight (± 15%)	kg			50			100

Sizes and values without tolerances are reference values.

3. Mechanical Properties

Max. tensile strength (short-term)	1500 N	2400 N
Max. tensile strength (continuous)	600 N	1500 N
Crush resistance	1500 N	3000 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
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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
13	14	15	16	17	18	19	20	21	22	23	24
red	green	blue	yellow	white	grey	brown	violet	cyan	natural	orange	pink

Loose tube colours					
Pilot tube (for ≥ 2x12)	Directional tube (for 4x12)	Central tube or other tubes SMF	Central tube or other tubes MMF 50µ	Central tube or other tubes MMF 62,5µ	Dummy tube
red	black	yellow	green	blue	natural

5. Optical Fibre

Single mode fibres	ITU-T	G.652D	G.657A1	G.657A2
Optical -	Fibre attenuation (wired)			
	.. @1310 nm		≤0.35 dB/km	≤0.36 dB/km
	.. @1550 nm		≤0.22 dB/km	≤0.22 dB/km
	.. @1625 nm		≤0.24 dB/km	-
	Mode field diameter (MFD)			
	.. @1310 nm		9.0 ± 0.4 µm	8.8 ± 0.4 µm
	.. @1550 nm		10.4 ± 0.6 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)		≤0.2 ps/√km		
Cut-off wavelength		≤1260 nm		
Macro bending loss	.. @1550 nm (100 turns Ø50 mm)	≤0.05 dB	-	-
	.. @1625 nm (100 turns Ø50 mm)	≤0.10 dB	-	-
	.. @1550 nm (10 turns Ø30 mm)	-	≤0.25 dB	≤0.03 dB
	.. @1625 nm (10 turns Ø30 mm)	-	≤1.00 dB	≤0.10 dB
	.. @1550 nm (1 turn Ø20 mm)	-	≤0.75 dB	≤0.10 dB
	.. @1625 nm (1 turn Ø20 mm)	-	≤1.50 dB	≤0.20 dB
	.. @1550 nm (1 turn Ø15 mm)	-	-	≤0.50 dB
	.. @1625 nm (1 turn Ø15 mm)	-	-	≤1.00 dB
Geometric -	Outer diameter	245 ± 10 µm		
	Cladding diameter	125 ± 0.7 µm		
	Core/clad concentricity error	≤ 0.6 µm	≤ 0.5 µm	
	Cladding unroundness	≤ 0.7 %	≤ 1.0%	
Mechanical -	Proof stress	≥ 0.69 Gpa		

Multimode fibres	ITU-T	OM1	OM2	OM3	OM4
Optical -	Fibre attenuation (wired)				
	.. @850 nm	db/km	≤2.8	≤2.5	
	.. @1300 nm	db/km	≤0.7	≤0.7	
Standard bandwidth	.. @850 nm	MHz*km	200	500	1500
	.. @1300 nm	MHz*km	600	500	500
Numerical aperture (NA)	µm ± 0.015	0.200	0.275		
Geometric -	Core diameter	µm	62.5 ± 2.5	50 ± 2.5	
	Cladding diameter	µm	125 ± 1		
	Outer diameter	µm	242 ± 5		
	Core/clad concentricity error	µm	≤ 1		
	Core unroundness		≤ 5 %		
	Cladding non-circularity		≤ 0.7 %		
Mechanical -	Proof stress	≥ 0.69 Gpa			

6. Order informations

part no.	Number of fibres	Fibre class	part name
071767	4	OM3 (G50/125)	U-DQ(ZN)BH 1X4 OM3 1,5 kN Eca BK
071771	8	OM3 (G50/125)	U-DQ(ZN)BH 1X8 OM3 1,5 kN Eca BK
071772	12	OM3 (G50/125)	U-DQ(ZN)BH 1X12 OM3 1,5 kN Eca BK
071773	24	OM3 (G50/125)	U-DQ(ZN)BH 1X24 OM3 1,5 kN Eca BK
071774	24	OM3 (G50/125)	U-DQ(ZN)BH 2X12 OM3 3 kN Eca BK
071775	48	OM3 (G50/125)	U-DQ(ZN)BH 4X12 OM3 3 kN Eca BK
071759	4	G657A2 (E9/125)	U-DQ(ZN)BH 1X4 G.657A2 1,5 kN Eca BK
071761	8	G657A2 (E9/125)	U-DQ(ZN)BH 1X8 G.657A2 1,5 kN Eca BK
071762	12	G657A2 (E9/125)	U-DQ(ZN)BH 1X12 G.657A2 1,5 kN Eca BK
071764	24	G657A2 (E9/125)	U-DQ(ZN)BH 1X24 G.657A2 1,5 kN Eca BK
071766	24	G657A2 (E9/125)	U-DQ(ZN)BH 2X12 G.657A2 3 kN Eca BK
071769	48	G657A2 (E9/125)	U-DQ(ZN)BH 4X12 G.657A2 3 kN Eca BK
071753	4	OM2 (G50/125)	U-DQ(ZN)BH 1X4 OM2 1,5 kN Eca BK
071756	8	OM2 (G50/125)	U-DQ(ZN)BH 1X8 OM2 1,5 kN Eca BK
071758	12	OM2 (G50/125)	U-DQ(ZN)BH 1X12 OM2 1,5 kN Eca BK
071760	24	OM2 (G50/125)	U-DQ(ZN)BH 1X24 OM2 1,5 kN Eca BK
071763	24	OM2 (G50/125)	U-DQ(ZN)BH 2X12 OM2 3 kN Eca BK
071765	48	OM2 (G50/125)	U-DQ(ZN)BH 4X12 OM2 3 kN Eca BK
071776	4	OM4 (G50/125)	U-DQ(ZN)BH 1X4 OM4 1,5 kN Eca BK
071777	8	OM4 (G50/125)	U-DQ(ZN)BH 1X8 OM4 1,5 kN Eca BK
071778	12	OM4 (G50/125)	U-DQ(ZN)BH 1X12 OM4 1,5 kN Eca BK
071779	24	OM4 (G50/125)	U-DQ(ZN)BH 1X24 OM4 1,5 kN Eca BK
071780	24	OM4 (G50/125)	U-DQ(ZN)BH 2X12 OM4 3 kN Eca BK
071781	48	OM4 (G50/125)	U-DQ(ZN)BH 4X12 OM4 3 kN Eca BK
071744	4	G652D (E9/125)	U-DQ(ZN)BH 1X4 G.652D 1,5 kN Eca BK
071745	8	G652D (E9/125)	U-DQ(ZN)BH 1X8 G.652D 1,5 kN Eca BK
071746	12	G652D (E9/125)	U-DQ(ZN)BH 1X12 G.652D 1,5 kN Eca BK
071747	24	G652D (E9/125)	U-DQ(ZN)BH 1X24 G.652D 1,5 kN Eca BK
071748	24	G652D (E9/125)	U-DQ(ZN)BH 2X12 G.652D 3 kN Eca BK
071749	48	G652D (E9/125)	U-DQ(ZN)BH 4X12 G.652D 3 kN Eca BK
071750	4	G657A1 (E9/125)	U-DQ(ZN)BH 1X4 G.657A1 1,5 kN Eca BK
071751	8	G657A1 (E9/125)	U-DQ(ZN)BH 1X8 G.657A1 1,5 kN Eca BK
071752	12	G657A1 (E9/125)	U-DQ(ZN)BH 1X12 G.657A1 1,5 kN Eca BK
071754	24	G657A1 (E9/125)	U-DQ(ZN)BH 1X24 G.657A1 1,5 kN Eca BK
071755	24	G657A1 (E9/125)	U-DQ(ZN)BH 2X12 G.657A1 3 kN Eca BK
071757	48	G657A1 (E9/125)	U-DQ(ZN)BH 4X12 G.657A1 3 kN Eca BK
071739	4	OM1 (G62.5/125)	U-DQ(ZN)BH 1X4 OM1 1,5 kN Eca BK
071740	8	OM1 (G62.5/125)	U-DQ(ZN)BH 1X8 OM1 1,5 kN Eca BK
071741	12	OM1 (G62.5/125)	U-DQ(ZN)BH 1X12 OM1 1,5 kN Eca BK
071742	24	OM1 (G62.5/125)	U-DQ(ZN)BH 1X24 OM1 1,5 kN Eca BK
071743	24	OM1 (G62.5/125)	U-DQ(ZN)BH 2X12 OM1 3 kN Eca BK
071770	48	OM1 (G62.5/125)	U-DQ(ZN)BH 4X12 OM1 3 kN Eca BK

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.