

Optical data cables U-VQ(ZN)BH 1xN 900 μ (RH)



1. Construction / Application

Identification	U-VQ(ZN)BH 1xm G.652D / G.657A1 / G.657A2 / OM1 / OM2 / OM3 / OM4 250 μ		
Application	Outdoor/indoor cable for use in ducts (outdoors) and for exposed laying (indoors)		
View			
Cross-section (not to scale)	4..12 fibres	24 fibres	
Construction	- Centrally arranged 900 μ optical fibre, semi-tight semi-tight jacket, sheathed with glass yarns as strength members, water blocking fibres. - Outer sheath: LSZH black, 1 underlying rip cord		
Temperature range	Storage and transport -20 to +60 °C	Installation -10 to +50 °C	Operation -20 to +60 °C
CPR class	Eca		
Standards	IEC 60793, IEC 60794, IEC 60332-1-2, EN50575, ITU-T		

2. Dimensions

Number of fibres		4	8	12	24
Loose tubes x fibres		1x4	1x8	1x12	1x24
Outer sheath thickness	mm	1.2			
Outer diameter (\pm 5%)	mm	5.0	5.8	6.8	8.6
Weight (\pm 15%)	kg	25	28	40	67

Sizes and values without tolerances are reference values.

3. Mechanical Properties

Max. tensile strength (short-term)	1600 N
Max. tensile strength (continuous)	500 N
Crush resistance	1300 N
Bending radius (under tension)	20x cable \emptyset
Bending radius (without tension)	10x cable \emptyset

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 OPTICAL CABLE U-VQ(ZN)BH 1x<n> <fibre type> <Tensile strength> <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
13	14	15	16	17	18	19	20	21	22	23	24
red	green	blue	yellow	white	grey	brown	violet	cyan	natural	orange	pink

5. Optical Fibre

Single mode fibres		ITU-T	G.652D	G.657A1	G.657A2	
Optical -	Fibre attenuation (wired) .. @1310 nm .. @1550 nm .. @1625 nm		≤ 0.40 dB/km ≤ 0.30 dB/km -			
	Mode field diameter (MFD) .. @1310 nm .. @1550 nm		9.0 ± 0.4 μm 10.4 ± 0.6 μm	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)		≤ 0.2 ps/ $\sqrt{\text{km}}$			
	Cut-off wavelength		≤ 1260 nm			
	Macro bending loss .. @1550 nm (100 turns Ø50 mm) .. @1625 nm (100 turns Ø50 mm) .. @1550 nm (10 turns Ø30 mm) .. @1625 nm (10 turns Ø30 mm) .. @1550 nm (1 turn Ø20 mm) .. @1625 nm (1 turn Ø20 mm) .. @1550 nm (1 turn Ø15 mm) .. @1625 nm (1 turn Ø15 mm)		≤ 0.05 dB ≤ 0.10 dB - - - -	- - ≤ 0.25 dB ≤ 1.00 dB ≤ 0.75 dB ≤ 1.50 dB	- - ≤ 0.03 dB ≤ 0.10 dB ≤ 0.10 dB ≤ 0.20 dB ≤ 0.50 dB ≤ 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			≤ 1.0 %	≤ 1.0 %		
Mechanical -	Proof stress		≥ 0.69 Gpa			

Multimode fibres		ITU-T	OM1	OM2	OM3	OM4
Optical -	Fibre attenuation (wired) .. @850 nm .. @1300 nm	db/km db/km	≤ 3.5 ≤ 1.0	≤ 3.5 ≤ 1.5		
	Standard bandwidth .. @850 nm .. @1300 nm	MHz*km MHz*km	200 600	500 500	1500 500	3500 500
	Numerical aperture (NA)	$\mu\text{m} \pm 0.015$	0.275	0.200		
	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	≤ 1.5			
Core unroundness			≤ 6 %			
Cladding non-circularity			≤ 2.0 %			
Mechanical -	Proof stress		≥ 0.69 Gpa			

6. Order informations

part no.	Number of fibres	part name
071782	4	1X4 G.652D 1.6 kN OD5.0 ZT Eca SW
071783	8	1X8 G.652D 1.6 kN OD5.8 ZT Eca SW
071784	12	1X12 G.652D 1.6 kN OD6.8 ZT Eca SW
071785	24	1X24 G.652D 1.6 kN OD8.6 ZT Eca SW
071786	4	1X4 G.657A1 1.6 kN OD5.0 ZT Eca SW
071787	8	1X8 G.657A1 1.6 kN OD5.8 ZT Eca SW
071788	12	1X12 G.657A1 1.6 kN OD6.8 ZT Eca SW
071789	24	1X24 G.657A1 1.6 kN OD8.6 ZT Eca SW
071790	4	1X4 G.657A2 1.6 kN OD5.0 ZT Eca SW
071791	8	1X8 G.657A2 1.6 kN OD5.8 ZT Eca SW
071792	12	1X12 G.657A2 1.6 kN OD6.8 ZT Eca SW
071793	24	1X24 G.657A2 1.6 kN OD8.6 ZT Eca SW
071794	4	1X4 OM1 1.6 kN OD5.0 ZT Eca SW
071795	8	1X8 OM1 1.6 kN OD5.8 ZT Eca SW
071796	12	1X12 OM1 1.6 kN OD6.8 ZT Eca SW
071797	24	1X24 OM1 1.6 kN OD8.6 ZT Eca SW
071798	4	1X4 OM2 1.6 kN OD5.0 ZT Eca SW
071799	8	1X8 OM2 1.6 kN OD5.8 ZT Eca SW
071800	12	1X12 OM2 1.6 kN OD6.8 ZT Eca SW
071801	24	1X24 OM2 1.6 kN OD8.6 ZT Eca SW
071802	4	1X4 OM3 1.6 kN OD5.0 ZT Eca SW
071803	8	1X8 OM3 1.6 kN OD5.8 ZT Eca SW
071804	12	1X12 OM3 1.6 kN OD6.8 ZT Eca SW
071805	24	1X24 OM3 1.6 kN OD8.6 ZT Eca SW
071806	4	1X4 OM4 1.6 kN OD5.0 ZT Eca SW
071807	8	1X8 OM4 1.6 kN OD5.8 ZT Eca SW
071808	12	1X12 OM4 1.6 kN OD6.8 ZT Eca SW
071809	24	1X24 OM4 0.8 kN OD9.4 Eca BU

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	- SMF: $\Delta\alpha \leq 0.2$ dB - MMF: $\Delta\alpha \leq 0.2$ dB/km after test - No damage
Crush resistance IEC 60794-1-2 E3	Crush resistance: see point 3 Test duration: 1 min, number of tests: 3	- SMF: $\Delta\alpha \leq 0.2$ dB - MMF: $\Delta\alpha \leq 0.2$ dB/km after test - No damage
Impact IEC 60794-1-2 E4	Impact energy: 1J; R = 12.5 mm Number of places:3; number of tests: 1	- SMF: $\Delta\alpha \leq 0.2$ dB - MMF: $\Delta\alpha \leq 0.2$ dB/km after test - No damage
Bend IEC 60794-1-2 E11	Bending radius: 20x cable \varnothing 4 bends, 3 cycles	- SMF: $\Delta\alpha \leq 0.2$ dB - MMF: $\Delta\alpha \leq 0.2$ dB/km after test - No damage
Temperature cycling IEC 60794-1-2 F1	+20 °C .. -20 °C .. +60 °C .. +20 °C 12 hours at each temperature step, 2 cycles	- SMF: $\Delta\alpha \leq 0.2$ dB/km - MMF: $\Delta\alpha \leq 0.2$ dB/km
Flame retardance IEC 60332-1&2	One vertical cable under flame action	- Minimum length uncharred surface: ≥ 50 mm; H<425 mm
Freedom from halogen IEC 60754-1&2		- Halogen components $\leq 0,5\%$, pH value $\geq 4,3$ - Weighted conductance: < 10 μ S/mm

All SM optical measurements at 1550 nm

ZTT 18-87036

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.