

Optical fibre cable - standard - outdoor

A-DQ(ZN)B2Y 3.0 kN G.652D (ZT)



1. Construction / Application

| | | | |
|-------------------------------------|--|-------------------------------|----------------------------|
| Identification | A-DQ(ZN)B2Y nx12 E9 G.652D 3.0 kN | | |
| Application | Outdoor cable for universal use | | |
| View | | | |
| Cross-section (not to scale) | <p>12 fibres</p> | <p>72 fibres</p> | <p>288 fibres</p> |
| 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. overshielding; dummies if required - 192, 216 and 288 fibres: 2-layer construction - Cable strand: Dry, with water-blocking materials, company ID tape - Strength members / metal-free reinforcement: Glass yarns - Outer sheath: HDPE, 2 underlying rip cords | | |
| 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 | - | 2.4 | | 3.9/3.0 | 7.1/3.0 | 2.4 | | 4.8/3.5 | |
| Outer sheath thickness | mm | 1.3 | | | | | | | | |
| Outer diameter (± 5%) | mm | 8.5 | 10.3 | | 11.8 | 15.0 | 15.2 | | 17.7 | |
| Weight (± 15%) | kg | 84 | 90 | | 112 | 180 | 182 | | 245 | |

Sizes and values without tolerances are reference values.

3. Mechanical Properties

| | |
|---|-------------|
| Max. tensile strength (Installation) | 3000 N |
| Max. tensile strength (Operation) | 1500 N |
| Crush resistance | 2000 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: hot foil printing The outer sheath is marked at 1 m spacings as follows: |
| FABER ZTT OPTICAL CABLE A-DQ(ZN)B2Y <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; white only from the 13th loose tube onwards 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 |
| 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 |
|----------|------------------|--|
| 071417 | 12 | Standard A-DQ(ZN)B2Y 1X12 G.652D CT 3.0 kN OD8.5 ZT SW |
| 071406 | 24 | Standard A-DQ(ZN)B2Y 2X12 G.652D 3.0 kN OD10.3 ZT SW |
| 071407 | 48 | Standard A-DQ(ZN)B2Y 4X12 G.652D 3.0 kN OD10.3 ZT SW |
| 071408 | 72 | Standard A-DQ(ZN)B2Y 6X12 G.652D 3.0 kN OD10.3 ZT SW |
| 071409 | 96 | Standard A-DQ(ZN)B2Y 8X12 G.652D 3.0 kN OD11.8 ZT SW |
| 071410 | 144 | Standard A-DQ(ZN)B2Y 12X12 G.652D 3.0 kN OD15.0 ZT SW |
| 071411 | 192 | Standard A-DQ(ZN)B2Y 16X12 G.652D 3.0 kN OD15.2 ZT SW |
| 071412 | 216 | Standard A-DQ(ZN)B2Y 18X12 G.652D 3.0 kN OD15.2 ZT SW |
| 071413 | 288 | Standard A-DQ(ZN)B2Y 24X12 G.652D 3.7 kN OD17.7 ZT SW |

7. Test Methods

| Checked | Conditions | Acceptance criteria |
|---|---|--|
| Tensile strength IEC 60794-1-2 E1 | Tensile strength (Montage): 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 (Betrieb): see point 3 Sample length: ≥ 50 m, Test duration: 5 min | - Keine Fibre strain, ($1 \times 12: \leq 0.33\%$) - 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: 12J 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 35 cycles, 100 N | - Attenuation change ≤ 0.05 dB - No damage |
| Torsion IEC 60794-1-2 E7 | Sample length: 2 m $\pm 180^\circ$, 100 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 17-74688

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.