

# Fibre optic data cable

## A-DQ(ZN)B2Y 250



**Application:** Outdoor cable for use in pipes and cable ducts.

### Construction and technical data:

- 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: PE black

**Standard:** IEC 60793, IEC 60794, EN50575, ITU-T, VDE 0888

**Colour of outer sheath:** black

**Permitted storage and transport temperature:** -30 - +70 °C

**Permitted installation temperature:** -5 - +50 °C

**Permitted operating temperature:** -20 - +70 °C

**Bending radius (under tension):** 20 x Ø

**Bending radius (without tension):** 10 x Ø

**Printing method:** ink jet

*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.*

	4..12 /24 fibres	24 /48 fibres
Cross-section		

**A-DQ(ZN)B2Y nxm G.652D 250 $\mu$** 

<b>Standard:</b>	ITU-T G.652D
<b>Fibre attenuation @1310 nm cabled:</b>	$\leq 0.35$ dB/km
<b>Fibre attenuation @1550 nm cabled:</b>	$\leq 0.22$ dB/km
<b>Fibre attenuation @1625 nm cabled:</b>	$\leq 0.24$ dB/km
<b>Mode field diameter (MFD) @1310 nm:</b>	$9.0 \pm 0.4$ $\mu$ m
<b>Mode field diameter (MFD) @1550 nm:</b>	$10.4 \pm 0.6$ $\mu$ m
<b>Zero dispersion wavelength:</b>	1300 ~ 1324 nm
<b>Zero dispersion slope:</b>	$\leq 0.092$ ps/nm <sup>2</sup> * km
<b>Polarisation mode dispersion (PMD):</b>	$\leq 0.2$ ps/ $\sqrt$ km
<b>Cut-off wavelength:</b>	$\leq 1260$ nm
<b>Macro bending loss @1550 nm (100 turns <math>\varnothing 50</math> mm):</b>	$\leq 0.05$ dB
<b>Macro bending loss @1625 nm (100 turns <math>\varnothing 50</math> mm):</b>	$\leq 0.10$ dB
<b>Outer diameter (fibre):</b>	$245 \pm 10$ $\mu$ m
<b>Cladding diameter (fibre):</b>	$125 \pm 0.7$ $\mu$ m
<b>Core/clad-concentricity error:</b>	$\leq 0.6$ $\mu$ m
<b>Cladding non-circularity:</b>	$\leq 0.7$ %
<b>Proof stress:</b>	$\geq 0.69$ GPa

part no.	part name	Number of fibres [n]	$\varnothing$ [mm]	Fzv [N]	Fzp [N]	Lt1	DI1	p [N]	G [kg]
072913	A-DQ(ZN)B2Y 1X4 G.652D 3kN SW	4	8.3	3000	1400	1	0	2000	60
072914	A-DQ(ZN)B2Y 1X8 G.652D 3kN SW	8	8.3	3000	1400	1	0	2000	60
072915	A-DQ(ZN)B2Y 1X12 G.652D 3kN SW	12	8.3	3000	1400	1	0	2000	60
072916	A-DQ(ZN)B2Y 1X24 G.652D 3kN SW	24	8.3	3000	1400	1	0	2000	60
072944	A-DQ(ZN)B2Y 4X12 G.652D 3KN SW	48	10	3000	1900	4	1	3000	100

**A-DQ(ZN)B2Y nxm G.657A1 250 $\mu$** 

<b>Standard:</b>	ITU-T G.657A1
<b>Fibre attenuation @1310 nm cabled:</b>	$\leq 0.36$ dB/km
<b>Fibre attenuation @1550 nm cabled:</b>	$\leq 0.22$ dB/km
<b>Mode field diameter (MFD) @1310 nm:</b>	$8.8 \pm 0.4$ $\mu$ m
<b>Mode field diameter (MFD) @1550 nm:</b>	$9.9 \pm 0.5$ $\mu$ m
<b>Zero dispersion wavelength:</b>	1300 ~ 1324 nm
<b>Zero dispersion slope:</b>	$\leq 0.092$ ps/nm <sup>2</sup> * km
<b>Polarisation mode dispersion (PMD):</b>	$\leq 0.2$ ps/ $\sqrt$ km
<b>Cut-off wavelength:</b>	$\leq 1260$ nm
<b>Macro bending loss @1550 nm (10 turns <math>\varnothing</math>30 mm):</b>	$\leq 0.25$ dB
<b>Macro bending loss @1625 nm (10 turns <math>\varnothing</math>30 mm):</b>	$\leq 1.00$ dB
<b>Macro bending loss @1550 nm (1 turn <math>\varnothing</math>20 mm):</b>	$\leq 0.75$ dB
<b>Macro bending loss @1625 nm (1 turn <math>\varnothing</math>20 mm):</b>	$\leq 1.50$ dB
<b>Outer diameter (fibre):</b>	$245 \pm 10$ $\mu$ m
<b>Cladding diameter (fibre):</b>	$125 \pm 1$ $\mu$ m
<b>Core/clad-concentricity error:</b>	$\leq 0.5$ $\mu$ m
<b>Cladding non-circularity:</b>	$\leq 1.0$ %
<b>Proof stress:</b>	$\geq 0.69$ GPa

part no.	part name	Number of fibres [n]	$\varnothing$ [mm]	Fzv [N]	Fzp [N]	Lt1	Dl1	p [N]	G [kg]
072917	A-DQ(ZN)B2Y 1X4 G.657A1 3kN SW	4	8.3	3000	1400	1	0	2000	60
072918	A-DQ(ZN)B2Y 1X8 G.657A1 3kN SW	8	8.3	3000	1400	1	0	2000	60
072919	A-DQ(ZN)B2Y 1X12 G.657A1 3kN SW	12	8.3	3000	1400	1	0	2000	60
072920	A-DQ(ZN)B2Y 1X24 G.657A1 3kN SW	24	8.3	3000	1400	1	0	2000	60
072945	A-DQ(ZN)B2Y 2X12 G.657A1 3KN SW	24	10	3000	1900	2	3	3000	100
072946	A-DQ(ZN)B2Y 4X12 G.657A1 3KN SW	48	10	3000	1900	4	1	3000	100

**A-DQ(ZN)B2Y nxm OM1 250 $\mu$** 

<b>Standard:</b>	ITU-T OM1
<b>Fibre attenuation @850 nm (wired):</b>	$\leq 2.8$ dB/km
<b>Fibre attenuation @1300 nm (wired):</b>	$\leq 0.7$ dB/km
<b>Standard bandwidth @850 nm:</b>	200 MHz*km
<b>Standard bandwidth @1300 nm:</b>	600 MHz*km
<b>Numerical aperture (NA):</b>	$0.200 \pm 0.015$ $\mu$ m
<b>Outer diameter (fibre):</b>	$242 \pm 5$ $\mu$ m
<b>Cladding diameter (fibre):</b>	$125 \pm 1$ $\mu$ m
<b>Core diameter:</b>	$62.5 \pm 2.5$ $\mu$ m
<b>Core/clad concentricity error:</b>	$\leq 1.0$ $\mu$ m
<b>Core unroundness:</b>	$\leq 5$ %
<b>Cladding non-circularity:</b>	$\leq 0.7$ %
<b>Proof stress:</b>	$\geq 0.69$ GPa

part no.	part name	Number of fibres [n]	$\varnothing$ [mm]	Fzv [N]	Fzp [N]	Lt1	D11	$\rho$ [N]	G [kg]	
072921	A-DQ(ZN)B2Y 1X4 OM1 1,5kN SW	4	6.9	1500	600	1	0	1500	40	multimode
072922	A-DQ(ZN)B2Y 1X8 OM1 1,5kN SW	8	6.9	1500	600	1	0	1500	40	multimode
072923	A-DQ(ZN)B2Y 1X12 OM1 1,5kN SW	12	6.9	1500	600	1	0	1500	40	multimode
072924	A-DQ(ZN)B2Y 1X24 OM1 3kN SW	24	6.9	3000	1400	1	0	2000	40	multimode
072947	A-DQ(ZN)B2Y 2X12 OM1 3KN SW	24	10	3000	1900	2	3	3000	100	multimode
072948	A-DQ(ZN)B2Y 4X12 OM1 3KN SW	48	10	3000	1900	4	1	3000	100	multimode

**A-DQ(ZN)B2Y nxm OM2 250 $\mu$** 

<b>Standard:</b>	ITU-T OM2
<b>Fibre attenuation @850 nm (wired):</b>	$\leq 2.5$ dB/km
<b>Fibre attenuation @1300 nm (wired):</b>	$\leq 0.7$ dB/km
<b>Standard bandwidth @850 nm:</b>	500 MHz*km
<b>Standard bandwidth @1300 nm:</b>	500 MHz*km
<b>Numerical aperture (NA):</b>	$0.275 \pm 0.015$ $\mu$ m
<b>Outer diameter (fibre):</b>	$242 \pm 10$ $\mu$ m
<b>Cladding diameter (fibre):</b>	$125 \pm 1$ $\mu$ m
<b>Core diameter:</b>	$50 \pm 2.5$ $\mu$ m
<b>Core/clad concentricity error:</b>	$\leq 1.0$ $\mu$ m
<b>Core unroundness:</b>	$\leq 5$ %
<b>Cladding non-circularity:</b>	$\leq 0.7$ %
<b>Proof stress:</b>	$\geq 0.69$ GPa

part no.	part name	Number of fibres [n]	$\varnothing$ [mm]	Fzv [N]	Fzp [N]	Lt1	D11	$\rho$ [N]	G [kg]	
072925	A-DQ(ZN)B2Y 1X4 OM2 1,5kN SW	4	6.9	1500	600	1	0	1500	40	multimode
072926	A-DQ(ZN)B2Y 1X8 OM2 1,5kN SW	8	6.9	1500	600	1	0	1500	40	multimode
072927	A-DQ(ZN)B2Y 1X12 OM2 1,5kN SW	12	6.9	1500	600	1	0	1500	40	multimode
072928	A-DQ(ZN)B2Y 1X24 OM2 3kN SW	24	6.9	3000	1400	1	0	2000	40	multimode
072949	A-DQ(ZN)B2Y 2X12 OM2 3KN SW	24	10	3000	1900	2	3	3000	100	multimode
072950	A-DQ(ZN)B2Y 4X12 OM2 3KN SW	48	10	3000	1900	4	1	3000	100	multimode

**A-DQ(ZN)B2Y nxm OM3 250μ**

<b>Standard:</b>	ITU-T OM3
<b>Fibre attenuation @850 nm (wired):</b>	≤2.5 dB/km
<b>Fibre attenuation @1300 nm (wired):</b>	≤0.7 dB/km
<b>Standard bandwidth @850 nm:</b>	1500 MHz*km
<b>Standard bandwidth @1300 nm:</b>	500 MHz*km
<b>Numerical aperture (NA):</b>	0.275 ± 0.015 μm
<b>Outer diameter (fibre):</b>	242 ± 5 μm
<b>Cladding diameter (fibre):</b>	125 ± 1 μm
<b>Core diameter:</b>	50 ± 2.5 μm
<b>Core/clad concentricity error:</b>	≤1.0 μm
<b>Core unroundness:</b>	≤5 %
<b>Cladding non-circularity:</b>	≤0.7 %
<b>Proof stress:</b>	≥0.69 GPa

part no.	part name	Number of fibres [n]	Ø [mm]	Fzv [N]	Fzp [N]	Lt1	D11	p [N]	G [kg]	
072929	A-DQ(ZN)B2Y 1X4 OM3 1,5kN SW	4	6.9	1500	600	1	0	1500	40	multimode
072930	A-DQ(ZN)B2Y 1X8 OM3 1,5kN SW	8	6.9	1500	600	1	0	1500	40	multimode
072931	A-DQ(ZN)B2Y 1X12 OM3 1,5kN SW	12	6.9	1500	600	1	0	1500	40	multimode
072932	A-DQ(ZN)B2Y 1X24 OM3 3kN SW	24	6.9	3000	1400	1	0	2000	40	multimode
072951	A-DQ(ZN)B2Y 2X12 OM3 3KN SW	24	10	3000	1900	2	3	3000	100	multimode
072952	A-DQ(ZN)B2Y 4X12 OM3 3KN SW	48	10	3000	1900	4	1	3000	100	multimode

**A-DQ(ZN)B2Y nxm OM4 250μ**

<b>Standard:</b>	ITU-T OM4
<b>Fibre attenuation @850 nm (wired):</b>	≤2.5 dB/km
<b>Fibre attenuation @1300 nm (wired):</b>	≤0.7 dB/km
<b>Standard bandwidth @850 nm:</b>	3500 MHz*km
<b>Standard bandwidth @1300 nm:</b>	500 MHz*km
<b>Numerical aperture (NA):</b>	0.275 ± 0.015 μm
<b>Outer diameter (fibre):</b>	242 ± 5 μm
<b>Cladding diameter (fibre):</b>	125 ± 1 μm
<b>Core diameter:</b>	50 ± 2.5 μm
<b>Core/clad concentricity error:</b>	≤1.0 μm
<b>Core unroundness:</b>	≤5 %
<b>Cladding non-circularity:</b>	≤0.7 %
<b>Proof stress:</b>	≥0.69 GPa

part no.	part name	Number of fibres [n]	Ø [mm]	Fzv [N]	Fzp [N]	Lt1	D11	p [N]	G [kg]	
072933	A-DQ(ZN)B2Y 1X4 OM4 1,5kN SW	4	6.9	1500	600	1	0	1500	40	multimode
072934	A-DQ(ZN)B2Y 1X8 OM4 1,5kN SW	8	6.9	1500	600	1	0	1500	40	multimode
072935	A-DQ(ZN)B2Y 1X12 OM4 1,5kN SW	12	6.9	1500	600	1	0	1500	40	multimode
072936	A-DQ(ZN)B2Y 1X24 OM4 3kN SW	24	6.9	3000	1400	1	0	2000	40	multimode
072953	A-DQ(ZN)B2Y 2X12 OM4 3KN SW	24	10	3000	1900	2	3	3000	100	multimode
072954	A-DQ(ZN)B2Y 4X12 OM4 3KN SW	48	10	3000	1900	4	1	3000	100	multimode

Number of fibres	Number of fibres
Ø	outer diameter approx.
Fzv	Tensile strength (during installation)
Fzp	Tensile strength (permanent)
Lt1	Loose tubes 1st layer
DI1	dummies 1st layer
p	Crush resistance / 10 cm
G	net weight per 1000

Farbfolge Fasern / 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

Farbfolge Bündeladern – Variante 1 / Colour sequence of Loose tubes – variant 1														
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
Jede Lage beginnend mit 1; ab der 13. Bündelader weiß; Blindelemente sind naturfarben / Each layer beginning with 1; from the 13th Loose tube white; dummies are natural coloured														

Farbfolge Bündeladern – Variante 2 / Colour sequence of Loose tubes – variant 2														
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	red	green	blue
Jede Lage beginnend mit 1; ab der 13. Bündelader mit Ringsignierung; Blindelemente sind naturfarben / Each layer beginning with 1; from the 13th Loose tube with ring marking; dummies are natural coloured														