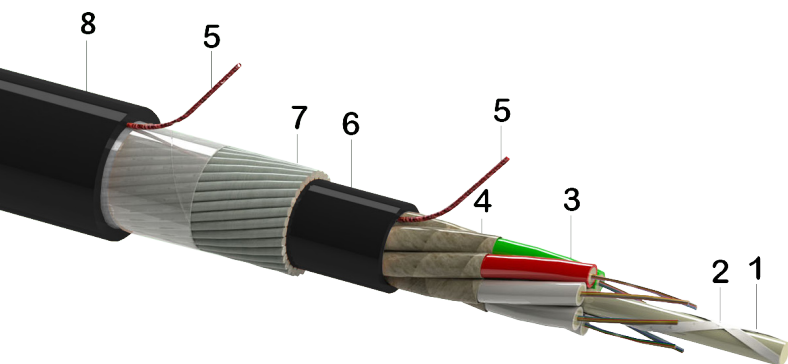


Cable construction code

QT.x2,3FWF xx.yy.zz.c

DIN code

J/A-DQHBH (R...vzk) nx2,3 fr



1. FRP central strength member
2. Water swellable yarn
3. Gel filled PBT loose tube with optical fibers
4. Fire-resistant tape
5. Rip-cord
6. FRLSZH UV stable inner jacket
7. Zn galvanized steel wire armour fixed by PET tape
8. FRLSZH UV stable outer jacket

Cable general description

Multi Loose Tube fire resistant steel wire armoured cable with two jackets for indoor or outdoor duct or direct buried installation. This cable construction offers excellent mechanical and full rodent protection.

Construction and dimensions	QT6x2,3FWF	QT8x2,3FWF	QT3x2,3FWF
Max. fiber count (12 fibers/tube)	72	96	144
Loose-tubes count	6	8	12
Loose tube nominal diameter (mm)	2,3	2,3	2,3
FRP/coat. CSM nominal thickness (mm)	2,8	2,5 / 4,5	2,5 / 7,8
Inner jacket nominal thickness (mm)	1,0	1,0	1,0
Steel wire nominal diameter (mm)	1,0	1,2	1,4
Outer jacket nominal thickness (mm)	1,4	1,4	1,4
Cable nominal outer diameter (mm)	15,6	17,7	21,1
Cable informative weight (kg/km)	440	570	800
Standard put-up length (m)	2100/4100 ± 5%	2100/4100 ± 5%	2100/4100 ± 5%

Outer jacket

Material	UV stable FRLSZH
Jacket colour	Black. Other colours available on request
Sheath marking	Ink-Jet, white or black depending on the jacket colour
Print legend	Construction name, cable type, batch-number, meter-marking, CE marking, Customer print legend available on request

Optical fibers

Colour coding (IEC 60304)	1.-12.: red, green, blue, yellow, white, grey, brown, violet, turquoise, black, orange, pink
Loose-tube colour coding	1.red, 2.green (in each layer), rest of tubes white (fillers uncoloured or black)
Fiber type	Single- and multi-mode fibers (OS2, OM2, OM3, OM4, OM5)

Geometrical and transmission parameters are available at separate generic datasheet

**Mechanical characteristics**

Test	Test method	Value	Acceptance criteria*			
			QT6x..	QT8x..	QT3x..	
Tensile performance	EN 60794-1-21:E1	long term	n.a.	n.a.	n.a.	$\Delta\alpha \leq 0,05$ dB $\Delta\alpha \leq 0,05$ dB after test
		short term	5000 N	8000 N	10000 N	
Crush	EN 60794-1-21:E3A	2000 N/100mm (long term) 4000 N/100mm (short term)	$\Delta\alpha \leq 0,05$ dB prior release, no damage $\Delta\alpha \leq 0,05$ dB after release, no damage			
Impact	EN 60794-1-21:E4	25 Nm, 3 impacts, d=20 mm, R=300 mm	$\Delta\alpha \leq 0,05$ dB after test, no damage			
Repeated bending	EN 60794-1-21:E6	R=20 x cable diameter, 25 cycles	no damage			
Torsion	EN 60794-1-21:E7	L = 1 m, rotation angle $\pm 180^\circ$ , 10 cycles	no damage			
Bend no tension	EN 60794-1-21:E11A	R=15 x cable diameter, 4 turns, 3 cycles	$\Delta\alpha \leq 0,05$ dB after test, no damage			

**Environmental characteristics**

Test	Test method	Value	Acceptance criteria*
Temperature cycling	EN 60794-1-22:F1	-40°C ÷ 70°C	$\Delta\alpha \leq 0,05$ dB
Temperature range of use		-5°C ÷ 50°C -40°C ÷ 70°C -40°C ÷ 70°C	installation operation storage, transport
Moisture resistance	EN 60794-1-22:F5B	L = 3 m, 1 m water height, 24 h	no water leakage under inner sheath

\* EN 60794-3-10, EN 60794-3-11

**Fire performance**

Fire resistance	EN 60331-25 (180 min at 750°C)	Pass
Flammability - cable bundle	EN 60332-3-22 (cat.A)	Pass
Smoke density	EN 61034-1, EN 61034-2	Pass
Halogen Free, Acid gases	EN 60754-2	Pass
Euro classification to CPR	EN 50575, EN 13501-6	Fca

Cable expected lifetime / min. 30 years

**Order information**

Construction	Diameter	CPR	Fiber count	OM3	OM4	G652.D	G657.A1
QT6x2,3FWF	Ø 15,6	Fca	4 x 8f 32f	04.08.M3.B	04.08.M4.B	04.08.S2.B	04.08.S7.B
			4 x 12f 48f	04.12.M3.B	04.12.M4.B	04.12.S2.B	04.12.S7.B
			6 x 8f 48f	06.08.M3.B	06.08.M4.B	06.08.S2.B	06.08.S7.B
			6 x 12f 72f	06.12.M3.B	06.12.M4.B	06.12.S2.B	06.12.S7.B
QT8x2,3FWF	Ø 17,7	Fca	8 x 8f 64f	08.08.M3.B	08.08.M4.B	08.08.S2.B	08.08.S7.B
			8 x 12f 96f	08.12.M3.B	08.12.M4.B	08.12.S2.B	08.12.S7.B
QT3x2,3FWF	Ø 21,1	Fca	12 x 8f 96f	12.08.M3.B	12.08.M4.B	12.08.S2.B	12.08.S7.B
			12 x 12f 144f	12.12.M3.B	12.12.M4.B	R851138	12.12.S7.B

Order code e.g.: QT8x2,3FWF 08.08.M3.B (see page 136/137)

Other fiber counts and/or fiber types (e.g. G657.A2) on special request