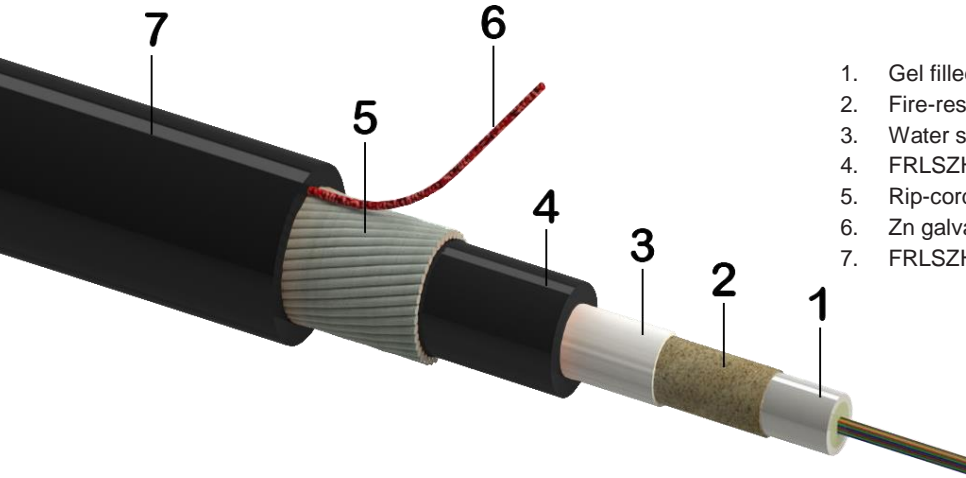


Cable construction code

QX1EFWF FiRis xx.yy.zz.c

DIN code

J/A-DQ(ZN)HBH wbg (R 0,63vzk) fr



1. Gel filled PBT loose tube with optical fibers
2. Fire-resistant tape
3. Water swell-able e-glass yarn
4. FRLSZH UV stable inner jacket
5. Rip-cord
6. Zn galvanized steel wire armour fixed by PET tape
7. FRLSZH UV stable outer jacket

Cable general description

Max. 24 fibre uni-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

Loose tube nominal diameter	3,0 mm
Inner jacket nominal thickness	1,0 mm
Steel wire nominal diameter	0,63 mm
Outer jacket nominal thickness	1,3 mm
Cable nominal outer diameter	10,1 mm
Cable informative weight	185 kg/km
Standard put-up length	2100/4100 m ± 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	Trademark, 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 13.-24.: red, green, blue, yellow, white, grey, brown, violet, turquoise, natural, orange, pink (ring-marked)
Fiber type	Single- and multi-mode fibers (OS2, OM1, OM2, OM3, OM4)

Geometrical and transmission parameters are available at separate generic datasheet

Mechanical characteristics

Test	Test method	Value*	Acceptance criteria*
Tensile performance	IEC 60794-1-21:E1	N/A (long term) 6000 N (short term)	$\Delta\alpha \leq 0,05$ dB $\Delta\alpha \leq 0,05$ dB after test
Crush	IEC 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	IEC 60794-1-21:E4	20 Nm, 3 impacts, d=20 mm, R=300 mm	$\Delta\alpha \leq 0,05$ dB after test, no damage
Repeated bending	IEC 60794-1-21:E6	R=20 x cable diameter, 25 cycles	no damage
Torsion	IEC 60794-1-21:E7	L=1 m, rotation angle $\pm 180^\circ$, 10 cycles	no damage
Bend	IEC 60794-1-21:E11A	d=20 x cable diameter, 4 turns, 3 cycles	$\Delta\alpha \leq 0,05$ dB after test, no damage

Environmental characteristic

Test	Test method	Value*	Acceptance criteria*
Temperature cycling	IEC 60794-1-22:F1	-30°C ÷ 70°C -35°C ÷ 70°C	$\Delta\alpha \leq 0,05$ dB $\Delta\alpha \leq 0,15$ dB, reversible
Temperature range of use		-5°C ÷ 50°C -30°C ÷ 70°C -35°C ÷ 70°C	installation operation storage, transport
Moisture resistance	IEC 60794-1-22:F5B	L=3 m, 1 m water height, 24 h	no water leakage under inner sheath

* IEC 60794-3-10, IEC 60794-3-11

Cable expected lifetime / min. 30 years

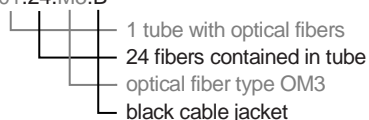
Fire performance

Test	Test method	Result
Fire resistance	IEC 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	B2ca-s1,d2,a1
Circuit integrity maintenance of cable systems under fire conditions	ČSN 73 0895, DIN 4102-12	P90-R (< 0,3 dB/m*)

* ČSN EN 50582 - Procedure to assess the circuit integrity of optical fibres in a cable under resistance to fire testing determines the maximum increase in attenuation 1,0 dB/m

Order information

Order code e.g.: QX1EFWF FiRis 01.24.M3.B



Detailed explanation of the FOC constructions coding found in the file *FOC coding*.