

## FIRE RESISTANT QFCI F101

### Fire resistant QFCI F101



## GENERAL INFO

Optical cable for indoor and outdoor use in vital communication and emergency systems that need to be operational during fire. The cable has a design that ensures operation for more than 3 hours in fires up to 1000°C. The unique design features eXtended Fire Resistant properties (XFR) which secure operation during fire test with bending and impact from hammer shock. In addition, also with water spray and water jet (BS 8491-Simulating water fire fighting jet) during and directly after the fire. The cable is halogen free and flame retardant to protect against secondary damage to electronic equipment during and after fire. Outer sheath is made from black UV-stabilized and weather resistant material and may be exposed for shorter periods to fluids such as diesel and mineral oils. The resistance to these fluids is according to IEC60811-404. The cable is reinforced with a steel wire braiding. The fibres are protected in jelly filled loose tubes stranded around a FRP central strength member to ensure optimum performance and long life. Each fibre and loose tube is colour coded for easy identification during splicing and termination. The outer sheath is marked to show fibre type and cable type. Code F101 in NEK TS 606:2016(Code F1 in the NEK TS 606:2009)

## CERTIFICATIONS AND DESIGN STANDARDS



**IEC 60794-1**

**IEC 60794-2**

**EN 50173-1**

**ISO/IEC 11801**

**NEK TS 606:2022**

**IEC 60331-25, 750°C, 90 min.**

**IEC 60331-25, 1000°C, 180 min.**

**IEC 60331-2, 830°C, 90 min.**

**IEC 60331-1, 830°C, 120 min. + water jet**

**IEC 60331-2, 830°C, 90 min.+ water spray**

Optical fibre cables, test methods

Optical fibre cables, indoor cables specifications

Generic cabling systems

Generic cabling system

Cables for offshore installations

Fire resistance (750°C / 90 minutes)

Fire resistance, upgraded IEC 60331-25 (1000°C, 180 minutes)

Fire resistance, 830°C, 90 min. incl. hammer shock

Fire resistance, 830°C, 120 min, incl. hammer shock, followed by water Jet acc. to BS 8491:2008

Fire resistance, 830°C, 90 min. incl. hammer shock, followed by water spray acc. to EN 50200 Annex E

## CABLE CONSTRUCTION

Armouring/reinforcement	Braiding
Armouring/reinforcement material	Steel, galvanised
Material inner sheath	Low smoke zero halogen
Material outer sheath	Thermoplastic polymer
Type of tube	Stranded loose tube
Cable shape	Round
With rodent protection	Yes

## APPLICATION PROPERTIES

With strain relief	Yes
Oil resistant (acc. IEC 60811-404)	Yes
Min. outer temperature, fixed installation [°C]	-40
Max. outer temperature, fixed installation [°C]	70
Torsion (acc. IEC 60794-1-21, E7)	+/- 1 turn/1m
Crush (acc. IEC 60794-1-21, E3) [N/10cm]	3,000
UV resistant	Yes
With rodent protection	Yes
Outdoor installation	Yes
Min. outer temperature during installation [°C]	-10
Max. outer temperature during installation [°C]	70
Kink, no kink at loop diameter (acc. IEC 60794-1-21 E10) [mm]	250
Duct suitable	Yes
Bending radius (rule)	15 x D

## FIRE PROPERTIES

Insulation integrity	PH 120
Insulation integrity (acc. IEC 60331)	Yes
Flame retardant	In accordance with EN/IEC 60332-3-22
Halogen free (acc. IEC 60754-2)	Yes
Low smoke (acc. IEC 61034-2)	Yes

## PRODUCT ORDER DATA

Product name	Colour outer sheath	SAP	EL no.	Packaging type
G4-9/125 QFCI-I/O/RM-JM/- BK	Black	20184651	20184651	Drum
G8-9/125 QFCI-I/O/RM-JM/- GN	Green	20194011	20194011	Drum
G8-9/125 QFCI-I/O/RM-JM/- OG	Orange	20194010	20194010	Drum
G8-9/125 QFCI-I/O/RM-JM/- BK	Black	20184655	20184655	Drum
G12-9/125 QFCI-I/O/RM-JM/- GN	Green	20194015	20194015	Drum
G12-9/125 QFCI-I/O/RM-JM/- BK	Black	20184659	1080582	Drum
G24-9/125 QFCI-I/O/RM-JM/- OG	Orange	20194016	20194016	Drum
G24-9/125 QFCI-I/O/RM-JM/- BK	Black	20184663	1080597	Drum
G48-9/125 QFCI-I/O/RM-JM/- OG	Orange	20194018	20194018	Drum
G48-9/125 QFCI-I/O/RM-JM/- BK	Black	20184642	1080599	Drum
G48(8X6)-9/125 QFCI-I/O/RM-JM/- BK	Black	20206178	20206178	Drum
G48-(24X9/125+24X50/125) QFCI-I/O/RM-JM/	Black	20282363	20282363	Drum
G72-9/125 QFCI-I/O/RM-JM/- BK	Black	20184647	20184647	Drum
G4-50/125 QFCI-I/O/RM-JM/- BK	Black	20184652	20184652	Drum
G8-50/125 QFCI-I/O/RM-JM/- GN	Green	20194012	20194012	Drum
G8-50/125 QFCI-I/O/RM-JM/- BK	Black	20184656	20184656	Drum
G12-50/125 QFCI-I/O/RM-JM/- BK	Black	20184660	1080587	Drum
G24-50/125 QFCI-I/O/RM-JM/- BK	Black	20184664	1080589	Drum
G48-50/125 QFCI-I/O/RM-JM/- BK	Black	20184643	1080570	Drum
G72-50/125 QFCI-I/O/RM-JM/- BK	Black	20184648	20184648	Drum
G4-50/OM3 QFCI-I/O/RM-JM/- GY	Grey	20384888	20384888	Drum
G4-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184654	1080612	Drum
G8-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184658	1080613	Drum
G12-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184662	1080614	Drum
G24-(G12-9/125+G12-50/OM3) QFCI-BK	Black	20387785	20387785	Drum
G24-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184641	1080615	Drum
G48-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184645	1080616	Drum
G72-50/OM3 QFCI-I/O/RM-JM/- BK	Black	20184650	20184650	Drum
G4-50/OM4 QFCI-I/O/RM-JM/- BK	Black	20409646	20409646	Drum
G8-50/OM4 QFCI-I/O/RM-JM/- BK	Black	20347945	20347945	Drum
G24-50/OM4 QFCI-I/O/RM-JM/- BK	Black	20295185	20295185	Drum
G48-50/OM4 QFCI-I/O/RM-JM/- BK	Black	20184646	20184646	Drum
G4-62.5/125 QFCI-I/O/RM-JM/- GY	Grey	20454295	20454295	Drum
G4-62.5/125 QFCI-I/O/RM-JM/- OG	Orange	20194009	20194009	Drum
G4-62.5/125 QFCI-I/O/RM-JM/- RD	Red	20294961	20294961	Drum
G4-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184653	1080590	Drum
G8-62.5/125 QFCI-I/O/RM-JM/- GN	Green	20194014	20194014	Drum

## PRODUCT ORDER DATA

Product name	Colour outer sheath	SAP	EL no.	Packaging type
G8-62.5/125 QFCI-I/O/RM-JM/- OG	Orange	20194013	20194013	Drum
G8-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184657	1080592	Drum
G12-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184661	1080594	Drum
G24-62.5/125 QFCI-I/O/RM-JM/- OG	Orange	20194017	20194017	Drum
G24-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184665	1080596	Drum
G48-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184644	1080598	Drum
G72-62.5/125 QFCI-I/O/RM-JM/- BK	Black	20184649	20184649	Drum

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## CABLE PROPERTIES 01(PER ITEM)

Product name	Nominal outer diameter [mm]	Max. tensile strength during installation [kN]	Cable weight [kg/km]	SAP
G4-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184651
G8-9/125 QFCI-I/O/RM-JM/- GN	13.5	1.5	230	20194011
G8-9/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194010
G8-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184655
G12-9/125 QFCI-I/O/RM-JM/- GN	13.5	1.5	230	20194015
G12-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184659
G24-9/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194016
G24-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184663
G48-9/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194018
G48-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184642
G48(8X6)-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20206178
G48-(24X9/125+24X50/125) QFCI-I/O/RM-JM/	13.5	1.5	230	20282363
G72-9/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184647
G4-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184652
G8-50/125 QFCI-I/O/RM-JM/- GN	13.5	1.5	230	20194012
G8-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184656
G12-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184660
G24-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184664
G48-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184643
G72-50/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184648
G4-50/OM3 QFCI-I/O/RM-JM/- GY	13.5	1.5	230	20384888
G4-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184654
G8-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184658
G12-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184662
G24-(G12-9/125+G12-50/OM3) QFCI-BK	13.5	1.5	230	20387785
G24-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184641
G48-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184645
G72-50/OM3 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184650
G4-50/OM4 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20409646
G8-50/OM4 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20347945
G24-50/OM4 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20295185
G48-50/OM4 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184646
G4-62.5/125 QFCI-I/O/RM-JM/- GY	13.5	1.5	230	20454295
G4-62.5/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194009
G4-62.5/125 QFCI-I/O/RM-JM/- RD	13.5	1.5	230	20294961
G4-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184653
G8-62.5/125 QFCI-I/O/RM-JM/- GN	13.5	1.5	230	20194014

## CABLE PROPERTIES 01(PER ITEM)

Product name	Nominal outer diameter [mm]	Max. tensile strength during installation [kN]	Cable weight [kg/km]	SAP
G8-62.5/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194013
G8-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184657
G12-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184661
G24-62.5/125 QFCI-I/O/RM-JM/- OG	13.5	1.5	230	20194017
G24-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184665
G48-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184644
G72-62.5/125 QFCI-I/O/RM-JM/- BK	13.5	1.5	230	20184649

## CABLE PROPERTIES 02(PER ITEM)

Product name	Fibre type	Number of fibres	Number of fibres per tube	Category (fibre)	Fibre datasheet	SAP
G4-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	4	4	OS2	C17	20184651
G8-9/125 QFCI-I/O/RM-JM/- GN	Single mode 9/125	8	8	OS2	C17	20194011
G8-9/125 QFCI-I/O/RM-JM/- OG	Single mode 9/125	8	8	OS2	C17	20194010
G8-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	8	8	OS2	C17	20184655
G12-9/125 QFCI-I/O/RM-JM/- GN	Single mode 9/125	12	12	OS2	C17	20194015
G12-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	12	12	OS2	C17	20184659
G24-9/125 QFCI-I/O/RM-JM/- OG	Single mode 9/125	24	12	OS2	C17	20194016
G24-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	24	12	OS2	C17	20184663
G48-9/125 QFCI-I/O/RM-JM/- OG	Single mode 9/125	48	12	OS2	C17	20194018
G48-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	48	12	OS2	C17	20184642
G48(8X6)-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	48	8	OS2	C17	20206178
G48-(24X9/125+24X50/125) QFCI-I/O/RM-JM/	Single mode 9/125	48	12	OS2	C17	20282363
G72-9/125 QFCI-I/O/RM-JM/- BK	Single mode 9/125	72	12	OS2	C17	20184647
G4-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	4	4	OM2	C34	20184652
G8-50/125 QFCI-I/O/RM-JM/- GN	Multi mode 50/125	8	8	OM2	C34	20194012
G8-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	8	8	OM2	C34	20184656
G12-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	12	12	OM2	C34	20184660
G24-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	24	12	OM2	C34	20184664
G48-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	48	12	OM2	C34	20184643
G72-50/125 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	72	12	OM2	C34	20184648
G4-50/OM3 QFCI-I/O/RM-JM/- GY	Multi mode 50/125	4	4	OM3	C31	20384888
G4-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	4	4	OM3	C31	20184654
G8-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	8	8	OM3	C31	20184658
G12-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	12	12	OM3	C31	20184662
G24-(G12-9/125+G12-50/OM3) QFCI-BK	Multi mode 50/125	24	12	OM3	C31	20387785
G24-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	24	12	OM3	C31	20184641
G48-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	48	12	OM3	C31	20184645
G72-50/OM3 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	72	12	OM3	C31	20184650
G4-50/OM4 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	4	4	OM4	C32	20409646
G8-50/OM4 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	8	8	OM4	C32	20347945
G24-50/OM4 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	24	12	OM4	C32	20295185
G48-50/OM4 QFCI-I/O/RM-JM/- BK	Multi mode 50/125	48	12	OM4	C32	20184646
G4-62.5/125 QFCI-I/O/RM-JM/- GY	Multi mode 62.5/125	4	4	OM1	C02	20454295
G4-62.5/125 QFCI-I/O/RM-JM/- OG	Multi mode 62.5/125	4	4	OM1	C02	20194009
G4-62.5/125 QFCI-I/O/RM-JM/- RD	Multi mode 62.5/125	4	4	OM1	C02	20294961
G4-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	4	4	OM1	C02	20184653
G8-62.5/125 QFCI-I/O/RM-JM/- GN	Multi mode 62.5/125	8	8	OM1	C02	20194014

**CABLE PROPERTIES 02(PER ITEM)**

Product name	Fibre type	Number of fibres	Number of fibres per tube	Category (fibre)	Fibre datasheet	SAP
G8-62.5/125 QFCI-I/O/RM-JM/- OG	Multi mode 62.5/125	8	8	OM1	C02	20194013
G8-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	8	8	OM1	C02	20184657
G12-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	12	12	OM1	C02	20184661
G24-62.5/125 QFCI-I/O/RM-JM/- OG	Multi mode 62.5/125	24	12	OM1	C02	20194017
G24-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	24	12	OM1	C02	20184665
G48-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	48	12	OM1	C02	20184644
G72-62.5/125 QFCI-I/O/RM-JM/- BK	Multi mode 62.5/125	72	12	OM1	C02	20184649