

## FIRE RESISTANT QFCI MUD

Fire resistant QFCI F103



### 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) 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 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 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. An additional outer sheath is added for improved oil- and MUD protection. The outer sheath is marked to show such as metermarking, fibre type and cable type.

### CERTIFICATIONS AND DESIGN STANDARDS

## RoHS

**EN 50173-1**

**ISO/IEC 11801**

**IEC 60794-1**

**IEC 60794-2**

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

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

Generic cabling systems

Generic cabling system

Optical fibre cables, test methodes

Optical fibre cables, indoor cables specifications

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, 90 min. incl. hammer shock, followed by water spray acc. to EN 50200 Annex E

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

## CABLE CONSTRUCTION

Armouring/reinforcement	Braiding
Armouring/reinforcement material	Steel, galvanised
Material outer sheath	Polyurethane (PUR)
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
Mud resistant	Yes
Min. outer temperature, fixed installation [°C]	-40
Max. outer temperature, fixed installation [°C]	70
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

Circuit integrity	E30 - E90
Insulation integrity	FE 180
Insulation integrity (acc. IEC 60331)	Yes
Flame retardant	In accordance with EN/IEC 60332-3-22
Low smoke (acc. IEC 61034-2)	Yes

## PRODUCT ORDER DATA

Product name	Colour outer sheath	SAP	EL no.	Packaging type
G4-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193428	20193428	Drum
G4-9/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20194019	20194019	Drum
G6-(4X9/125+2X50/125) QFCI + MUD GY	Grey	20325985	20325985	Drum
G8-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193423	20193423	Drum
G8-9/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20301213	20301213	Drum
G12-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193424	1061190	Drum
G12-9/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20194021	20194021	Drum
G24-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193425	20193425	Drum
G24-9/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20194023	20194023	Drum
G48-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193426	20193426	Drum
G48-9/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20203842	20203842	Drum
G72-9/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193427	20193427	Drum
G4-50/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193429	20193429	Drum
G4-50/125 QFCI + MUD-RESISTANT SHEATH OG	Orange	20194020	20194020	Drum
G8-50/125 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193430	20193430	Drum
G12-50/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193431	20193431	Drum
G12-50/125 QFCI+MUD-RESISTANT SHEATH OG	Orange	20203841	20203841	Drum
G24-50/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193432	20193432	Drum
G48-50/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193433	20193433	Drum
G72-50/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193434	20193434	Drum
G4-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193435	20193435	Drum
G8-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	Grey	20193436	20193436	Drum
G12-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193437	20193437	Drum
G24-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193438	20193438	Drum
G48-50/125OM3 QFCI + IEC60304 + MUD BK		20330614	20330614	Drum
G48-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193439	20193439	Drum
G72-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193440	20193440	Drum
G24-50/OM4 QFCI+MUD-RESISTANT SHEATH GY	Grey	20295186	20295186	Drum
G48-50/OM4 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193441	20193441	Drum
G4-62.5/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193442	1061191	Drum
G4-62.5/125 QFCI+MUD-RESISTANT SHEATH OG	Orange	20194024	20194024	Drum
G8-62.5/125 QFCI+MUD-RESISTANT SHEATH GY	Grey	20193443	1061192	Drum
G8-62.5/125 QFCI+MUD-RESISTANT SHEATH OG	Orange	20331322	20331322	Drum
G12-62.5/125 QFCI+MUD-RESIST. SHEATH GY	Grey	20193444	20193444	Drum
G12-62.5/125 QFCI+MUD-RESIST. SHEATH OG	Orange	20194022	20194022	Drum
G24-62.5/125 QFCI+MUD-RESIST. SHEATH GY	Grey	20193445	20193445	Drum
G48-62.5/125 QFCI+MUD-RESIST. SHEATH GY	Grey	20193446	20193446	Drum

**PRODUCT ORDER DATA**

<b>Product name</b>	<b>Colour outer sheath</b>	<b>SAP</b>	<b>EL no.</b>	<b>Packaging type</b>
G72-62.5/125 QFCI+MUD-RESIST. SHEATH GY	Grey	20193447	20193447	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 + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193428
G4-9/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20194019
G6-(4X9/125+2X50/125) QFCI + MUD GY	15.5	1.5	290	20325985
G8-9/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193423
G8-9/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20301213
G12-9/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193424
G12-9/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20194021
G24-9/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193425
G24-9/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20194023
G48-9/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193426
G48-9/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20203842
G72-9/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193427
G4-50/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193429
G4-50/125 QFCI + MUD-RESISTANT SHEATH OG	15.5	1.5	290	20194020
G8-50/125 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193430
G12-50/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193431
G12-50/125 QFCI+MUD-RESISTANT SHEATH OG	15.5	1.5	290	20203841
G24-50/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193432
G48-50/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193433
G72-50/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193434
G4-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193435
G8-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193436
G12-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193437
G24-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193438
G48-50/125OM3 QFCI + IEC60304 + MUD BK	15.5	1.5	290	20330614
G48-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193439
G72-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193440
G24-50/OM4 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20295186
G48-50/OM4 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193441
G4-62.5/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193442
G4-62.5/125 QFCI+MUD-RESISTANT SHEATH OG	15.5	1.5	290	20194024
G8-62.5/125 QFCI+MUD-RESISTANT SHEATH GY	15.5	1.5	290	20193443
G8-62.5/125 QFCI+MUD-RESISTANT SHEATH OG	15.5	1.5	290	20331322
G12-62.5/125 QFCI+MUD-RESIST. SHEATH GY	15.5	1.5	290	20193444
G12-62.5/125 QFCI+MUD-RESIST. SHEATH OG	15.5	1.5	290	20194022
G24-62.5/125 QFCI+MUD-RESIST. SHEATH GY	15.5	1.5	290	20193445
G48-62.5/125 QFCI+MUD-RESIST. SHEATH GY	15.5	1.5	290	20193446

**CABLE PROPERTIES 01(PER ITEM)**

<b>Product name</b>	<b>Nominal outer diameter [mm]</b>	<b>Max. tensile strength during installation [kN]</b>	<b>Cable weight [kg/km]</b>	<b>SAP</b>
G72-62.5/125 QFCI+MUD-RESIST. SHEATH GY	15.5	1.5	290	20193447

## 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 + MUD-RESISTANT SHEATH GY	Single mode 9/125	4	4	OS2	C17	20193428
G4-9/125 QFCI + MUD-RESISTANT SHEATH OG	Single mode 9/125	4	4	OS2	C17	20194019
G6-(4X9/125+2X50/125) QFCI + MUD GY	Single mode 9/125	6	4	OS2	C17	20325985
G8-9/125 QFCI + MUD-RESISTANT SHEATH GY	Single mode 9/125	8	8	OS2	C17	20193423
G8-9/125 QFCI + MUD-RESISTANT SHEATH OG	Single mode 9/125	8	8	OS2	C17	20301213
G12-9/125 QFCI + MUD-RESISTANT SHEATH GY	Single mode 9/125	12	12	OS2	C17	20193424
G12-9/125 QFCI + MUD-RESISTANT SHEATH OG	Single mode 9/125	12	12	OS2	C17	20194021
G24-9/125 QFCI + MUD-RESISTANT SHEATH GY	Single mode 9/125	24	12	OS2	C17	20193425
G24-9/125 QFCI + MUD-RESISTANT SHEATH OG	Single mode 9/125	24	12	OS2	C17	20194023
G48-9/125 QFCI + MUD-RESISTANT SHEATH GY	Single mode 9/125	48	12	OS2	C17	20193426
G48-9/125 QFCI + MUD-RESISTANT SHEATH OG	Single mode 9/125	48	12	OS2	C17	20203842
G72-9/125 QFCI + MUD-RESISTANT SHEATH GY	Single mode 9/125	72	12	OS2	C17	20193427
G4-50/125 QFCI + MUD-RESISTANT SHEATH GY	Multi mode 50/125	4	4	OM2	C34	20193429
G4-50/125 QFCI + MUD-RESISTANT SHEATH OG	Multi mode 50/125	4	4	OM2	C34	20194020
G8-50/125 QFCI + MUD-RESISTANT SHEATH GY	Multi mode 50/125	8	8	OM2	C34	20193430
G12-50/125 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	12	12	OM2	C34	20193431
G12-50/125 QFCI+MUD-RESISTANT SHEATH OG	Multi mode 50/125	12	12	OM2	C34	20203841
G24-50/125 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	24	12	OM2	C34	20193432
G48-50/125 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	48	12	OM2	C34	20193433
G72-50/125 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	72	12	OM2	C34	20193434
G4-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	Multi mode 50/125	4	4	OM3	C31	20193435
G8-50/OM3 QFCI + MUD-RESISTANT SHEATH GY	Multi mode 50/125	8	8	OM3	C31	20193436
G12-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	12	12	OM3	C31	20193437
G24-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	24	12	OM3	C31	20193438
G48-50/OM3 QFCI + IEC60304 + MUD BK	Multi mode 50/125	48	12	OM3	C31	20330614
G48-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	48	12	OM3	C31	20193439
G72-50/OM3 QFCI+MUD-RESISTANT SHEATH GY	Multi mode 50/125	72	12	OM3	C31	20193440

**CABLE PROPERTIES 02(PER ITEM)**

Product name	Fibre type	Number of fibres	Number of fibres per tube	Category (fibre)	Fibre datasheet	SAP
G72-62.5/125 QFCI+MUD-RESIST. SHEATH GY	Multi mode 62.5/125	72	12	OM1	C02	20193447