

## Fire resistant QFCI MUD protected EIA/TIA 598A colour code

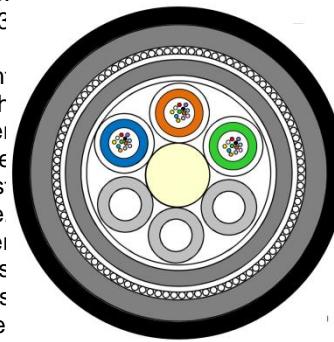
### QFCI



Indoor and outdoor.  
Fire resistant  
Flame retardant halogen-free  
Loose tube

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<sup>1)</sup>) 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 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 fibre type and cable type.



1. FRP-central strength member
2. Fiber in filled tubes
3. Wrapping
4. Inner LSHF sheath
5. Galvanized steel wire braid(GSWB)
6. Inner sheath (SHF1)
7. Outer sheath(MUD)

<sup>1)</sup> Simulating water fire fighting jet

#### Weight and dimensions

Number of fibres	Number of fibres in each tube	Number of tubes + fillers	Loose tube diameter (mm)	Outer diameter (mm)	Weight (kg/km)	Heat release (MJ/km)
4	4	1+5	2,2	15,5	330	2000
8	8	1+5	2,2	15,5	330	2000
12	12	1+5	2,2	15,5	330	2000
24	12	2+4	2,2	15,5	330	2000
36	12	3+3	2,2	15,5	330	2000
48	12	4+0	2,2	15,5	330	2000
60	12	5+1	2,2	15,5	330	2000
72	12	6+0	2,2	15,5	330	2000

Other fibre counts are available on request.

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### Cable properties

<b>Tensile strength</b> (IEC 60794-1-21,E1)		<b>Chemical resistance</b>	
Max tensile load during installation	1500 N	Mineral oils IRM 902 (IEC60811-404)	- 7 days/100°C
Max tensile load during operation	500 N	Diesel - IRM 903 (IEC60811-404)	- 7 days/100°C
<b>Crush</b> (IEC 60794-1-21, E3)	3000 N/10cm	<b>Fire and smoke classifications*)</b>	
<b>Impact</b> (IEC 60794-1-21,E4)	30J	IEC 60331-25 (750°C, 90 minutes)	<1.0 dB excess loss
<b>Torsion</b> (IEC 60794-1-21, E7)	±1 turn/1m	Upgraded IEC 60331-25 (1000°C, 3 hours)	<1.5 dB excess loss
<b>Cable bending</b>		IEC 60331-1(830°C, 120 minutes incl. hammer shock, followed by water jet acc. to BS 8491:2008)	<1,5 dB excess loss
Minimum bending diameter	250 mm	IEC 60331-2 (830°C, 90 minutes incl. hammer shock) followed by water spray acc. to EN 50200	<1,5 dB excess loss
Cable bend (IEC 60794-1-21, E11)	<0.1dB/ ±5 turn	IEC 60331-2 (830°C, 90 minutes incl. hammer shock)	<1,5 dB excess loss
Temperature window(IEC 60794-1-22, F1)		IEC 60332-3-22 (Cat. A)	
Operation	-40°C to +70°C	IEC 61034	
Installation	-10°C to +70°C	IEC 60332-3-24 (Cat. C)	
Storage	-40°C to +70°C	IEC 60754-1	

\*)-These are examples of tests performed.

### Ordering information

Part no	Number of fibres	Cable Type	Fiber type	Fiber data sheet
20193448	4	G4-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
*)	8	G8-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
20193449	12	G12-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
20193450	24	G24-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
20193451	48	G48-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
*)	60	G60-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
*)	72	G72-9/125 QFCI-I/O/RM/C-JM/-	OS2 Single mode	C03e
*)	4	G4-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	8	G8-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	12	G12-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	24	G24-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	48	G48-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	60	G60-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34
*)	72	G72-50/125 QFCI-I/O/RM/C-JM/-	OM2 50/125 multi mode	C34

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Part no	Number of fibres	Cabe Type	Fiber type	Fiber data sheet
*)	4	G4-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	8	G8-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	12	G12-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	24	G24-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	48	G48-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	60	G60-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	72	G72-50/125OM3 QFCI-I/O/RM/C-JM/-	OM3 MaxCap-OM3	C31
*)	4	G4-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	8	G8-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	12	G12-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	24	G24-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	48	G48-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	60	G60-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	72	G72-50/125OM4 QFCI-I/O/RM/C-JM/-	OM4 MaxCap-OM4	C32
*)	4	G4-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	8	G8-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	12	G12-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	24	G24-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	48	G48-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	60	G60-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02
*)	72	G72-62.5/125 QFCI-I/O/RM/C-JM/-	OM1 62.5/125 multi mode	C02

\*)-Part numbers will be given on request. When ordering, pls. refer to data sheet: D951QFCI-mud\_TIA-EIA\_598\_colourcode\_e02

### Colour codes (TIA-EIA 598C\*)

Fibre number	Colour	Tube number	Colour	Additional information
1	Blue	1	Blue	Standard colour of outer sheath is black.
2	Orange	2	Orange	Other fibre types and qualities are available on request.
3	Green	3	Green	
4	Brown	4	Brown	
5	Slate	5	Slate	
6	White	6	White	
7	Red			
8	Black			
9	Yellow			
10	Violet			
11	Rose			
12	Aqua			

\*)- TIA-EIA 598C is same as previous version TIA-EIA 598A

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