



QFCI type, loose tube, armoured, SHF1, fire resistant IEC60331, fire retardant IEC60332-3-22 Cat.A



Store at : -40 to +70 °C

Install at : -10 to +50 °C, **Bend minimum :** 20 times O.D.

Operate at : -40 to +70 °C, **Bend minimum :** 15 times O.D.

Pull maximum : 2000N

Crush maximum : 3000N/100mm

Impact maximum : 20J

Cable weight : 240 kg/km

Design

Bare fiber : 250µm

Buffer : Loose tube (Ø2.2mm) filled with jelly, housing up to 12 fibers

Colour code : See table

Fire protection : A fire barrier is applied over every single tube housing fibers

Central member : Steel rope with LSZH sheath

Cable core : Loose tubes and fillers (when necessary) are stranded around the central member. The core is wrapped by a tape.

Inner sheath : Black SHF1 material 1.0mm thick. Nominal outer diameter 10.1mm.

Armour : Galvanized steel, bronze or tinned copper wire braid. Coverage ≥85%.

Outer jacket : Black SHF1 material 1.2mm thick. Nominal outer diameter 13.5mm.

Marking : APS Finland ww/mm – Fiber Optic Cable QF_I “fiber count and type” – SHF1 IEC60332-3-22 Cat A IEC60331-25 – lot + meter

Environmental properties and Fire Performances

Degree of acidity of gases : IEC 60754-1, IEC 60754-2 (pH value $\geq 4,3$ and Conductivity $\leq 10\mu\text{S}/\text{mm}$)

Halogen acid gas : IEC 60754-1, IEC 60754-2 (Halogen acid gas emission $\leq 0.5\%$)

Smoke Emission : IEC 61034-2, EN 50268-2 (Transmittance) $\geq 60\%$

Toxicity of evolved gas : EN 50305 9.2

Flame retardant : IEC 60332-1-2

Fire retardant : IEC 60332-3-22 Cat.A

Fire resistant : IEC 60331-25 (750°C, 3 hours – 1000°C, 3 hours)

Ozone resistant : upon request

Weather resistant : upon request

LSZH SHF2 : upon request

Oil resistant : intermittent splash – permanent resistance available upon request

MUD resistant : upon request

Water absorption : IEC60502

Water penetration : IEC 60794-1-2-F5-B (inner core only)

UV resistant : IEC60811-2-1, ASTM-D-2565-92A

Ordering and delivery information

Fiber count	SM	OM1	OM1+	OM2	OM3	OM4	Packaging
2	OQFCI02S21	OQFCI02M11	OQFCI02ME1	OQFCI02M21	OQFCI02M31	OQFCI02M41	drum 2000m (+/-5%)
4	OQFCI04S21	OQFCI04M11	OQFCI04ME1	OQFCI04M21	OQFCI04M31	OQFCI04M41	drum 2000m (+/-5%)
6	OQFCI06S21	OQFCI06M11	OQFCI06ME1	OQFCI06M21	OQFCI06M31	OQFCI06M41	drum 2000m (+/-5%)
8	OQFCI08S21	OQFCI08M11	OQFCI08ME1	OQFCI08M21	OQFCI08M31	OQFCI08M41	drum 2000m (+/-5%)
12	OQFCI12S21	OQFCI12M11	OQFCI12ME1	OQFCI12M21	OQFCI12M31	OQFCI12M41	drum 2000m (+/-5%)
24	OQFCI24S21	OQFCI24M11	OQFCI24ME1	OQFCI24M21	OQFCI24M31	OQFCI24M41	drum 2000m (+/-5%)
48	OQFCI48S21	OQFCI48M11	OQFCI48ME1	OQFCI48M21	OQFCI48M31	OQFCI48M41	drum 2000m (+/-5%)

Note : for tinned copper braid add "T" at the end of the P/N, for bronze braid add "B" at the end of the P/N.

Colour code of fibers

01	02	03	04	05	06	07	08	09	10	11	12
White	Red	Yellow	Green	Blue	Grey	Brown	Black	Violet	Turquoise	Orange	Pink

Colour code of tubes

Tube	Type A	Type B					
		2 fibers	4 fibers	8 fibers	12 fibers	24 fibers	48 fibers
1	Red (12 fibers)	Red (2 fibers)	Red (2 fibers)	Red (4 fibers)	Red (4 fibers)	Red (6 fibers)	Red (12 fibers)
2	Green (24 fibers)	Filler	Green (2 fibers)	Green (4 fibers)	Green (4 fibers)	Green (6 fibers)	Green (12 fibers)
3	Natural (36 fibers)	Filler	Filler	Filler	Natural (4 fibers)	Natural (6 fibers)	Natural (12 fibers)
4	Natural (48 fibers)	Filler	Filler	Filler	Filler	Natural (6 fibers)	Natural (12 fibers)
5	- (*)	- (*)	- (*)	- (*)	- (*)	- (*)	- (*)
6	- (*)	- (*)	- (*)	- (*)	- (*)	- (*)	- (*)
	(*) filler only in case of 6 elements design						

Other standards of reference

IEC 60092-370	Electrical installations in ships: Guidance on the selection of cables for telecommunication and data.
DNV TAP 827.50/1	Type Approval Program - Optical Fibre Cables
ABS SVR	Rules for building and classing. Steel Vessels.
ABS SMR	Rules for building and classing. Steel vessels under 90 meters.
IEC 60793	General specifications for both multimode and single-mode optical fibres
IEC 60794	general specifications for optical fibres cables

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