



QFAI 2 UNI MUD type (QFAB-2), loose tube, dielectric, SHF2-MUD, fire resistant IEC60331, fire retardant IEC60332-3-22 Cat.A



Store at : -40 to +70 °C

Install at : -5 to +50 °C, **Bend minimum :** 15 times O.D.

Operate at : -40 to +70 °C, **Bend minimum :** 10 times O.D.

Pull maximum : 3500N

Crush maximum : 4000N/100mm

Impact maximum : 20J

Design

Bare fiber : 250µm

Buffer : Loose tube (Ø2.8mm up to 12 fibers, Ø3.5mm 16-24) filled with jelly, housing up to 24 fibers

Colour code : See table

Fire protection : mica tape wrapping.

Peripheral member : anti rodent glass yarns.

Inner sheath : red fire retardant LSZH SHF1 material, typical thickness 1.0mm.

Dielectric armour : anti rodent glass yarns.

Outer sheath : red fire retardant, UV-resistant and MUD-resistant LSZH SHF2 material, typical thickness 1.0mm.

Marking : APS Finland ww/mm - QFAI 2 UNI SHF2-MUD (QFAB-2) - FIBER OPTIC CABLE [Fibre type] - IEC 60331-25 [1000°C 90min] - IEC 60332-3-22 - Lot no + meter [A]

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) ≥ 60%)

Toxicity of evolved gas : EN50305 9.2

Flame retardant : IEC 60332-1-2

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

Fire resistant : IEC 60331-25 (1000°C, 90 minutes)

Ozone resistant : IEC60811-2-1, DIN VDE 0472 part 805 B

Weather resistant : ASTM G 154, EN 11507

LSZH SHF2 : IEC 60092-360

Oil resistant : IEC60811, IRM 903

MUD resistant : NEK606:2009, IEC60092-350

Water absorption : IEC60811-1-3

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

UV resistant : ASTM G 154 IEC 60068-2-5

Cold bend & impact : CSA C22.2

Ordering and delivery information

| Fiber count | Outer diameter (mm) | Weight (kg/km) | P/N | Packaging |
|-------------|---------------------|----------------|-------------|--------------------|
| 2 | 10.5 | 160 | OQFAB202 ff | drum 2000m (+/-5%) |
| 4 | 10.5 | 160 | OQFAB204 ff | drum 2000m (+/-5%) |
| 8 | 10.5 | 160 | OQFAB208 ff | drum 2000m (+/-5%) |
| 12 | 10.5 | 160 | OQFAB212 ff | drum 2000m (+/-5%) |
| 16 | 11.5 | 180 | OQFAB216 ff | drum 2000m (+/-5%) |
| 24 | 11.5 | 180 | OQFAB224 ff | drum 2000m (+/-5%) |

ff = S2 for G652D, A1 for G657A1, M1 for OM1, ME for OM1+, M2 for OM2, M3 for OM3, M4 for OM4, M5 for OM5.

Colour code of fibers

| | | | | | | | | | | | |
|-----------|-----------|-------------|--------------|-------------|------------|--------------|--------------|------------|-------------|------------|-----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Natural | Red | Green | Yellow | Brown | Blue | Violet | Orange | Grey | White | Black | Pink |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Turquoise | Red/black | Green/black | Yellow/black | Brown/black | Blue/black | Violet/black | Orange/black | Grey/black | White/black | Pink/black | Turquoise/black |

Other standards of reference

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|------------------|--|
| 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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