Oil & Gas - Cable Solutions

Exploration & Production - Offshore

Fiber Optic Cables
Armoured and sheathed S670T FOC

S670T Armored and Sheathed Marine Fiber Optic Cables
Tight buffer construction.
2 to 48 fibers / single-mode or multimode / LSZH / Armored and sheathed.

APPLICATION

The S670T series of Marine Shipboard armored fiber optic cables are designed especially for the harsh environments of commercial marine vessels, offshore oil platforms, drilling rigs, and other similar applications. S670T low smoke/zero halogen, flame retardant cables offer versatility and ease of installation in a construction suited for marine applications. They are compliant with the latest IEC requirements.

S670T cables meet the requirements of IEC 60793-1 and IEC 60792-2 specifications, are encapsulated in all dielectric, tight buffered construction, individually reinforced with aramid yarns and jacketed (breakout style). The breakout components are cabled around a central member providing additional tensile strength to the entire construction. The thermoplastic low smoke/ zero halogen double jacketing system under and over the marine grade bronze braided armor offers excellent resistance to chemicals, fluids, fungus, and abrasion.

STANDARDS & APPROVALS

IEC/EN 60794 Optical Fibre Cables (test procedures)
IEC 60794-1-1 Optical Fibre Cables (test procedures)
IEC 60794-1-2 Optical Fibre Cables (test procedures)
IEC 60794-2 Optical Fibre Cables (test procedures)
IEEE 45 and IEEE 1580 Marine Shipboard Cables
IEC 60332-1 Flame Retardance
IEC 60332-3-22 or 24 and IEEE 1202 Fire retardance
IEC 61034-1 & 61034-2 Smoke emission properties
NES 713 Toxicity Requirements
IEEE 802.3z (Gigabit Ethernet) Performance requirements

Det Norske Veritas (DNV)
American Bureau of Shipping (ABS)
Lloyd’s Register of Shipping (LRS)

DESIGN & CONSTRUCTION

1 CENTRAL STRENGTH MEMBER
Dielectric material (epoxy fiberglass rod)

2 FIBER
Multimode or singlemode fibers with an easily strippable 900μm tight buffering colored per TIA/EIA 598

3 SUBUNIT STRENGTH MEMBER
Aramid yarn

4 SUBUNIT JACKET
2.0 mm ChromaTek-L™ Halex low smoke zero halogen polyolefin

5 JACKET
ChromaTek-L™ Halex low smoke zero halogen polyolefin

6 ARMOR
Braided bronze in accordance with IEEE 1580 (2010)

7 SHEATH
ChromaTek-L™ Halex low smoke zero halogen polyolefin
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PERFORMANCES/RATINGS

- **FIRE BEHAVIOUR**
  - IEC 60332-1
  - IEC 60332-3-22 or 24
  - IEEE 1202
  - **VERY GOOD**

- **CHEMICAL RESISTANCE**
  - VERY GOOD

- **IMPACTS**
  - GOOD
  - IEC 60794
  - LOW EMISSION

- **SMOKE DENSITY, CORROSIVITY AND TOXICITY**
  - LOW

- **OPERATING TEMPERATURE**
  - -20 °C to +80 °C

- **INSTALLATION TEMPERATURE**
  - -10 °C to +60 °C

- **UV RESISTANCE**
  - VERY GOOD

QUALITY & TESTING

Prysmian has a built-in multi-step quality assurance program, covering the production process from cable design and raw material purchases to final inspection and testing documentation.

The ISO 9001 quality system of Prysmian Group (together with ISO 14001 and OHSAS 18001) has been assessed, approved and is currently audited by SGS.

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Please consult the factory or your representative to confirm all engineering information or refer to the related catalogues available in the local countries website.
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## Exploration & Production - Offshore

### Fiber Optic Cables

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## TECHNICAL DATA

<table>
<thead>
<tr>
<th>DRAKA USA PART NUMBER</th>
<th>NUMBER OF FIBRES</th>
<th>INSTALLATION</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Pull Strength Newtons (lbs)</td>
</tr>
<tr>
<td>S670T-02R-xxxy</td>
<td>2</td>
<td>600 (135)</td>
</tr>
<tr>
<td>S670T-04-xxxy</td>
<td>4</td>
<td>600 (135)</td>
</tr>
<tr>
<td>S670T-06-xxxy</td>
<td>6</td>
<td>600 (135)</td>
</tr>
<tr>
<td>S670T-08-xxxy</td>
<td>8</td>
<td>600 (135)</td>
</tr>
<tr>
<td>S670T-10-xxxy</td>
<td>10</td>
<td>600 (135)</td>
</tr>
<tr>
<td>S670T-12-xxxy</td>
<td>12</td>
<td>600 (135)</td>
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<tr>
<td>S670T-16-xxxy</td>
<td>16</td>
<td>2700 (600)</td>
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<tr>
<td>S670T-18-xxxy</td>
<td>18</td>
<td>2700 (600)</td>
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<td>S670T-24-xxxy</td>
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<td>2700 (600)</td>
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<tr>
<td>S670T-36-xxxy</td>
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<td>2700 (600)</td>
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<tr>
<td>S670T-48-xxxy</td>
<td>48</td>
<td>2700 (600)</td>
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</table>

Replace the xxy with the Fiber Designation in the fiber performance table below. Note: Fibers are not suitable for F07 crimp and cleave connector. Information is subject to change without notice. Consult factory for a variety of alternate constructions for specific applications.

## FIBER PERFORMANCE

62.5μm MULTIMODE 50μm MULTIMODE 200μm MULTIMODE 8.3μm SINGLE-MODE

<table>
<thead>
<tr>
<th>Fiber Designation</th>
<th>62X</th>
<th>50H</th>
<th>2005</th>
<th>010X</th>
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<tbody>
<tr>
<td>Applicable Specification</td>
<td>IEC 60793-10 Type A1b</td>
<td>IEC 60793-10 Type A1a</td>
<td>IEC 60793-2 Type A1a</td>
<td>Matched Clad</td>
</tr>
<tr>
<td>Fiber Type</td>
<td>Graded Index</td>
<td>Graded Index</td>
<td>Step Index</td>
<td>8.3μm Nominal</td>
</tr>
<tr>
<td>Core Diameter</td>
<td>62.5μm ±2.5μm</td>
<td>50μm ±2.5μm</td>
<td>200μm ±5μm</td>
<td>125μm ±1μm</td>
</tr>
<tr>
<td>Cladding Diameter</td>
<td>125μm ±1μm</td>
<td>125μm ±1μm</td>
<td>230μm ±10μm</td>
<td>125μm ±1μm</td>
</tr>
<tr>
<td>Coating Diameter</td>
<td>242μm ±7μm</td>
<td>242μm ±7μm</td>
<td>500μm ±30μm</td>
<td>242μm ±7μm</td>
</tr>
<tr>
<td>Buffer Diameter</td>
<td>900μm ±50μm</td>
<td>50μm ±2.5μm</td>
<td>900μm ±50μm</td>
<td>900μm ±50μm</td>
</tr>
<tr>
<td>Numerical Aperture</td>
<td>0.275 ±0.015</td>
<td>0.200 ±0.015</td>
<td>0.037 Nominal (2m% Intensity)</td>
<td>n/a</td>
</tr>
<tr>
<td>Mode Field Diameter</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>9.1μm ±0.4μm</td>
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<tr>
<td>Attenuation</td>
<td>≤ 3.5 dB/Km * 850nm</td>
<td>≤ 3.5 dB/Km * 850nm</td>
<td>≤ 12.0 dB/Km * 820nm</td>
<td>≤ 0.70 dB/Km * 1310nm</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>≥ 200 MHz/Km * 850nm</td>
<td>≥ 500 MHz/Km * 850nm</td>
<td>≥ 20 MHz/Km * 820nm</td>
<td>n/a</td>
</tr>
<tr>
<td>Dispersion</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>≤ 3.0 ps/nm-Km * 1285-1330nm</td>
</tr>
<tr>
<td>Proof Test</td>
<td>100,000 psi</td>
<td>100,000 psi</td>
<td>100,000 psi</td>
<td>100,000 psi</td>
</tr>
</tbody>
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