**3x2.5 Power Cable + 12C Fiber Optic Cable**

**SWA Composite Cable**

**Construction:**

3x2.5mm² Power Cable

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conductor</td>
<td>7/0.67mm Stranded bare copper wire</td>
</tr>
<tr>
<td>Insulation</td>
<td>XLPE. Thickness is 0.7mm. Outer diameter 3.41mm</td>
</tr>
</tbody>
</table>

12C Fiber Cable

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of fibers in loose tube</td>
<td>12 fibers</td>
</tr>
<tr>
<td>Loose tube</td>
<td>outer diameter: 2.4mm (PE or PVC Sheath would be used over the loose tube if necessary)</td>
</tr>
</tbody>
</table>

**Element Assembly**

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Strength Member</td>
<td>1.5mm FRP central strength member with PE/PVC coating if necessary</td>
</tr>
<tr>
<td>Strength member</td>
<td>Aramide yarn helically is applied over cable core.</td>
</tr>
<tr>
<td>Wrapping Tape</td>
<td>Polyester tape is applied over cable core</td>
</tr>
<tr>
<td>Inner Jacket</td>
<td>PE, LSOH is optional, thickness is 1.0mm</td>
</tr>
<tr>
<td>Armor</td>
<td>Steel wire armour, size: 0.9mm</td>
</tr>
</tbody>
</table>
### Sheath
PE, LSOH is optional, thickness is 1.8mm, nominal outer diameter 17.0±1.0mm

### Sheath Color
Black

### Optical Characteristics

#### 12C Optic Fiber Cable, G652D (around central member)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Standard Single Mode Fiber per ITU-T G.652D</th>
<th>Non-zero Dispersion Shifted fiber per ITU-T G.655</th>
<th>Non-zero Dispersion Shifted fiber per ITU-T G.656</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber Code</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Attenuation, Loose Tube Cables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@1310nm</td>
<td>≤0.35</td>
<td>N/A</td>
<td>N/A</td>
<td>dB/km</td>
</tr>
<tr>
<td>@1550nm</td>
<td>≤0.22</td>
<td>≤0.22</td>
<td>≤0.22</td>
<td>dB/km</td>
</tr>
<tr>
<td>@1625nm</td>
<td>≤0.25</td>
<td>≤0.26</td>
<td>≤0.26</td>
<td>dB/km</td>
</tr>
<tr>
<td>Attenuation, Tight Buffer or Semi-Tight Cables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@1310nm</td>
<td>≤0.38</td>
<td>N/A</td>
<td></td>
<td>dB/km</td>
</tr>
<tr>
<td>@1550nm</td>
<td>≤0.28</td>
<td>N/A</td>
<td></td>
<td>dB/km</td>
</tr>
<tr>
<td>Chromatic Dispersion</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>between 1260 and 1360nm (O Band)</td>
<td>≤3.5</td>
<td>N/A</td>
<td>N/A</td>
<td>ps/(nm*km)</td>
</tr>
<tr>
<td>between 1460 and 1530nm (S Band)</td>
<td>N/A</td>
<td>N/A</td>
<td>2.0-7.0</td>
<td>ps/(nm*km)</td>
</tr>
<tr>
<td>between 1530 and 1565nm (C Band)</td>
<td>≤18</td>
<td>1.0-10.0</td>
<td>7.0-10.0</td>
<td>ps/(nm*km)</td>
</tr>
<tr>
<td>between 1565 and 1625nm (L Band)</td>
<td>≤22</td>
<td>7.0-12.0</td>
<td>10.0-14.0</td>
<td>ps/(nm*km)</td>
</tr>
<tr>
<td>Zero Dispersion Wavelength</td>
<td>1310±11</td>
<td>1530-1560</td>
<td>1460-1565</td>
<td>nm</td>
</tr>
<tr>
<td>Zero Dispersion Slope</td>
<td>0.093</td>
<td>0.093</td>
<td>0.093</td>
<td>ps/(nm*km)</td>
</tr>
<tr>
<td>Point Discontinuity at 1300nm &amp; 1550nm</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>dB</td>
</tr>
<tr>
<td>Mode Field Diameter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@1300nm</td>
<td>9.3±0.5</td>
<td>N/A</td>
<td>N/A</td>
<td>um</td>
</tr>
<tr>
<td>@1550nm</td>
<td>10.4±0.8</td>
<td>8.5±0.6</td>
<td>9.0±0.5</td>
<td>um</td>
</tr>
<tr>
<td>Cable Cut-off Wavelength</td>
<td>≤1260</td>
<td>≤1450</td>
<td>≤1450</td>
<td>nm</td>
</tr>
<tr>
<td>PMD (Individual fiber)</td>
<td>≤0.2</td>
<td>≤0.2</td>
<td>≤0.2</td>
<td>ps/km1/2</td>
</tr>
<tr>
<td>Cladding Diameter</td>
<td>125±1</td>
<td>125±1</td>
<td>125±1</td>
<td>um</td>
</tr>
<tr>
<td>Core/Cladding Concentricity Error</td>
<td>≤0.5</td>
<td>≤0.5</td>
<td>≤0.6</td>
<td>um</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
</tr>
<tr>
<td>Cladding Non-Circularity</td>
<td>≤1.0</td>
<td>≤1.0</td>
<td>≤1.0</td>
<td>%</td>
</tr>
<tr>
<td>Coating Non-Circularity</td>
<td>≤6.0</td>
<td>≤6.0</td>
<td>≤6.0</td>
<td>%</td>
</tr>
<tr>
<td>Primary Coating Diameter</td>
<td>245±10</td>
<td>245±10</td>
<td>245±10</td>
<td>um</td>
</tr>
<tr>
<td>Proof-Test Level</td>
<td>100 (0.7)</td>
<td>100 (0.7)</td>
<td>100 (0.7)</td>
<td>Kpsi/GN/m²</td>
</tr>
<tr>
<td>Fatigue Coefficient</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
<td></td>
</tr>
<tr>
<td>Temperature Dependence between 0°C ~ +70°C @ 1310 &amp; 1550nm</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>Db/km</td>
</tr>
</tbody>
</table>

The fibers contain no splices.

**Mechanical Properties:**

**Tensile load:**
- Operating: 2650N
- Installation: 8000N

**Bending radius:**
- Operating: 15×OD
- Installation: 30×OD

**Compressive load:**
- Short term: 6000N
- Long term: 4000N

* The data included in the present catalogue are merely indicative; Caledonian Cables Limited reserves to itself the right to change them as its own discretion in any time.