Data sheet
chainflex® CFLG88

Fibre Optic Cable (Class 3.1.1.1) ● Graded index glass-fibre cable for flexing applications ● PVC outer jacket ● Flame retardant

1. Outer jacket: Pressure extruded PVC mixture
2. Banding: Plastic fleece
3. Filler: Aramid damper for high tensile stresses
4. Fibre tube: LSZH ("Low smoke & zero halogen") Material
5. Reinforcement: Extremely bending- and torsion-stable aramid wrapping
6. Fibre: Glass optical fibre (GOF)

Example image
For detailed overview please see design table

Cable structure
Fibre
50/125 μm, 62.5/125 μm especially bending-resistant solid glass fibre optic cores, with aramid strain relief elements.

Core structure
FOC cores wound with a short pitch length with high-tensile aramid dampers.

Core identification
FOC cores: Orange or blue with black numbers.

Outer jacket
Low-adhesion PVC mixture, adapted to suit the requirements in e-chains®.

Colour: Jet black (similar to RAL 9005)
Printing: white

www.igus.de +++ chainflex cable works +++

CE RoHS-II compliant

* Length printing: Not calibrated. Only intended as an orientation aid.

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Dynamic information

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Bend radius
- e-chain® linear
  - flexible: min. 6 x d
  - fixed: min. 4 x d
- Temperature
  - e-chain® linear
    - flexible: +5 °C up to +70 °C
    - fixed: -15 °C up to +70 °C (following DIN EN 50305)
- v max.
  - unsupported: 3 m/s
- a max.
  - 20 m/s²
- Travel distance
  - Unsupported travel distances up to 10 m, Class 1

These values are based on specific applications or tests. They do not represent the limit of what is technically feasible.

Guaranteed service life according to guarantee conditions

<table>
<thead>
<tr>
<th>Double strokes</th>
<th>1 million</th>
<th>3 million</th>
<th>5 million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature, from/to [°C]</td>
<td>R min. [factor x d]</td>
<td>R min. [factor x d]</td>
<td>R min. [factor x d]</td>
</tr>
<tr>
<td>+5/+15</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>+15/+60</td>
<td>7.5</td>
<td>8.5</td>
<td>9.5</td>
</tr>
<tr>
<td>+60/+70</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
</tbody>
</table>

Minimum guaranteed service life of the cable under the specified conditions.
The installation of the cable is recommended within the middle temperature range.
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Properties and approvals
- Flame retardant: According to IEC 60332-1-2
- Silicone-free: Free from silicone which can affect paint adhesion (following PV 3.10.7 – status 1992)
- Lead-free: Following 2011/65/EC (RoHS-II)
- Clean room: According to ISO Class 1. The outer jacket material of this series complies with CF240.02.24 - tested by IPA according to standard DIN EN ISO 14644-1
- CE: Following 2014/35/EU

Typical lab test setup for this cable series
- Test bend radius R: approx. 75 - 225 mm
- Test travel S: approx. 1 - 15 m
- Test duration: minimum 2 - 4 million double strokes
- Test speed: approx. 0.5 - 2 m / s
- Test acceleration: approx. 0.5 - 1.5 m / s²

Typical application areas
- For flexing applications, Class 3
- Especially for unsupported travels, Class 1
- Without influence of oil, Class 1
- No torsion, Class 1
- Highest EMC safety
- Preferably indoor applications
- Wood/stone processing, Packaging industry, supply systems, Handling, adjusting equipment
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Technical tables:
Mechanical information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Number of fibres/Fibre diameter/Conductor nominal cross section</th>
<th>Outer diameter (d) max.</th>
<th>Weight [kg/km]</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFLG88.2.50/125</td>
<td>2x50/125</td>
<td>7.0</td>
<td>44</td>
</tr>
<tr>
<td>CFLG88.2.62.5/125</td>
<td>2x62.5/125</td>
<td>7.0</td>
<td>44</td>
</tr>
</tbody>
</table>

1) Phase-out model

Note: The given outer diameters are maximum values and may tend toward lower tolerance limits.

Optical features

<table>
<thead>
<tr>
<th>Fibre diameter [µm]</th>
<th>Wave length [nm]</th>
<th>Bandwidth [MHz x km]</th>
<th>Attenuation [dB/km]</th>
</tr>
</thead>
<tbody>
<tr>
<td>50/125</td>
<td>850</td>
<td>≥ 500</td>
<td>≤ 3.0</td>
</tr>
<tr>
<td>50/125</td>
<td>1300</td>
<td>≥ 500</td>
<td>≤ 1.0</td>
</tr>
<tr>
<td>62.5/125</td>
<td>850</td>
<td>≥ 200</td>
<td>≤ 3.5</td>
</tr>
<tr>
<td>62.5/125</td>
<td>1300</td>
<td>≥ 500</td>
<td>≤ 1.5</td>
</tr>
</tbody>
</table>

Design table

Fibre diameter: 50/125

<table>
<thead>
<tr>
<th>Art.-Nr. (Aderanzahl)</th>
<th>Core design</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFLG88.2.50/125</td>
<td>FIBRE 1</td>
</tr>
<tr>
<td>(2x50/125)</td>
<td>FIBRE 2</td>
</tr>
</tbody>
</table>

Fibre diameter: 62.5/125

<table>
<thead>
<tr>
<th>Art.-Nr. (Aderanzahl)</th>
<th>Core design</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFLG88.2.62.5/125</td>
<td>FIBRE 1</td>
</tr>
<tr>
<td>(2x62.5/125)</td>
<td>FIBRE 2</td>
</tr>
</tbody>
</table>