OVERHEAD LINES

PRODUCT CATALOGUE

DISTRIBUTION & TRANSMISSION INSULATORS

Innovative Solutions for Distribution & Transmission
Overhead Lines Product Range

PFISTERER’S Centre of Competence (CoC) for Overhead Lines offers customised, comprehensive component and package solutions for low - medium- and high -voltage networks up to 1000kV

The company has access to all the necessary resources and expertise and can deliver a wide range of high quality components and packages for today’s power supply systems and those of the future. This range includes SILCOSIL composite insulators, complete insulator strings, fittings for insulator sets and vibration damping products including vibration recorders and warning spheres.

Dedicated to Quality and Continuity

Since its foundation in 1921, PFISTERER has been committed to innovative products, outstanding quality and excellent customer service. PFISTERER’s excellence has been focused on continued growth in the supply of high quality components for overhead lines.

Customer Focus

PFISTERER’S engineering and sales departments are committed to providing the customers with an optimised product and to meeting their requirements in a fast, reliable and economical way.

PFISTERER utilises comprehensive engineering, production planning and quality assurance systems in order to ensure customer satisfaction.
Introduction

Product Innovation

PFISTERER has pioneered many innovative solutions especially for transmission lines such as spacer dampers, corona free suspension clamps, heavy duty tension clamps, short circuit and arc-proof fittings for insulator sets since 1921.

In 1975, PFISTERER started the development and manufacture of Silicone Rubber composite insulators. Since then, a variety of processing technologies have been perfected, which allow optimised insulator designs for suspension, tension, post and hollow core applications. These designs have been successfully installed in a

Insulator Sets for High Voltage Applications

PFISTERER has been producing fittings for over 50 years and composite insulators for over 30 years, both for voltages from 1,5 kV up to 1000 kV. This experience, gained over decades in the design, production and application of complete insulator sets, qualifies PFISTERER as a most competent and reliable partner. PFISTERER’s insulator sets are installed and in operation on all continents and under extreme conditions from the tropic zones and desert areas with extremely high temperatures to very low temperatures at higher degrees of latitude.

PFISTERER is a most competent partner in providing optimized solutions also for cases of special application requirements for insulator sets such as:

- light and compact designs
- extremely high strength requirements
- very long spans
- elevated conductor suspension points
- special string configurations
- other special designs

Competence

PFISTERER’s engineering staff have experience and knowledge to ensure that PFISTERER’s products meet and even exceed the most difficult requirements. The long-standing know-how enables PFISTERER to assist the customers in choosing the right product for any specific application. Active participation in CIGRE and IEC Working Groups helps to always be up-to-date with the latest service experiences and standards.
## Disc Equivalent Longrod Insulators

<table>
<thead>
<tr>
<th>TYPE</th>
<th>6 Disc Equivalent</th>
<th>7 Disc Equivalent</th>
<th>8.5 Disc Equivalent</th>
<th>END FITTINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR PROFILE NO.</td>
<td>HASDI 460/2250</td>
<td>HASDI 480/3100</td>
<td>HASDI 650/3100</td>
<td></td>
</tr>
<tr>
<td>PRODUCT GROUP CODE</td>
<td>144 021</td>
<td>144 023</td>
<td>144 047</td>
<td></td>
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<tr>
<td>EXAMPLE</td>
<td>144 021-006</td>
<td>144 023-004</td>
<td>144 047-001</td>
<td>LIVE END</td>
</tr>
<tr>
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<td>144 021-011</td>
<td>144 023-010</td>
<td>144 047-004</td>
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</tr>
<tr>
<td></td>
<td>144 021-007</td>
<td>144 023-005</td>
<td>144 047-008</td>
<td>EARTH END</td>
</tr>
<tr>
<td></td>
<td>144 021-019</td>
<td>144 023-013</td>
<td>144 047-009</td>
<td></td>
</tr>
</tbody>
</table>

- **16mm Ball**
- **16mm Socket (A)**
- **24mm Eye**
- **24mm Eye**
- **19L Tongue**
- **19L Clevis (Ø19mm Pin)**
- **16mm Ball**
- **Y-Clevis (Ø19mm Pin)**
**Disc Equivalent Longrod Insulator Technical Data:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One minute power frequency withstand voltage, 50Hz, wet</td>
<td>230 kV</td>
</tr>
<tr>
<td>Lightning impulse withstand voltage, 1, 2/50, pos.</td>
<td>400 kV</td>
</tr>
<tr>
<td>Minimum arcing distance</td>
<td>720 mm</td>
</tr>
<tr>
<td>Minimum creepage distance</td>
<td>2250 mm</td>
</tr>
<tr>
<td>Number of sheds (small/large)</td>
<td>12/13</td>
</tr>
<tr>
<td>Mass (approx.)</td>
<td>3 kg</td>
</tr>
</tbody>
</table>

SML and RTL are in acc. To IEC 61109

**7 Disc Equivalent Longrod Insulator Technical Data:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One minute power frequency withstand voltage, 50Hz, wet</td>
<td>275 kV</td>
</tr>
<tr>
<td>Lightning impulse withstand voltage, 1, 2/50, pos.</td>
<td>510 kV</td>
</tr>
<tr>
<td>Minimum arcing Distance</td>
<td>875 mm</td>
</tr>
<tr>
<td>Minimum creepage distance</td>
<td>3100 mm</td>
</tr>
<tr>
<td>Number of sheds (small/large)</td>
<td>15/16</td>
</tr>
<tr>
<td>Mass (approx.)</td>
<td>4.2 kg</td>
</tr>
</tbody>
</table>

SML and RTL are in acc. To IEC 61109

**8.5 Disc Equivalent Longrod Insulator Technical Data:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One minute power frequency withstand voltage, 50Hz, wet</td>
<td>310 kV</td>
</tr>
<tr>
<td>Lightning impulse withstand voltage, 1, 2/50, pos.</td>
<td>650 kV</td>
</tr>
<tr>
<td>Minimum arcing Distance</td>
<td>1115 mm</td>
</tr>
<tr>
<td>Minimum creepage distance</td>
<td>3100 mm</td>
</tr>
<tr>
<td>Number of sheds (small/large)</td>
<td>14/15</td>
</tr>
<tr>
<td>Mass (approx.)</td>
<td>4.5 kg</td>
</tr>
</tbody>
</table>

SML and RTL are in acc. To IEC 61109

**Material Data:**

- **Insulator:** E-CR Glassfibre rod with HTV Silicone Rubber Housing
- **End Fittings:** Drop forged steel – Hot Dip Galv. Acc. To EN ISO 1461

**KN Rating:**

- Specified mechanical load (SML): 120, 135, 160 kN
- Routine test load (RTL): 60, 72, 80 kN

(Dependant on end fittings)

**Other Possible End Fittings:**

- 20mm Ball
- 20mm Socket (A)
- 32mm Eye
- 135kN Tongue
- 160kN V-Clevis (Ø22mm Pin)

**Other Possible Accessories:**

220mm Corona Ring
<table>
<thead>
<tr>
<th>TYPE</th>
<th>9 Disc Equivalent</th>
<th>10 Disc Equivalent</th>
<th>10 Disc Equivalent</th>
<th>END FITTINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INSULATOR PROFILE NO.</td>
<td>HASDI 700/3300</td>
<td>HASDI 725/4500</td>
<td>HASDI 725/4500 c/w 220mm Corona Ring</td>
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<td>PRODUCT GROUP CODE</td>
<td>144 048</td>
<td>144 032</td>
<td>144 032</td>
<td>LIVE END</td>
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</tbody>
</table>

**EXAMPLE**

- 144 048-001
- 144 048-004
- 144 048-008
- 144 048-009

END FITTINGS:

- 16mm Ball
- 16mm Socket (A)
- 24mm Eye
- 19L Tongue
- 19L Clevis (Ø19mm Pin)
- 16mm Ball
- Y Clevis (Ø19mm Pin)
<table>
<thead>
<tr>
<th>END FITTINGS</th>
<th>BASE</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Integral Gain Base</td>
<td>127mm PCD Flange Base</td>
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<tr>
<td>BASE</td>
<td>Ø13-27mm Trunnion Cradle Clamp</td>
<td>Ø25-38mm Trunnion Cradle Clamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSEMBLIES</th>
<th>EXAMPLES</th>
<th>PART No.</th>
<th>BASE</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>145 241-005</td>
<td>INTEGRAL GAIN BASE (POLE MOUNTING)</td>
<td>Ø13-27mm Trunnion Cradle Clamp</td>
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<tr>
<td></td>
<td></td>
<td>145 241-007</td>
<td></td>
<td>Ø25-38mm Trunnion Cradle Clamp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>145 241-010</td>
<td></td>
<td>2 Hole Drop Eye</td>
</tr>
<tr>
<td></td>
<td></td>
<td>145 241-009</td>
<td>PCD FLANGE BASE</td>
<td>Ø13-27mm Trunnion Cradle Clamp</td>
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<td>145 241-006</td>
<td></td>
<td>Ø25-38mm Trunnion Cradle Clamp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>145 241-008</td>
<td></td>
<td>2 Hole Drop Eye</td>
</tr>
<tr>
<td></td>
<td></td>
<td>145 241-026</td>
<td>BENDABLE GAIN BASE (POLE MOUNTING)</td>
<td>Ø13-27mm Trunnion Cradle Clamp</td>
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<td></td>
<td>145 241-028</td>
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<td>Ø25-38mm Trunnion Cradle Clamp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>145 241-014</td>
<td></td>
<td>2 Hole Drop Eye</td>
</tr>
</tbody>
</table>
**Insulator Profile No.:**
360/2250

**Technical Data:**

- One minute power frequency withstand voltage, 50Hz, wet : 175 kV
- Lightning impulse withstand voltage, 1, 2/50, pos. : 360 kV
- Minimum arcing distance : 580 mm
- Minimum creepage distance : 2250 mm
- Specified cantilever load (SCL) : 12.5 kN
- Maximum design cantilever load (MDCL) : 5.5 kN
- Number of small/large sheds : 9/10
- Mass (approx.) : 10.6 kg

SCL and MDCL are in acc. to IEC 61952

**Material Data:**

- Insulator : E-CR Glassfibre rod with HTV Silicone Rubber Housing
- End Fittings : Steel - Hot Dip Galvanised, acc. to EN ISO 1461
- Conductor Clamp : Cast Aluminium

**Insulator Markings:**

- **Profile Number**: 360/2250
- **Pfisterer Logo**: KP
- **Date Stamp**: 08
- **kN Rating**: MDCL 5.5kN
**Insulator Profile No.:** 360/2250

**Technical Data:**

- One minute power frequency withstand voltage, 50Hz, wet: 175 kV
- Lightning impulse withstand voltage, 1, 2/50, pos.: 360 kV
- Minimum arcing distance: 580 mm
- Minimum creepage distance: 2250 mm
- Specified cantilever load (SCL): 12.5 kN
- Maximum design cantilever load (MDCL): 5.5 kN
- Number of small/large sheds: 9/10
- Mass (approx.): 10.6 kg

SCL and MDCL are in acc. to IEC 61952

**Material Data:**

- Insulator: E-CR Glassfibre rod with HTV Silicone Rubber Housing
- End Fittings: Steel - Hot Dip Galvanised, acc. to EN ISO 1461
- Conductor Clamp: Cast Aluminium

**Insulator Markings:**

- **Profile Number:** 360/2250
- **Pfisterer Logo:**
- **Date Stamp:** 08
- **kN Rating:** MDCL 5.5kN
**Insulator Profile No.:**
670/4500

**Technical Data:**

- One minute power frequency withstand voltage, 50Hz, wet: 375 kV
- Lightning impulse withstand voltage, 1, 2/50, pos.: 720 kV
- Minimum arcing distance: 1218 mm
- Minimum creepage distance: 4500 mm
- Specified cantilever load (SCL): 13.3 kN
- Maximum design cantilever load (MDCL): 5.3 kN
- Number of small/large sheds: 19/20
- Mass (approx.): 25 kg

SCL and MDCL are in acc. to IEC 61952

**Material Data:**

- Insulator: E-CR Glassfibre rod with HTV Silicone Rubber Housing
- End Fittings: Steel - Hot Dip Galvanised, acc. to EN ISO 1461
- Conductor Clamp: Cast Aluminium

**Insulator Markings:**

- Profile Number: 670/4500
- Pfisterer Logo
- Date Stamp
- kN Rating: MDCL 5.3kN
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