Porcelain Longrod Insulators

- Wet Process Porcelain
- Extruded Technology
- Wet Turning Process
- C130 High Strength Alumina Porcelain
- High Creepage Options
- Voltage Class: 1 – 1100 kV
  (>170 kV in serial unit arrangements)
- Product Standards: IEC 60433, IEC 60383,
  IEC 60672
- Experience: > 70 years

Main advantages

- Most Reliable Insulator Product
  (CIGRE Study/Survey WG 22.03)
- Extreme Weather and Environmental Resistant
- Type A (non puncturable) according to IEC 60383
- High Mechanical Strength up to 350 kN per Unit
- Life-Expectancy >40 years
- Standardised String Designs
- Silicone Coatings available for Applications
  under Extreme Pollution
- Proven for more than 70 years

References

- 15 kV German Railway
- 25 kV Dutch Railway
- 15 kV Indian Railway
- 15 kV NORGES, Norwegian Railway
- 25 kV RSD, Russian Railway
- 25 kV SBB, Swiss Railway
- 15 kV ÖBB, Austrian Railway
- 123 – 420 kV All German Utilities
  (RWE, EON, ENBW, Vattenfall, DB Energie)
- 123 – 420 kV All Swiss Utilities
  (EOS, BKW, ATEL, Rätia Energie, EKL)
- 123 – 420 kV All Austrian Utilities
- 123 – 420 kV SEC, Saudi Aramco, Saudi Arabia
- 145 – 245 kV MEW, Oman
- 145 – 245 kV Libya
- 123 kV PSE Poland
- 525 kV CGP. China (HVAC and HVDC)
- 123 – 765 kV Hungary
- 145 – 420 kV ESKOM, South Africa
- 300 kV MEW, Kuwait

Designs

<table>
<thead>
<tr>
<th>Shank Ø [mm]</th>
<th>EMF** Class [kN]</th>
<th>Pollution Class [mm / kV]</th>
<th>hZ, Max [mm]</th>
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<td>1.78</td>
<td>60</td>
<td>12 – 45</td>
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<td>12 – 45</td>
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<td>300</td>
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</tr>
<tr>
<td>115</td>
<td>4.53</td>
<td>350</td>
<td>12 – 45</td>
</tr>
</tbody>
</table>

* in accordance with IEC 60815, higher SCD possible in individual cases
** EMF: Electro Mechanical Failing load, routine test load of 80 % EMF
*** max connection length

End Fittings

- All IEC 60120 and IEC 60471 types
- All DIN 48006 fittings, Flanges
- Special customer and tailormade fittings,
  e.g. for railway applications