# Properties of Hi-dielectric m-PPE resin

<table>
<thead>
<tr>
<th>Properties</th>
<th>Test Method</th>
<th>Terms</th>
<th>Units</th>
<th>HD7006 (under development)</th>
<th>HD7007 (under development)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Properties</strong></td>
<td></td>
<td></td>
<td></td>
<td>Base Resin: mPPE</td>
<td>Base Resin: mPPE</td>
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<tr>
<td>Density</td>
<td>ISO 1183</td>
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<tr>
<td><strong>Rheological Properties</strong></td>
<td></td>
<td></td>
<td></td>
<td>1.28</td>
<td>1.32</td>
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<tr>
<td>Melt Mass-flow Rate</td>
<td>ISO 1133</td>
<td>300°C, 5kg</td>
<td>g/10min</td>
<td>7.1</td>
<td>6.7</td>
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<tr>
<td>Melt Volume-flow Rate</td>
<td></td>
<td></td>
<td>cm³/10min</td>
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<tr>
<td>Moulding Shrinkage (3.2mmt)</td>
<td>MD</td>
<td></td>
<td>%</td>
<td>0.4 - 0.6</td>
<td>0.4 - 0.6</td>
</tr>
<tr>
<td></td>
<td>TD</td>
<td></td>
<td></td>
<td>0.4 - 0.6</td>
<td>0.4 - 0.6</td>
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<tr>
<td><strong>Mechanical Properties</strong></td>
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<tr>
<td>Stress at Break</td>
<td>ISO 527-1, 527-2</td>
<td></td>
<td>MPa</td>
<td>60</td>
<td>60</td>
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<tr>
<td>Strain at Break</td>
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<td></td>
<td>%</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Flexural Strength</td>
<td>ISO 178</td>
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<td>MPa</td>
<td>106</td>
<td>95</td>
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<td>Flexural Modulus</td>
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<td>4200</td>
<td>4800</td>
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<tr>
<td>Charpy Impact Strength</td>
<td>ISO 179-1, 179-2</td>
<td>23°C</td>
<td>kJ/m²</td>
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<td>12</td>
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<td>Charpy Notched Impact Strength</td>
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<td><strong>Thermal Properties</strong></td>
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<tr>
<td>Temperature of Deflection Under Load</td>
<td>ISO 75-1, 75-2</td>
<td>1.80MPa</td>
<td>°C</td>
<td>127</td>
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<td>Flammability</td>
<td>UL94</td>
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<td><strong>Electrical Properties</strong></td>
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<tr>
<td>Relative Permittivity</td>
<td>IEC 62562</td>
<td>1GHz</td>
<td>MD / TD</td>
<td>7.1 / 7.2</td>
<td>7.9 / 8.2</td>
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<td>Dissipation Factor</td>
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<td>2.45GHz</td>
<td>MD / TD</td>
<td>0.004 / 0.005</td>
<td>0.006 / 0.008</td>
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<td></td>
<td></td>
<td>1GHz</td>
<td>MD / TD</td>
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<td>2.45GHz</td>
<td>MD / TD</td>
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</table>

FYR: A typical modified-PPE has a relative permittivity of 2.8 and a dissipation factor of 0.004.

* The values described are typical values only.

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