Technical Data

**PBT 1100-211L**

PBT unreinforced middle viscosity injection molding grade.

**Characteristics**

1) excellent electrical property
2) excellent temperature resistance, high heat distortion temperature.
3) excellent mechanical and chemical property
4) excellent weatherability
5) excellent wear property
6) excellent moldability
7) high resistance to fuels, oil, fats and many solvents.

**Injection Molding Condition**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder temperatures</td>
<td>230-260°C</td>
</tr>
<tr>
<td>Nozzle temperature</td>
<td>245-250°C</td>
</tr>
<tr>
<td>Mold temperature</td>
<td>30-100°C, suitable temperature 40-60°C</td>
</tr>
<tr>
<td>Injection rate</td>
<td>middle</td>
</tr>
<tr>
<td>Screw speed</td>
<td>60-120 rpm, to be chosen in such a way that plasticizing time is just within cooling time.</td>
</tr>
<tr>
<td>Pressure</td>
<td></td>
</tr>
<tr>
<td>Injection pressure</td>
<td>500-1000 kg/cm²</td>
</tr>
<tr>
<td>Holding pressure</td>
<td>300-700 kg/cm²</td>
</tr>
<tr>
<td>Back pressure</td>
<td>0-3 kg/cm²</td>
</tr>
<tr>
<td>Mold shrinkage</td>
<td>Mold shrinkage 1.6 mm thickness is 1.2-1.8 % under the test method ASTM D955.</td>
</tr>
</tbody>
</table>

**Packaging**

25 kg/paper bag or 850 kg/super sack.

**Material handling**

Moisture pick-up from ambient air should be avoided. Keep hopper properly closed.
# Engineering Plastics

## Polybutylene Terephthalate (PBT 1100-211L)

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Unit</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Viscosity</td>
<td>0.94±0.015</td>
<td>dl/gr</td>
<td>D2857</td>
</tr>
<tr>
<td>Melting Flow Index (250°C×2.16kgf)</td>
<td>35-44</td>
<td>g/10 min</td>
<td>ISO1133</td>
</tr>
<tr>
<td>Carboxyl End Groups</td>
<td>≤25</td>
<td>meq/kg</td>
<td>Chang Chun</td>
</tr>
<tr>
<td>Color L</td>
<td>≥85</td>
<td>-</td>
<td>Chang Chun</td>
</tr>
<tr>
<td>Color b</td>
<td>≤2.0</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1.30-1.32</td>
<td>-</td>
<td>D792</td>
</tr>
<tr>
<td>Melting point</td>
<td>225±2</td>
<td>°C</td>
<td>DSC</td>
</tr>
<tr>
<td>Coef. of linear thermal expansion</td>
<td>9</td>
<td>10⁻⁵ cm/°C</td>
<td>D696</td>
</tr>
<tr>
<td>Heat deflection temperature under load</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--- 18.6 kg/cm²</td>
<td>60</td>
<td>°C</td>
<td>D648</td>
</tr>
<tr>
<td>--- 4.6 kg/cm²</td>
<td>155</td>
<td>°C</td>
<td>D648</td>
</tr>
<tr>
<td>Moisture absorption (24h)</td>
<td>0.06</td>
<td>%</td>
<td>D570</td>
</tr>
<tr>
<td>Flammability acc. To UL94 (1.6 m)</td>
<td>HB</td>
<td>-</td>
<td>UL94</td>
</tr>
<tr>
<td>Tensile strength</td>
<td>500-600</td>
<td>kg/cm²</td>
<td>D638</td>
</tr>
<tr>
<td>Tensile elongation</td>
<td>≥90</td>
<td>%</td>
<td>D638</td>
</tr>
<tr>
<td>Flexural strength</td>
<td>800-900</td>
<td>kg/cm²</td>
<td>D790</td>
</tr>
<tr>
<td>Flexural modulus</td>
<td>23000</td>
<td>kg/cm²</td>
<td>D790</td>
</tr>
<tr>
<td>Izod impact strength - notched 1/4&quot;</td>
<td>≥4.5</td>
<td>kg-cm/cm</td>
<td>D256</td>
</tr>
<tr>
<td>Hardness - rockwell</td>
<td>85-90</td>
<td>M</td>
<td>D785</td>
</tr>
</tbody>
</table>

**Dielectric strength, 2 mm thickness**

<table>
<thead>
<tr>
<th>Value</th>
<th>Unit</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥20</td>
<td>KV/mm</td>
<td>D149</td>
</tr>
</tbody>
</table>

**Volume resistivity**

<table>
<thead>
<tr>
<th>Value</th>
<th>Ω · cm</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥10¹⁵</td>
<td></td>
<td>D257</td>
</tr>
</tbody>
</table>

**Surface resistivity**

<table>
<thead>
<tr>
<th>Value</th>
<th>Ω</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥10¹³</td>
<td></td>
<td>D257</td>
</tr>
</tbody>
</table>

**Dielectric constant**

<table>
<thead>
<tr>
<th>Value</th>
<th>Hz</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>60Hz</td>
<td>D150</td>
</tr>
</tbody>
</table>

**Dielectric dissipation factor**

<table>
<thead>
<tr>
<th>Value</th>
<th>Hz</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.001</td>
<td>60Hz</td>
<td>D150</td>
</tr>
</tbody>
</table>

**Arc resistance**

<table>
<thead>
<tr>
<th>Value</th>
<th>SEC</th>
<th>Test method</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td></td>
<td>D495</td>
</tr>
</tbody>
</table>

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(1) For reference only

(2) All data in the table are the typical values of the material and not the minimum values of the material specifications.