Impet® thermoplastic polyester (PET) resins provide high-temperature performance with long-term thermal capacity. These products offer outstanding long-term dielectric strength and mechanical properties, as well as superior thermal and chemical resistance. They are ideal for high-performance applications that require toughness, rigidity, exceptional dimensional stability and excellent electrical properties.

All Impet PET grades offer excellent surface gloss and color retention. Products with these grades are able to meet specific requirements of certain packaging and film applications while still maintaining optimum property qualities.

Impet® PET “R” grades are made with up to 100% post-consumer recycled polyethylene terephthalate, and additional “green” recycled versions are available with little or no performance difference, proving the strength and stiffness factors of Impet PET are ideal for various applications.

### Impet PET – Post Consumer Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>330R</td>
<td>30% GR with post-consumer recycled PET. Good thermal stability, good mechanical properties.</td>
</tr>
<tr>
<td>340R</td>
<td>45% GR with post-consumer recycled PET. Good thermal stability, strength and stiffness.</td>
</tr>
<tr>
<td>830R</td>
<td>35% Glass/Mineral with post-consumer recycled PET. Excellent combination of strength, stiffness, warp resistance and high temperature capability.</td>
</tr>
</tbody>
</table>

### Impet PET – Standard Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2700 GV 1/20</td>
<td>20% GR. High flow, excellent appearance.</td>
</tr>
<tr>
<td>2700 GV 1/30</td>
<td>30% GR. High flow, excellent appearance, high HDT.</td>
</tr>
<tr>
<td>2700 GV 1/45</td>
<td>45% GR. High flow, excellent appearance, high modulus and very high HDT.</td>
</tr>
</tbody>
</table>

### Injection Molding Conditions*

**Drying Conditions:** 3 hours @ 135°C (275°F)  
A dehumidifying hopper dryer should be used  
**Moisture Level:** Must dry below 0.01%  
**Mold Temperature:** 110-135°C (230-250°F)  
**Melt Temperature:** 270-300°C (518-572°F)  
**Screw Speed:** 50-75 rpm  
**Back Pressure:** 0-25 psi  
**Injection Pressure:** As needed  

**Typical Barrel Settings:**  
Feed Zone: 260-270°C (500-520°F)  
Center Zone: 270-280°C (520-530°F)  
Front Zone: 280-285°C (530-540°F)  
Nozzle: 280-290°C (530-550°F)  

*Typical conditions suggested for guidance only.

### Typical Application Areas

**Automotive:**  
- Ignition Housings:  
  - Distributor housings  
  - Coil housings  
  - Rotors  
  - High-voltage ignition components  
  - Electrical system components  
  - Ignition coils  
- Interior/Exterior Components:  
  - Grille opening retainers  
  - Engine covers  
  - Exterior rear-view mirror housings  
  - Windshield wiper components  
  - Headlamp bezels  
  - HVAC vent doors  
  - Cowl vents  
  - Other structural body components  
  - Sunroof motor housing  

**Consumer Electronics/ Appliances:**  
- Motor housings and internal components  
- Corn poppers  
- Coffee makers  
- Hair curlers  
- Hair dryers  
- Oven handles, small appliance handles  

For more information on these applications or products, contact your local Celanese Sales Office or Product Information Services at 1-800-833-4882
<table>
<thead>
<tr>
<th>Physical properties</th>
<th>Unit</th>
<th>Test Standard</th>
<th>330R</th>
<th>340R</th>
<th>830R</th>
<th>2700 GV1/20</th>
<th>2700 GV1/30</th>
<th>2700 GV1/45</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>kg/m³</td>
<td>ISO 1183</td>
<td>1.58</td>
<td>1.73</td>
<td>1.59</td>
<td>1.52</td>
<td>1.6</td>
<td>1.74</td>
</tr>
<tr>
<td>Melt Flow Rate*</td>
<td>g/10 min.</td>
<td>ISO 1133</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>34</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Mold Shrinkage - Parallel</td>
<td>%</td>
<td>ISO 294-4</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.3</td>
<td>0.9</td>
<td>0.2</td>
</tr>
<tr>
<td>Mold Shrinkage - Normal</td>
<td>%</td>
<td>ISO 294-5</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
<td>0.9</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Water absorption (24 hr)</td>
<td>°C</td>
<td></td>
<td>0.13</td>
<td>0.17</td>
<td>0.15</td>
<td>0.15</td>
<td>0.1</td>
<td>0.12</td>
</tr>
<tr>
<td>Tensile modulus (1 mm/min)</td>
<td>MPa</td>
<td>ISO 527-2/1A</td>
<td>11100</td>
<td>168</td>
<td>11000</td>
<td>8200</td>
<td>11500</td>
<td>17761</td>
</tr>
<tr>
<td>Tensile stress (5 mm/min)</td>
<td>MPa</td>
<td>ISO 527-2/1A</td>
<td>159</td>
<td>174</td>
<td>120</td>
<td>133</td>
<td>168</td>
<td>185</td>
</tr>
<tr>
<td>Melt Temperature (10°C/min)</td>
<td>°C</td>
<td>ISO 11357-1-2,3</td>
<td>245</td>
<td>245</td>
<td>245</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td>Glass transition temperature (10°C/min)</td>
<td>°C</td>
<td>ISO 11357-1-2,3</td>
<td>73</td>
<td>73</td>
<td>76</td>
<td>80</td>
<td>80</td>
<td>72</td>
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<tr>
<td>DTUL @1.8 Mpa</td>
<td>°C</td>
<td>ISO 75-1/-2</td>
<td>221</td>
<td>229</td>
<td>206</td>
<td>233</td>
<td>225</td>
<td>228</td>
</tr>
<tr>
<td>DTUL @0.45 Mpa</td>
<td>°C</td>
<td>ISO 75-1/-2</td>
<td>240</td>
<td>242</td>
<td>235</td>
<td>248</td>
<td>248</td>
<td>248</td>
</tr>
<tr>
<td>Coefficient of linear thermal expansion (parallel)</td>
<td>E-4/°C</td>
<td>ISO 11359-2</td>
<td>0.18</td>
<td>0.14</td>
<td>0.21</td>
<td>0.23</td>
<td>0.21</td>
<td>0.15</td>
</tr>
<tr>
<td>Coefficient of linear thermal expansion (normal)</td>
<td>E-4/°C</td>
<td>ISO 11359-2</td>
<td>0.7</td>
<td>0.83</td>
<td>0.8</td>
<td>0.95</td>
<td>0.64</td>
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<tr>
<td>Limiting Oxygen Index (LOI)</td>
<td>%</td>
<td>ISO 4589</td>
<td>23</td>
<td>23</td>
<td>22</td>
<td>25</td>
<td>24</td>
<td>25</td>
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<tr>
<td>Dielectric constant - 1 Mz</td>
<td>IEC 60250</td>
<td>3.37</td>
<td>3.17</td>
<td>3.93</td>
<td>3.05</td>
<td>3.7</td>
<td>4.19</td>
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<tr>
<td>Dissipation factor - 100Hz</td>
<td>IEC 60250</td>
<td>&lt;1 E-3</td>
<td>&lt;1 E-3</td>
<td>&lt;1 E-3</td>
<td>&lt;1 E-3</td>
<td>&lt;1 E-3</td>
<td>&lt;1 E-3</td>
<td></td>
</tr>
<tr>
<td>Dissipation factor - 1MHz</td>
<td>E-4</td>
<td>IEC 60250</td>
<td>120</td>
<td>130</td>
<td>160</td>
<td>130</td>
<td>120</td>
<td>130</td>
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<tr>
<td>Volume resistivity</td>
<td>Ohm*m</td>
<td>IEC 60903</td>
<td>1.4 E14</td>
<td>1E 14</td>
<td>7E 13</td>
<td>3E 14</td>
<td>2E 14</td>
<td>1E 14</td>
</tr>
<tr>
<td>Surface resistivity</td>
<td>Ohm</td>
<td>IEC 60093</td>
<td>3E 15</td>
<td>5 E14</td>
<td>4 E15</td>
<td>&gt;3E 14</td>
<td>3E 15</td>
<td>&gt;1E 14</td>
</tr>
<tr>
<td>Electric strength</td>
<td>kW/mm</td>
<td>IEC 60243-1</td>
<td>32</td>
<td>24</td>
<td>20</td>
<td>31</td>
<td>33</td>
<td>35</td>
</tr>
<tr>
<td>Comparative track index (CTI)</td>
<td>IEC 60112</td>
<td>175</td>
<td>225</td>
<td>200</td>
<td>200</td>
<td>170</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Arc Resistance</td>
<td>Sec.</td>
<td></td>
<td>25</td>
<td>80</td>
<td>58</td>
<td>84</td>
<td>39</td>
<td>110</td>
</tr>
</tbody>
</table>

Values shown are based on limited laboratory testing. These provisional values are not intended for use in establishing maximum, minimum or range values for specification purposes.

* UL Flame Class Rating was determined by Celanese laboratory testing.
Engineered Materials

• Celanex® thermoplastic polyester [PBT]
• Hostaform® and Celcon® acetal copolymer [POM]
• Celstran®, Compel® and Factor® long fiber reinforced thermoplastic [LFRT]
• Celstran® continuous fiber reinforced thermoplastic [CFR-TP]
• Fortron® polyphenylene sulfide [PPS]
• GUR® ultra-high molecular weight polyethylene [UHMW-PE]
• Impet® thermoplastic polyester [PET]
• Riteflex® thermoplastic polyester elastomer [TPC-ET]
• Thermx® polycyclohexylene-dimethylene terephthalate [PCT]
• Vandar® thermoplastic polyester alloy [PBT]
• Vectra® and Zenite® liquid crystal polymer [LCP]

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