Overview

Jabil Engineered Materials TPU 90 A is an easy processing, standard product for printing jobs requiring elastomeric properties like compression set or soft touch to prevent scratching and marring, with high impact strength. Applications include jigs, fixtures and tooling, touch pads, grips, feet and other parts that require elastomeric properties. This material has a print profile available on Ultimaker Cura Marketplace and produces excellent surface parts that can be printed at max speeds with minimal shrinkage.

Advantages

Easy printability, excellent elastomeric properties and impact strength, abrasion resistance and soft touch properties. This product has very consistent lot to lot print properties with an ISO 9001 Certificate of Analysis with every spool.

Storage and Use

TPU is highly hygroscopic, meaning it will absorb and retain moisture from the atmosphere, affecting visual quality and mechanical properties. For best results, print and store filament in a dry environment. If necessary, dry filament in an oven at 80 °C (175 °F) for 3 hours.

Properties

<table>
<thead>
<tr>
<th>Mechanical Properties¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Condition</td>
</tr>
<tr>
<td>Tensile Modulus (psi)</td>
</tr>
<tr>
<td>Tensile Elongation at Break (%)</td>
</tr>
<tr>
<td>Tensile Yield Strength (psi)</td>
</tr>
<tr>
<td>Ultimate Tensile Strength (psi)</td>
</tr>
<tr>
<td>Tear Strength (N/mm)</td>
</tr>
<tr>
<td>Hardness (Shore A)</td>
</tr>
</tbody>
</table>

¹ Typical values are for reference only.

<table>
<thead>
<tr>
<th>Thermal Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test Condition</td>
</tr>
<tr>
<td>Heat Deflection Temperature (°C)</td>
</tr>
<tr>
<td>Melting Point (°C)</td>
</tr>
</tbody>
</table>
### Other Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Condition</th>
<th>Typical Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (g/cm³)</td>
<td>Ambient</td>
<td>1.2</td>
<td>ASTM D792-13, Method A</td>
</tr>
</tbody>
</table>

### Dimensional Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Test Condition</th>
<th>Typical Value</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diameters: Mean, X, Y, and Z (mm)</td>
<td>Ambient</td>
<td>+/- 0.05</td>
<td>Laser Micrometer</td>
</tr>
</tbody>
</table>