Technical Data Sheet

**Type:** Estane® 58252 is a 70A Polyether Thermoplastic Polyurethane (TPU).

**Features:** Formulated to have one of the highest MVT values within the thermoplastic polyurethane class. It is also among the softest grades. Extruded or solution cast films of Estane 58252 TPU are non-porous and have very high moisture vapor transmission rates.

**Uses:** Intended for cast film and solution coating applications.

<table>
<thead>
<tr>
<th>Physical Properties</th>
<th>Value (Metric)</th>
<th>Typical Values*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SI Units</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>ASTM D792</td>
<td>1.20</td>
</tr>
<tr>
<td>Shore Hardness</td>
<td>ASTM D2240</td>
<td>70A/22D</td>
</tr>
<tr>
<td>Tensile Strength</td>
<td>ASTM D-412/D-638</td>
<td>19.3 MPa</td>
</tr>
</tbody>
</table>

**Modulus:**
- 100 % Elongation: ASTM D-412/D-638 | 2.8 MPa | 410 psi |
- 200 % Elongation: ASTM D-412/D-638 | 3.6 MPa | 520 psi |
- 300 % Elongation: ASTM D-412/D-638 | 4.7 MPa | 680 psi |
- 400 % Elongation: ASTM D-412/D-638 | 6.7 MPa | 950 psi |
- 500 % Elongation: ASTM D-412/D-638 | 9.0 MPa | 1300 psi |

Ultimate Elongation: ASTM D-412/D-638 | 800% |

Tensile Set @ 200% Elongation: ASTM D-412 | 7% |

Graves Tear: ASTM D-624, Die C | 47.3 kN/m | 270 lb/in |

Trouser Tear: ASTM D-470 | 68.3 kN/m | 390 lb/in |

Taber Abrasion, H-18 wheel, 1000g load: ASTM D-3389-94 | 140 mg/1000 cycles |

Vicat Softening Point: ASTM D-1525 | 47°C | 117°F |

DSC: Glass Transition (2nd heat): ASTM D-1525 | -28°C | -18°F |

DSC: Melting Temperature: ASTM D-1525 | 130°C | 266°F |

These are typical values and should not be used for establishing specifications. Contact your representative for availability and commercialization status.

**Moisture Vapor Transmission Data**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Test Method</th>
<th>Temperature</th>
<th>Relative Humidity</th>
<th>MVT g/m²/day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upright Cup, Water</td>
<td>ASTM E-96B</td>
<td>23°C</td>
<td>50%</td>
<td>850</td>
</tr>
<tr>
<td>Upright Cup, Desiccant</td>
<td>MOCON</td>
<td>23°C</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

**Handling Considerations**

Properties of all thermoplastic polyurethane products in the molten state are adversely affected by moisture. Although Estane TPU compound are dry when packaged, trace amounts of moisture can be absorbed during storage and handling. For best results, always dry the material 12 hours at 55°C (131°F) in a dehumidifying hopper dryer.

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