



# Ecomass Compounds

<b>Base Resin</b>	<b>TPU</b> <b>(Thermoplastic Polyurethane)</b>
Compound Type	Ecomass® Compound - 4700 Series - Moderate Density
Processing Method	Injection Molding

## Process Guidelines

Processing Conditions	Material Drying
<ul style="list-style-type: none"> <li>Melt Temperature Range..... 190 - 200C (400 - 430F)</li> <li>Mold Temperature Range..... 20 - 40C (70 - 100F)</li> <li>Injection Pressure..... As required</li> <li>Pack (Hold) Pressure..... 65 - 80% of IP</li> <li>Back Pressure..... 3 - 7 bar (50 - 100 psi)</li> <li>Injection Speed..... Medium - Fast</li> <li>Screw Speed..... 50 - 100 rpm</li> <li>Fill Time..... 2.5 - 5 cm/s (1.0 - 2.0 in/s)</li> <li>Pack (Hold) Time<sup>2</sup>..... Max. part weight</li> <li>Cooling Time..... As required</li> <li>Cushion..... 6 - 12mm (0.25 - 0.50 in.)</li> </ul>	<ul style="list-style-type: none"> <li>Dryer Type(s)..... Dehumidifying</li> <li>Drying Temperature Range... 85C (185F)</li> <li>Typical Drying Time<sup>1</sup>..... 3 hours, reduce to 60C - <b>do not over-dry</b></li> <li><b>Do Not Exceed</b>..... <b>90C (195F), &gt; 3 hrs</b></li> <li>Dryer Dew Point..... -30 to -40C</li> <li>Minimum Air Flow..... 0.8 - 1.0 CFM</li> <li>Properly Functioning..... Dessicant Beds Filters Volatiles Trap</li> </ul>

Molding Machine Requirements	Safety / Purging
<ul style="list-style-type: none"> <li>Screw L/D..... 20:1 min.</li> <li>Screw Compression Ratio.... 2.5:1 min.</li> <li>Feed Throat..... Cooled</li> <li>Nozzle Type..... Reverse taper</li> <li>Check Ring Type..... Free flow</li> <li>Typical Clamp Tonnage..... 2.5 - 4.0 tons/in<sup>2</sup></li> </ul>	<ul style="list-style-type: none"> <li>Maintain adequate ventilation.</li> <li>Wear safety glasses &amp; protective clothing.</li> <li>Do not mix with other materials.</li> <li>Avoid excessive residence time in the barrel. (Purge if extended residence time is anticipated)</li> <li><b>Use extreme caution at melt temp. &gt; 350C</b></li> </ul>
Abrasion Resistant Screw, Barrel & Check Ring	Purge with high viscosity HDPE or high temperature commercial purge compound as recommended.

### Notes

<sup>1</sup> Typical Drying time assumes unopened packaging and utilization of a dehumidifying dryer with a dewpoint of -40° with sufficient air flow.

<sup>2</sup> Pack time can depend on wall thickness and gate design

### Material must be dried to a Moisture Level of < 0.05% for best property retention

The processor of these materials is advised and cautioned to make an independent determination and assessment of the safety and suitability of the material for the specific use in question and is further advised against relying on the information herein as it may relate to any specific use or application. Because conditions under which this material may be processed, tested or used cannot be anticipated, no warranty is given, either expressed or implied, as to the accuracy or reproducibility of this information or for the fitness of this material for any particular use. This material is sold with the express understanding that purchasers, processors or other users of this material have sole responsibility, through performance of their own testing, to determine the suitability of this material for any particular use.