



# Processing Conditions and Molding Guidelines

## RTP 6091 Series Thermoplastic Vulcanizate (TPV)

### Typical Injection Molding Conditions

Temperatures	English	SI Metric
Rear Zone	440-480 °F	227-249 °C
Center Zone	450-490 °F	232-254 °C
Front Zone	460-500 °F	238-260 °C
Melt	505-540 °F	263-282 °C
Mold	90-160 °F	32-71 °C
<b>Pressures</b>		
Back	50-200 psi	0.4-1.4MPa
<b>Speeds</b>		
Fill	0.5- 3.0 in/sec	13-76 mm/sec
Screw	50-200 rpm	50-200 rpm
<b>Drying</b>		
Time & Temperature	4 Hrs at 180 °F	4 Hrs @ 82 °C
Moisture Content	0.08%	0.08%

### Molding Tips To Achieve A Good Bond

- Wall thickness of the TPE overmold can affect bond performance, 1-3 mm (0.04-0.12 in) is generally recommended
- Increased melt temperature generally improves bond performance
- Increased mold temperature generally improves bond performance
- Two-shot molding is better than insert molding for bond performance
- Preheating inserts to a minimum of 100 °C (212 °F) can improve bond performance
- Minimize storage time and handling of inserts prior to overmolding
- Fillers and reinforcements, lubricants, additives, color masterbatches and pigments, release agents, and stabilizers can all affect bond performance. Filler or reinforcement in the polyamide should be below 30% by weight
- Bond performance should be evaluated after conditioning for 24 hours at room temperature

This information is intended to be used only as a guideline for designers and processors of modified thermoplastics for injection molding. Because injection mold design and processing is complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.

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