



## Processing Conditions

### Polyetherimide (PEI) — RTP 2100 Series Long Fiber Compounds

#### Typical Injection Molding Conditions

	English	SI Metric
<b>Temperatures</b>		
Rear zone	670 - 720 °F	354 - 382 °C
Center zone	660 - 700 °F	349 - 371 °C
Front zone	650 - 680 °F	343 - 360 °C
Melt	660 - 720 °F	349 - 382 °C
Mold	250 - 325 °F	121 - 163 °C

<b>Pressures</b>		
Injection	10000 - 18000 psi	69 - 124 MPa
Hold	5000 - 10000 psi	34 - 69 MPa
Back	25 - 50 psi	0.17 - 0.34 MPa

<b>Speeds</b>		
Fill	0.5 - 1 in/sec	13 - 25 mm/sec
Screw	30 - 70 rpm	30 - 70 rpm

<b>Drying</b>		
Time & Temperature	4 Hrs @ 275 °F	4 Hrs @ 135 °C
Dew Point	-20 °F	-29 °C
Moisture Content	0.02 %	0.02 %

#### Notes

- To maximize fiber length, the following injection barrel, screw, and tip designs should be followed: 1.) L/D ratio 16/1 to 22/1. 2.) Compression ratio 2:1. 3.) Flight depth 0.20 in. (5.08 mm) minimum, in feed section. 4.) Screw diameter 0.65 to 0.80 in. (16.51 to 20.32 mm) minimum. 5.) compression section length 12 to 13 diameters. 6.) Check ring valve assembly - free flow type no restrictions. 7.) Nozzle orifice 0.25 in (6.35 mm) diameter.
- Feed throat from hopper to machine must have sufficient opening to prevent bridging of long pellet composition.
- Uses a reverse barrel profile to 'presoak' or 'soften fibers.'
- 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.
- No information supplied by RTP Company constitutes a warranty regarding product performance or use. Any information regarding performance or use is only offered as suggestion for investigation for use, based upon RTP Company or other customer experience. RTP Company makes no warranties, expressed or implied, concerning the suitability or fitness of any of its products for any particular purpose. It is the responsibility of the customer to determine that the product is safe, lawful and technically suitable for the intended use. The disclosure of information herein is not a license to operate under, or a recommendation to infringe any patents.