

PREMIER™ PBT-225

Recommended Processing Guidelines



General

Parker Chomerics PREMIER™ PBT-225 is a single pellet, polybutylene terephthalate (PBT) based, electrically conductive plastic that delivers superior reliability, making metal to plastic housing conversions possible for demanding electronics applications.

PBT-225 was specifically developed to provide a more reliable solution to traditional cube blend (also known as 'salt and pepper blend') conductive resin systems and provide a more efficient alternative to metal and non-conductive plastic housings. The cutting edge processing of PBT-225 into a single pellet composition allows for uniform material dispersion and a tightly controlled conductive material ratio throughout complex geometries, delivering a matrix of polymer and conductive filler.

Process Guidelines

1. Higher back pressure is suggested to promote homogeneous fiber distribution, consistent shot size, and improved surface appearance.
2. Screw speed should be adjusted so that the screw is rotating during the entire cooling cycle.
3. PREMIER PBT-225 performs well with a standard nozzle and typically a 5/32"

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THE RECIPIENT OF THIS DOCUMENT, THROUGH ITS OWN ANALYSIS AND TESTING IS SOLELY RESPONSIBLE FOR MAKING THE FINAL SELECTION OF THE APPLICABLE SYSTEM AND COMPONENTS AND ASSURING THAT ALL PERFORMANCE, ENDURANCE, MAINTENANCE, SAFETY AND WARNING REQUIREMENTS OF THE APPLICATION ARE MET.

Table 1 - Processing Parameters

Drying Temperature	°F (°C)	250 (121)
Drying Time, Typical	hours	4
Drying Time, Maximum	hours	12
Suggested Maximum Moisture	%	0.02
Rear Temperature	°F (°C)	485-515 (252-268)
Middle Temperature	°F (°C)	485-515 (252-268)
Front Temperature	°F (°C)	490-520 (254-271)
Nozzle Temperature	°F (°C)	490-520 (254-271)
Processing (Melt) Temperature	°F (°C)	490-520 (254-271)
Mold Temperature	°F (°C)	100-140 (38-60)
Back Pressure	Psi (bar)	100 (6.9)
Screw Speed	RPM	100
Clamp Pressure	tons/in ² (MPa/cm ²)	3-5 (41-69)
Cushion	inch (mm)	0.2 (5.08)

4. "0" diameter can be used for parts that have 1/16" – 1/8" thick wall sections.
4. Residence time in the barrel should be kept as short as possible. Although not mandatory, hot runner systems with valve gates can be used for cost control through process scrap reduction and elimination of secondary de-gating.
5. Short fill times are recommended. Fast fill speeds will provide longer flow, fill thinner wall sections, and give better knit line strength.
6. Colder mold temperatures will facilitate better migration of fiber to the surface of the part. This will improve surface conductivity, thereby promoting better grounding and improved shielding effectiveness.

Processing Benefits

- No dry blending = No weighing and High machine up time
- Processing similar to non-conductive systems
- Environmentally friendly and recyclable
- Global supply
- High EMI shielding at a low cost
- Consistent high part yield