



Polifil® Glass Reinforced Polypropylene

Handling

Polypropylene does not absorb atmospheric moisture, however reinforced resins may harbor surface moisture. Reseal opened containers as soon as possible. To avoid condensation on the resin during cold weather, material should be stored in unopened containers at room temperature for at least 24 hours.

Pre-Drying

Many polypropylene resins and applications do not require pre-drying. Critical appearance applications, use of older resin stocks, or transfer of material from colder to warmer storage conditions may make pre-drying necessary. Pre-drying is also recommended whenever moisture splay or voiding is seen in molded parts.

Recommended drying conditions are 1 to 2 hours at 180-220°F (82-104°C). A dehumidified air (desiccant) dryer is recommended but simple hot air dryers may also be used. Return air filters should be checked regularly to insure proper air flow. DO NOT dry in excess of 24 hours or discoloration and property deterioration may result.

Mold Surface Temperature

Higher mold temperatures generally produce higher luster on parts molded for polypropylene, with lower molded-in stress. Glass reinforced grades require appearance-side mold temperatures between 120 and 150°F (49-66°C). For maximum efficiency, the appearance half of the mold (usually the cavity) can be run at these temperatures, while the other half (usually the core) is run at the minimum temperature possible without condensation, generally 50-80°F (10-27°C).

Molding Temperatures

Stock melt temperatures should be kept within a range of 450-500°F (232-260°C), with best results normally obtained in the middle. Shot size, part geometry, residence time, and cooling patterns should all be considered.

Recommended zone settings are as follows:

REAR	410-430°F	(210-221°C)
MIDDLE	420-440°F	(216-227°C)
FRONT	440-460°F	(227-238°C)
NOZZLE	440-480°F	(227-249°C)

Machine Settings

Polypropylene is a crystalline resin with low viscosity and rapid cooling characteristics. Where mold design allows, fast injection speeds should be used to maximize appearance and limit molded-in stresses. Slower injection speeds will result in obvious glass fiber marks on the parts. Packing pressure must be maintained until the gate solidifies (or until the part is solidified for hot drops) or excessive warp and sink marks will result. Slow to moderate screw speed, 30-60 RPM, and low to moderate back pressure, 25-75 psi, is appropriate for glass reinforced grades.