

POLYETHERIMIDE (PEI) PROCESSING PARAMETERS

General Recommendations:

- PEI is used in applications where high temperature stability is required as well as high physical strength, it is inherently flame resistance and works well when low smoke evolution is necessary. It has excellent electrical insulation properties over a wide range of temperatures; it provides UV stability and chemical resistance. PEI's low coefficient of thermal expansion, when filled, is similar to that of steel and lower than that of zinc or aluminum.
- Screw rotational speed (RPM): speed should be adjusted to handle that molding cycle, but the screw speed should not exceed 400 RPM.
- Shutting down for overnight stops: PEI can be purged with an inert plastic such as HDPE or PMMA. Purging should only begin when injection cylinder temperature is reduced to 260°C. Purge at this temperature until the shot is free of PEI, stand 10 minutes, and repeat. This effort should be repeated until the shot is consistently clear of PEI.

Drying Conditions:

- 4-6 hours at 300°F

Injection Speed and Injection Pressure:

- Medium to fast injection speed should be utilized

Processing Conditions:

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| ▪ Melt Temperature | 460°F - 800°F |
| ▪ Barrel rear | 590°F - 700°F |
| ▪ Barrel middle | 600°F - 735°F |
| ▪ Barrel front | 610°F - 760°F |
| ▪ Nozzle | 620°F - 775°F |
| ▪ Mold | 150°F - 350°F |

Use of Regrind:

- It is not recommended to use more than 20% of regrind material and expect slight decreases in mechanical properties when it is utilized.