



HIGH PERFORMANCE PEEK POLYMERS

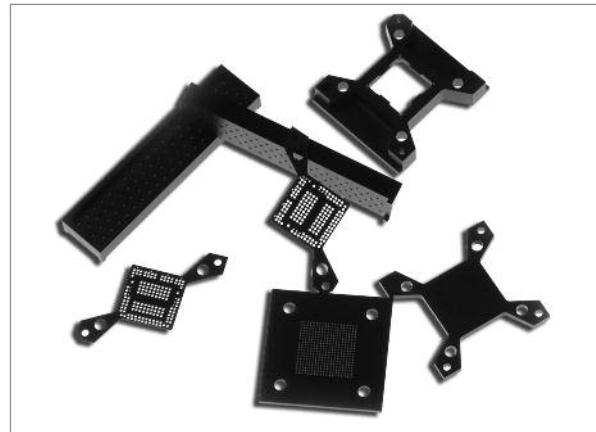
With an unparalleled combination of high performance properties and ease of processing, VICTREX® PEEK polymer is enabling Back-End Test OEMs to enhance their performance with improved molding yields, stronger parts, thinner walls, and lead-free solder processing solutions.

VICTREX PEEK resins not only meet, but exceed customer requirements in a wide range of back-end test applications including high-temperature matrix trays, test sockets, test socket alignment plates, flexible circuit substrates, burn-in test sockets and connectors.

Widely considered to be the highest performance melt processable polymer, semi-crystalline VICTREX PEEK polymer is capable of withstanding extreme environments. It can be readily modified with various filler technologies including carbon fiber, glass, ceramics, and minerals to enhance performance.

KEY FEATURES

- **Dimensional Stability at High Temperatures** — excellent dimensional stability and tolerance control across a broad range of temperature and humidity conditions. Heat resistance up to 260°C (500°F) — highest of all thermoplastics.
- **Mechanical Properties** — maintains impact strength, stiffness, and minimum levels of creep. Unfilled grades have a tensile strength of 16,000 psi; carbon filled grades have a tensile strength of 33,800 psi.
- **Chemical Resistance** — semi-crystalline polymer is insoluble in most common semiconductor chemicals. pH range: 2-14.
- **Hydrolytic Stability** — significantly lower moisture absorption vs. imidized polymers for minimal dimensional change (see Figure 2).
- **Wear Resistance/Lubricity** — inherently lubricious with outstanding wear resistance. Can be further enhanced with additives such as carbon or ceramic fibers. Excels at high PVs and temperature.



- **Precision Manufacturing** — easily processed using conventional injection molding, extrusion, and compression molding techniques. Machines to very tight tolerances. For high volume production, VICTREX 150G and 90G are ideal base resins for precision injection molding.

MATERIAL OF CHOICE

The needs of the industry for smaller pitch IC packages, increased electrical sensitivity and ability to withstand higher temperatures demand VICTREX PEEK polymer. With its unparalleled combination of high performance properties and ease of processing, it is enabling Back-End Test OEMs, as well as fabs worldwide, to design with confidence when dimensional stability is important.

VICTREX PEEK Polymer for Test Socket Applications			
Socket Type →	Machined (stock shapes)	Molded (thick wall >2mm)	Molded (thin wall <2mm)
VICTREX Grade	450G	150G	90G
Conductive <E7 Ω/sq	Conductive filler	Conductive filler	Conductive filler
Dissipative E7-E9 Ω/sq	Conductive filler	Conductive filler	Conductive filler
Antistatic E9-E11 Ω/sq	Mineral/ Conductive filler	Mineral/ Conductive filler	Mineral/ Conductive filler
Insulative >E11 Ω/sq	Unfilled/Glass Mineral	Unfilled/Glass Mineral	Unfilled/Glass Mineral

For Back-End Test Markets

Figure 1: Coefficient of Thermal Expansion

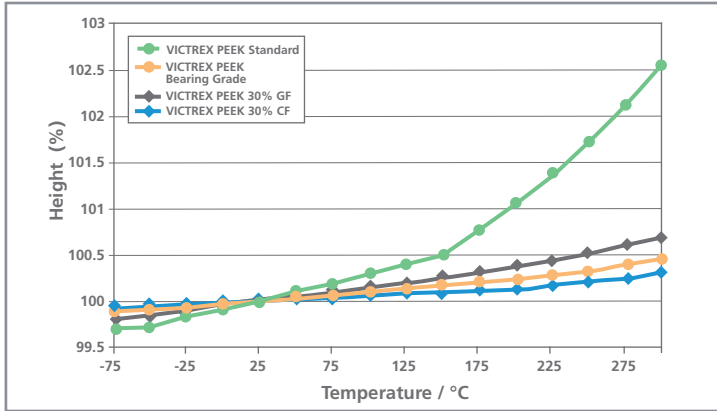


Figure 3: Flexural Modulus vs. Temperature

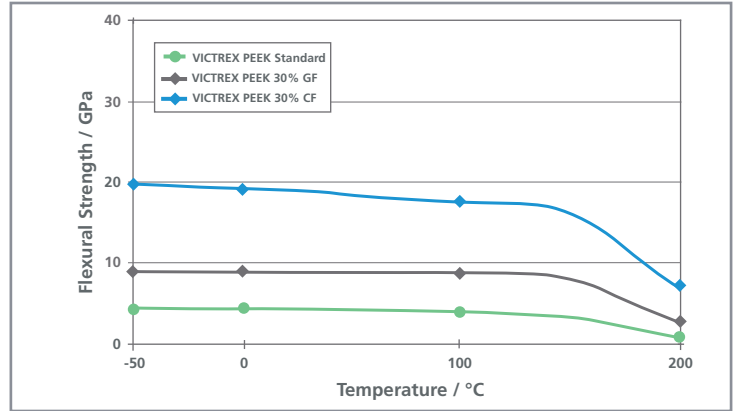
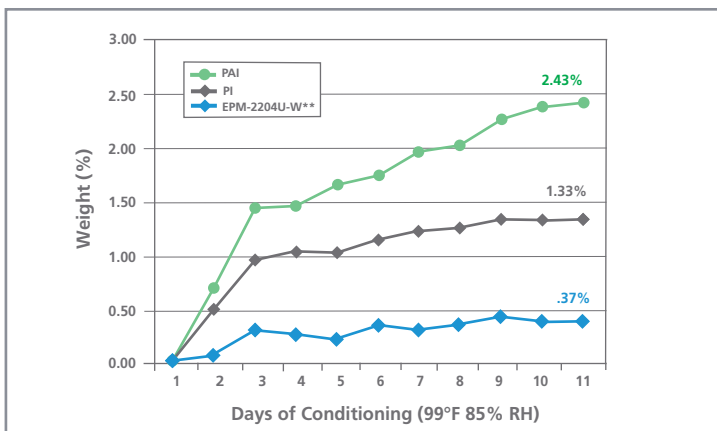
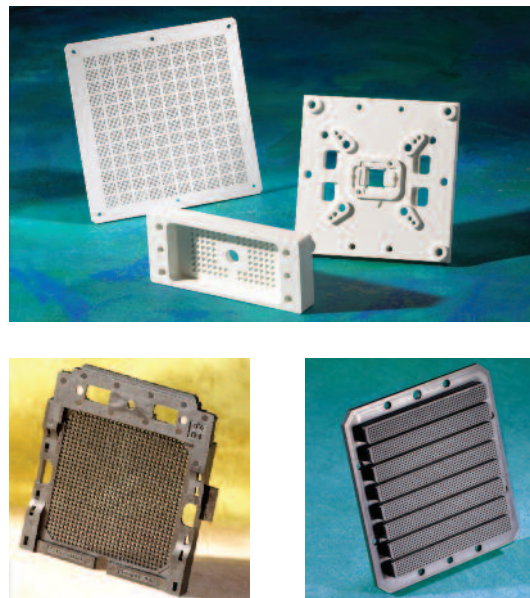


Figure 2: Moisture Absorption*



* Test data supplied by Piper Plastics
 ** This is a proprietary grade based on VICTREX PEEK polymer available from Piper Plastics



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