

Engineering Plastics & Polymers

Semiconductor equipment | Insulating fixtures | General prototyping



PEEK

Polyetheretherketone

High-performance fixture polymer

Precision insulators, handling fixtures, vacuum components.

Max continuous ~250 C | CNC: excellent*



PCTFE

Polychlorotrifluoroethylene

Dimensionally stable barrier plastic

Precision valve seats, seals, cryogenic components.

Max continuous ~120 C | CNC: good



PEI / Ultem

Polyetherimide

Stiff, high-temperature insulation

Fixture frames, electrical mounts, reusable tooling.

Max continuous ~170 C | CNC: good



PPS

Polyphenylene sulfide

Chemical-resistant engineering plastic

Machined supports, electrical housings, fluid parts.

Max continuous ~200 C | CNC: good



Polycarbonate

PC

Tough, transparent prototyping

Guards, camera mounts, enclosures, optical covers.

Max continuous ~115 C | CNC: excellent



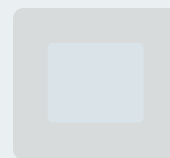
PTFE

Polytetrafluoroethylene

Chemically inert, low friction

Wet-process parts, seals, nonstick interfaces, guides.

Max continuous ~260 C | CNC: good; creeps



Acetal / POM

Delrin-type thermoplastic

Low-cost precision machining

Jigs, alignment tooling, slides, fixture prototypes.

Max continuous ~90-100 C | CNC: excellent



Polyimide / PI

Vespel-type grades

Wear and temperature performance

High-end bushings, hot-stage insulators, vacuum parts.

Service rating grade-specific | CNC: good



PFA

Perfluoroalkoxy polymer

Melt-processable fluoropolymer

High-purity wet benches, tubing, fluid handling.

Max continuous ~260 C | CNC: good; soft



Acrylic / PMMA

Polymethyl methacrylate

Clear and easy to laser cut

Inspection windows, alignment templates, mockups.

Max continuous ~70-90 C | CNC/laser: easy

FAST SELECTION: Machined fixtures: PEEK / POM | Wet chemistry: PTFE / PFA | Hot wear: PI | Transparent: PC / PMMA

Typical unfilled-grade values; additives, sterilization, outgassing, creep and chemical exposure change suitability. *PEEK tooling varies by grade.

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