Celazole ® PBI Applications:

High Heat Insulator Bushings

Bushings used in hot runner plastic injection molds made of Celazole PBI allow the plastic being molded to remain in melt as the part "freezes" in the cool mold. Bushings last longer and ease clean up since hot molten plastics do not stick to PBI. (Prior materials: Vespel* PI, Ceramic)

Electrical Connectors

For an extra margin of safety, an aircraft engine manufacturer replaced connectors exposed to temperatures over 400°F (205°C) with Celazole PBI. (Prior material: Vespel* PI)

Ball Valve Seats

Seats manufactured from Celazole PBI excel in high temperature fluid handling service. (Prior material: Metal)

Clamp Rings

Parts machined from Celazole PBI for gas plasma etching equipment last longer than polyimide parts due to reduced high energy erosion rates. Because they need replacement less often, valuable production "uptime" is gained. (Prior material: Vespel* PI)

Engineering Notes

Celazole PBI is extremely hard and can be challenging to fabricate. Polycrystalline diamond tools are recommended when fabricating production quantities. Celazole tends to be notch sensitive. All corners should be radiused (0.040" min.) and edges chamfered to maximize part toughness. High tolerance fabricated components should be stored in sealed containers (usually polybags with desiccant) to avoid dimensional changes due to moisture absorption. Components rapidly exposed to temperatures above 400°F (205°C) should be "dried" prior to use or kept dry to avoid deformation from thermal shock.