

Advanced Photopolymer

Ceramic-filled (BASF 3280)

This material is a ceramic-filled composite offering an extremely high stiffness of around 10 GPa and an HDT above 536 F (280 C). Typical applications of this material are in short-run tooling and molding.



Applications

- High-accuracy features for testing and validation
- Production-grade parts with excellent throughput
- Smooth matte finish for cosmetic prototypes and production parts

Key Product Benefits

- Superior stiffness
- Excellent temperature performance
- High-suspension stability
- Ceramic-like color and feel

Tolerances

For well-designed parts, tolerances in the X/Y dimension of +/-0.002 in. (0.05mm) for first inch plus 0.1% of nominal length. (0.001mm/mm), and Z dimension tolerances of +/-0.005 in. for first inch plus 0.1% of nominal length, can typically be achieved. Note that tolerances may change depending on part geometry.

Properties

Property	Test Method	Value
Color	—	Off-white
Ceramic content*	—	≈65 wt% silica
Density in solid state*	ASTM D1475	1.73 g/cm ³
Water absorption (20 °C, 50% relative humidity)*	ASTM D570	0.29%
E-module*	ASTM D638, test speed 5mm/min	10600 MPa
Tensile strength*	ASTM D638, test speed 5mm/min	87 MPa
Elongation at break*	ASTM D638, test speed 5mm/min	1.30%
Heat deflection temperature @ 0.46 MPa*	ASTM D648	543 F (284 C)
Heat deflection temperature @ 1.82 MPa*	ASTM D648	270 F (132 C)
Flammability*	UL94	HB @ 1.8mm
Shore hardness*	ASTM D2240	96 (D)

*From supplier data sheet