PROTOLABS
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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

Expected tolerances are +/- 0.010 in. (0.25mm) for the first inch plus 0.1% (0.001mm/mm) of nominal length. Note that tolerances may change depending on part geometry. Please request critical dimensions when you upload your part, and our applications engineers will quickly review and provide feedback.

Properties

Property	Test Method	Value
Color	—	Off-white
Ceramic content*	—	≈65 wt% silica
Density in solid state*	ASTM D1475	1.73 g/cm³
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