DuraForm® ProX® GF Plastic

A rigid, heat-resistant, glass-filled plastic for use with ProX SLS 500 product series and ideal for functional parts.

General Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Sintered Part Density	Internal	1.33 g/cm³	1.33 g/cm³

Mechanical Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Tensile Strength, Ultimate	D638	45 MPa	6550 psi
Tensile Modulus	D638	3720 MPa	540 ksi
Elongation at Break	D638	2.8 %	2.8 %
Flexural Strength	D790	60 MPa	8930 psi
Flexural Modulus	D790	3120 MPa	450 ksi
Hardness, Shore D	D2240	73	73
Impact Strength (notched Izod, 23 °C) @0.12"	D256	48 J/m	0.90 ft-lb/in
Impact Strength (unnotched Izod, 23 °C) @0.12"	D256	207 J/m	3.88 ft-lb/in

* All data generated using 3D Systems reccommended recycle rates

Thermal Properties

MEASUREMENT	CONDITION	METRIC	U.S.
HDT @ 0.45 MPa	D648	180 °C	356 °F
HDT @ 1.82 MPa	D648	129 °C	264 °F
Coefficient of Thermal Expansion (0-50 °C)	E831	85.3 µm/m-°C	47.4 µin/in-°F
Coefficient of Thermal Expansion (85-145 °C)	E831	173.7 µm/m-°C	96.5 µin/in-°F
Specific Heat Capacity	E1269	1.26 J/g-°C	0.3 BTU/lb-°F
Thermal Conductivity	E1530	0.33 W/m-K	2.29 BTU-in/ hr-ft²-°F
Flammability 3.0 mm	UL94	HB	HB

Electrical Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Volume Resistivity (Ω-cm)	D257	7.20×10^{14}	7.20×10^{14}
Surface Resistivity (Ω/sq)	D257	2.76×10^{14}	2.76×10^{14}
Dissipation Factor, 1 KHz	D150	0.051	0.051
Dielectric Constant, 1 KHz	D150	3.31	3.31
Dielectric Strength	D149	18.1 kV/mm	460 kV/in

Features

- Glass-filled composite
- Best in class rigidity and stiffness
- Excellent surface finish and resolution
- Improved thermal resistance versus unfilled materials

Benefits

- Replace molded and CNC-machined glass and mineral-filled plastic articles for short-run production
- Fuel and oil resistance make it perfect for automotive and aerospace applications
- Easy to process

Applications

Automotive/under the hood, intake manifolds and other rigid high-temperature components, aerospace/aviation, enclosures, cases and covers, power tools and small engine components, jigs and fixtures, thermoforming and hydroforming.

3D SYSTEMS

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