

## Description

This material has excellent mechanical stiffness and is very easy to process. It is dimensionally stable and has good load bearing capacity at elevated temperatures. It produces accurate, durable and repeatable end-use parts without tooling as demanded by the manufacturers. It also has improved isotropic shrinkage due to glass filler.

## Thermal Properties\*

<b>Heat deflection temperature</b> ASTM D-648 @66 psi	354°F
<b>Coefficient of thermal expansion</b> ASTM E-381 @0-50°C	34.6x10 <sup>-6</sup> /°F
<b>Specific heat capacity</b> ASTM E-1269	0.261 BTU/lb.-°F
<b>Thermal conductivity</b> ASTM E-1225	3.26 BTU-in./hr-ft.2-°F
<b>Flammability</b> UL 94	HB

## Electrical Properties\*

<b>Volume resistivity</b> ASTM D-257	3.2 x 10 <sup>11</sup> ohm-cm
<b>Surface resistivity</b> ASTM D-257	3.2 x 10 <sup>11</sup> ohm
<b>Dissipation factor, 1KHz</b> ASTM D-150	0.177
<b>Dielectric constant, 1KHz</b> ASTM D-150	6.27
<b>Dielectric strength</b> ASTM D-149	221 kV/in.

## General Properties\*

<b>Appearance</b>	Gray
<b>Specific gravity</b> ASTM D-792	1.49 g/cm3
<b>Moisture absorption, 24 hours</b> ASTM D-570	0.22%

\*Data was generated by building parts under typical default parameters. GF was processed on a base-level Sinterstation HiQ™ SLS® system at 13 watts laser power, 200 inches/sec [5 m/sec] scan speed, and a powder layer thickness of 0.004 inches [0.1 mm].

# GF

## Applications

- Housings, enclosures
- Consumer sporting goods
- Low to mid-volume rapid manufacturing
- Parts requiring machining or joining with adhesives
- Form, fit, or functional prototypes
- Production and prototype plastic parts
- Parts requiring stiffness
- Thermally stressed parts

## Mechanical Properties\*

<b>Hardness</b> ASTM D-2240	77 Shore D
<b>Flexural modulus</b> ASTM D-790	450 ksi
<b>Flexural strength, Ultimate</b> ASTM D-790	5,366 psi
<b>Tensile modulus</b> ASTM D-638	590 ksi
<b>Tensile strength, Ultimate</b> ASTM D-638	3,771 psi
<b>Elongation at break</b> ASTM D-638	1.4%
<b>Impact strength, Notched Izod</b> ASTM D-256	0.8 ft.- lb./in.
<b>Impact strength, Unnotched Izod</b> ASTM D-256	2.3 ft.- lb./in.
<b>Gardner Impact</b> ASTM D-5420	3.3 ft.- lb.

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