

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*

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

Electrical Properties*

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

General Properties*

Appearance	Gray
Specific gravity ASTM D-792	1.49 g/cm ³
Moisture absorption, 24 hours 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*

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

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