

# EX - Specifications

## Description

This material has excellent toughness and is very easy to process. It has excellent impact resistance and repeatable mechanical properties. Parts produced with this material have the toughness of injection molded ABS and polypropylene and functional prototypes can be tested in “real-life” environments.

## Thermal Properties\*

<b>Heat deflection temperature</b> ASTM D-648 @66 psi	370°F
<b>Coefficient of thermal expansion</b> ASTM E-381 @0-50°C	66.7x10 <sup>-6</sup> /°F
<b>Specific heat capacity</b> ASTM E-1269	0.418 BTU/lb.-°F
<b>Thermal conductivity</b> ASTM E-1225	3.5 BTU-in./hr-ft.2-°F
<b>Flammability</b> UL 94	HB

## Electrical Properties\*

<b>Volume resistivity</b> ASTM D-257	1.3 x 10 <sup>13</sup> ohm-cm
<b>Surface resistivity</b> ASTM D-257	4.9 x 10 <sup>12</sup> ohm
<b>Dissipation factor, 1KHz</b> ASTM D-150	0.050
<b>Dielectric constant, 1KHz</b> ASTM D-150	4.5
<b>Dielectric strength</b> ASTM D-149	470 kV/in.

## General Properties\*

<b>Appearance</b>	White
<b>Specific gravity</b> ASTM D-792	1.01 g/cm <sup>3</sup>
<b>Moisture absorption, 24 hours</b> ASTM D-570	0.48%

\*Data was generated by building parts under typical default parameters. EX 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].

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## Applications

- Thin-wall ductwork for Aerospace, Motorsports and Unmanned air vehicles (UAV's)
- Snap-fit parts
- Vehicle dashboard and grilles
- Housings, enclosures, impellers and connectors
- Consumer sporting goods
- Snap-fit parts
- Living hinges
- Bumpers

## Mechanical Properties\*

<b>Hardness</b> ASTM D-2240	74 Shore D
<b>Flexural modulus</b> ASTM D-790	190 ksi
<b>Flexural strength, Ultimate</b> ASTM D-790	6,672 psi
<b>Tensile modulus</b> ASTM D-638	220 ksi
<b>Tensile strength, Ultimate</b> ASTM D-638	6,961 psi
<b>Elongation at break</b> ASTM D-638	47%
<b>Impact strength, Notched Izod</b> ASTM D-256	1.4 ft.- lb./in.
<b>Impact strength, Unnotched Izod</b> ASTM D-256	27.8 ft.- lb./in.
<b>Gardner Impact</b> ASTM D-5420	8.7 ft.- lb.

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