



DuraForm[®] ProX[®] HST Composite

Selective Laser Sintering (SLS)

Composite material with high stiffness and thermal resistance for use with ProX SLS printers.

General Properties

| MEASUREMENT | CONDITION | METRIC | U.S. |
|--|-----------|--------|------|
| Sintered Part Density (g/cm ³) | Internal | 1.12 | 1.12 |

Mechanical Properties

| MEASUREMENT | CONDITION | METRIC | U.S. |
|--|-----------|-----------|------------|
| Tensile Strength, Ultimate (MPa psi) | D638 | 44 M | 6340 |
| Tensile Modulus (MPa ksi) | D638 | 4123 | 600 |
| Elongation at Break | D638 | 4.3 % | 4.3 % |
| Flexural Strength, Ultimate (MPa ksi) | D790 | 75 | 10.8 |
| Flexural Modulus (MPa psi) | D790 | 3430 | 497 |
| Hardness, Shore D | D2240 | 73 | 73 |
| Impact Strength @ 0.12" (J/m ft-lb/in) Notched izod, 23 °C Unnotched izod, 23 °C | D256 | 55 307 | 1.0 5.8 |

* All data generated using 3D Systems recommended recycle rates

Thermal Properties

| MEASUREMENT | CONDITION | METRIC | U.S. |
|---|-----------|------------------|------------------|
| Heat Deflection Temperature @ 0.45 Mpa @ 1.82 Mpa | D648 | 183 °C 171 °C | 361 °F 340 °F |
| Coefficient of Thermal Expansion (µm/m-°C µin/in-°F) @ 0-50 °C @ 85-145 °C | E831 | 153.4 330.4 | 47.4 96.5 |
| Thermal Conductivity (W/m-K BTU-in/hr-ft ² -°F) | E1530 | 0.29 | 2.0 |

Electrical Properties

| MEASUREMENT | CONDITION | METRIC | U.S. |
|-------------------------------------|-----------|-----------------------|-----------------------|
| Volume Resistivity (Ω-cm) | D257 | 1.53x10 ¹⁵ | 1.53x10 ¹⁵ |
| Surface Resistivity (Ω/sq) | D257 | 1.53x10 ¹⁵ | 1.53x10 ¹⁵ |
| Dissipation Factor, 1 KHz | D150 | 0.049 | 0.049 |
| Dielectric Constant, 1 KHz | D150 | 2.95 | 2.95 |
| Dielectric Strength (kV/mm kV/in) | D149 | 16.5 | 419 |

Features

- Proprietary mineral-filled composite
- Exceptional rigidity
- Elevated temperature resistance

Benefits

- Functional prototypes can be tested in "real life" environments
- Complex end-use parts can be economically manufactured in low-to-medium volumes
- Excels in load-bearing applications at higher temperatures

Applications

UAV structural components, housings and enclosures, impellers, connectors, consumer sporting goods, automotive/under the hood, jigs and fixtures.



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