



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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