



DuraForm[®] ProX[®] HST Composite

Composite material with high stiffness and thermal resistance for use with ProX SLS 500 product series.

General Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Sintered Part Density	Internal	1.12 g/cm ³	1.12 g/cm ³

Mechanical Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Tensile Strength, Ultimate	D638	44 MPa	6340 psi
Tensile Modulus	D638	4123 MPa	600 ksi
Elongation at Break	D638	4.3 %	4.3 %
Flexural Strength, Ultimate	D790	75 MPa	10 ksi
Flexural Modulus	D790	3430 MPa	860 psi
Hardness, Shore D	D2240	73	73
Impact Strength (notched Izod, 23°C) @ 0.12"	D256	55 J/m	1.0 ft-lb/in
Impact Strength (unnotched Izod, 23°C) @ 0.12"	D256	307 J/m	5.8 ft-lb/in

* All data generated using 3D Systems recommended recycle rates

Thermal Properties

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

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	D149	16.5 kV/mm	419 kV/in

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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