



DuraForm[®] ProX[®] PA Plastic

Strong, tough plastic that stands up to the rigors of long-term real world use replacing traditionally injection molded articles.

General Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Sintered Part Density (g/cm ³)	Internal	0.95	0.95

Mechanical Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Tensile Strength, Ultimate (MPa psi)	D638	50	6530
Tensile Strength, Break (MPa psi)	D638	50	6820
Tensile Modulus (MPa ksi)	D638	1770	260
Elongation at Yield	D638	14 %	14 %
Elongation at Break	D638	22 %	22 %
Flexural Strength (MPa psi)	D790	60	9140
Flexural Modulus (MPa psi)	D790	1650	240
Hardness, Shore A	D2240	73	73
Impact Strength @0.12" (J/m ft-lb/in)	D256		
Notched Izod, 23 °C		45	0.84
Unnotched Izod, 23 °C		644	12.1

Thermal Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Heat Deflection Temperature @ 0.45 MPa @ 1.82 MPa	D648	182 °C 97 °C	360 °F 207 °F
Coefficient of Thermal Expansion (µm/m-°C µin/in-°F) @ 0-50 °C @ 85-145 °C	E831	109.5 221.7	60.9 123.3
Specific Heat Capacity (J/g-°C BTU/lb-°F)	E1269	1.55	0.37
Thermal Conductivity (W/m-K BTU-in/hr-ft ² -°F)	E1530	0.21	1.46
Flammability 3.0 mm	UL94	HB	HB

Electrical Properties

MEASUREMENT	CONDITION	METRIC	U.S.
Volume Resistivity (Ω-cm)	D257	1.46 x 10 ¹⁵	1.46 x 10 ¹⁵
Surface Resistivity (Ω/sq)	D257	4.66 x 10 ¹⁵	4.66 x 10 ¹⁵
Dissipation Factor, 1 KHz	D150	0.022	0.022
Dielectric Constant, 1 KHz	D150	2.85	2.85
Dielectric Strength (kV/mm kV/in)	D149	15.2	386

Features

- Excellent mechanical properties
- Outstanding surface smoothness
- Stable dimensional and mechanical properties over time
- Exceptional recyclability
- Very high part density
- ISO 10993-5 and ISO 10993-10 capable
- Suitable for manufacture of select medical devices

Benefits

- Developed in conjunction with the ProX SLS 500 to take SLS to a new level of performance and cost effectiveness
- Replace articles that are typically CNC machined or injection molded with this tough plastic
- Exceptional recycling rate reduces waste and decreases production costs
- Expanded utilization of parts

Applications

Functional prototyping and low volume production parts for automotive, aerospace and consumer goods, as well as housings, enclosures, connectors, snapfits and complex assemblies.



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