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/cm³)	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) Notched Izod, 23 °C Unnotched Izod, 23 °C	D256	 45 644	 0.84 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-ft²-°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	1.46×10^{15}	1.46×10^{15}
Surface Resistivity (Ω/sq)	D257	4.66×10^{15}	4.66×10^{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

To order DuraForm ProX PA, please request 24168-902 (7.5kg bottle).

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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