



# 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	Internal	0.95 g/cm <sup>3</sup>	0.95 g/cm <sup>3</sup>

## Mechanical Properties

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

## Thermal Properties

MEASUREMENT	CONDITION	METRIC	U.S.
HDT @ 0.45 MPa	D648	182 °C	360 °F
HDT @ 1.82 MPa	D648	97 °C	207 °F
Coefficient of Thermal Expansion (0-50 °C)	E831	109.5 µm/m-°C	109.5 µm/m-°C
Coefficient of Thermal Expansion (85-145 °C)	E831	221.7 µm/m-°C	221.7 µm/m-°C
Specific Heat Capacity	E1269	1.55 J/g-°C	1.55 J/g-°C
Thermal Conductivity	E1530	0.21 W/m-K	0.21 W/m-K
Flammability 3.0 mm	UL94	HB	HB

## Electrical Properties

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

## 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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