

# Nylon

Nylon is a strong, silky-textured thermoplastic and the generic designation for the polyamide family of synthetic polymers. It is a versatile material with excellent abrasion resistance and a low coefficient of friction, making it an ideal substitute for a wide range of materials, from rubber to steel. Relatively easy to fabricate and machine, nylon is one of the world's most commonly used polymers and can be processed by injection moulding, extrusion and casting.

<i>Key Properties</i>		<i>Units</i>	<i>Test Method</i>
<b>General</b>			
Density	1.15 (0.041)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )	ISO 1183
Density relative to water (=1)	1.15	-	ISO 1183
Water absorption (24 hrs)	1.20	%	ISO 62
<b>Thermal</b>			
Continuous Service Temperature	90 (176) - 105 (221)	°C (°F)	-
Minimum Service Temperature	-30 (-22)	°C (°F)	-
Heat Conductivity	0.29	W/mK	DIN 52612
Heat Distortion Temperature (0.46 MPa)	80 (176)	°C (°F)	ISO 75
Glass Transition Temperature (DSC, 20°C/min)	-	°C (°F)	ISO 1137-1/-2
Linear Thermal Expansion (23-100°C, average)	9.0	x10 <sup>-5</sup> / °C	DIN 53752
Melting Point	215 (419)	°C (°F)	ISO 11357-1/-3
Flammability Rating	HB	-	UL 94
<b>Mechanical</b>			
Impact Strength, Notched Izod @ 23°C	7.0 (3.32)	kJ/m <sup>2</sup> (ft-lbs/in <sup>2</sup> )	ISO 180/A
Charpy Impact Strength, Notched	3.5	kJ/m <sup>2</sup>	ISO 179-1
Charpy Impact Strength, Unnotched	No break	kJ/m <sup>2</sup>	ISO 179-1
Tensile Modulus of Elasticity	3600	MPa	ISO 527-1/-2
Elongation at Yield	5	%	ISO 527-1/-2
Elongation at Break	25	%	ISO 527-1/-2
Ball Indentation Hardness	165	N/mm <sup>2</sup>	ISO 2039-1
Hardness – Rockwell & Burnell	88	M scale	ISO 2039-2
<b>Electrical</b>			
Volume Resistivity	>10 <sup>12</sup>	Ohm	IEC 60093
Surface Resistivity	>10 <sup>12</sup>	Ohm	IEC 60093

## Notes

Figures shown are for panel thickness 3mm

*DISCLAIMER: The purpose of this data sheet is to enable a consistent comparison with other products to help users to make an informed choice. The information provided in this product data sheet is for comparison and reference purposes only and is based on generic information gathered from a number of sources. In some cases the data provided is an average value only and represents our best attempt to describe the material's properties under typical factory conditions. We make no representations or warranties as to the completeness or accuracy of any of the data contained in this data sheet and users should use them as a general decision-making guide only. Branded data sheets are available on request. The information contained in this data sheet is subject to copyright. This data sheet cannot be reproduced for commercial purposes, apart from assisting users with making a purchasing decision, without the express permission of Plastic Wholesale.*