

# Oil-filled Nylon

Oil-filled nylon, also known by popular brand names such as **Ertalon®** LFX and **Sustaglide**, is created by adding lubricant oil to the polyamide structure of nylon, resulting in a thermoplastic that has similar properties to standard cast nylon but offers up to 50% less friction and as much as 10 times better wear resistance.

The self-lubricating nature of oil-filled nylon rods and sheets make them ideal for slow moving, highly loaded machine parts.

<i>Key Properties</i>		<i>Units</i>	<i>Test Method</i>
<b>General</b>			
Density	1.13 (0.041)	g/cm <sup>3</sup> (lb/in <sup>3</sup> )	ISO 1183
Water absorption (24 hrs)	0.66	%	ISO 62
<b>Thermal</b>			
Continuous Service Temperature (5000 hours)	105 (221)	°C (°F)	-
Minimum Service Temperature	-20 (-4)	°C (°F)	-
Heat Conductivity	0.28	W/mK	-
Heat Distortion Temperature (1.80 MPa)	75 (167)	°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	4.0	kJ/m <sup>2</sup>	ISO 179-1
Charpy Impact Strength, Unnotched	50	kJ/m <sup>2</sup>	ISO 179-1
Tensile Modulus of Elasticity	3000	MPa	ISO 527-1/-2
Elongation at Yield	5	%	ISO 527-1/-2
Elongation at Break	25	%	ISO 527-1/-2
Ball Indentation Hardness	145	N/mm <sup>2</sup>	ISO 2039-1
Hardness – Rockwell & Burnell	82	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

Ertalon® is a registered trademark of the Quadrant Group

**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.

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