

# OmniAmid® PA6 G-OIL

Cast Polyamide 6 (Cast Nylon + Liquid Oil Lubricant)

**PA6 G-OIL** is an internally oil lubricated semi-crystalline thermoplastic polyamide, designed for sliding applications. Exhibiting marked improvements in limiting wear-rate and abrasion resistance.

Properties	Test method	Unit	Value
<b>Mechanical</b>			
Tensile strength	ISO 527	MPa	75
Elongation at break	ISO 527	%	35
Modulus of elasticity (tensile)	ISO 527	MPa	3100
Modulus of elasticity (flexural)	ISO 178	MPa	3000
Notch impact strength	ISO 179	KJ / m <sup>2</sup>	8
Flexural strength	ISO 178	MPa	110
Compressive stress 5 % strain	ISO 604	MPa	85
Compressive modulus	ISO 604	MPa	2300
Shore hardness	ISO 868	D	82
Rockwell hardness	ISO 2039	M	85
Ball indentation hardness	ISO 2039	MPa	160
<b>Thermal</b>			
Melting temperature	ISO 3146	°C	220
Glass transition temperature (Tg)	ISO 11357	°C	40
Thermal conductivity	ISO 22007	W / (m * K)	0,28
Coef. of linear thermal expansion	ISO 11359	10 <sup>-4</sup> / K	0,8
Long term service temperature	See note *	°C	-30 → 100
Short term service temperature	See note *	°C	160
Heat deflection temperature	ISO 75 HDT/A	°C	80
Flammability	UL 94	-	HB
Flammability (oxygen index)	ISO 4589	%	25
<b>Electrical</b>			
Dielectric constant at 1MHz	IEC 60250	10 <sup>6</sup> Hz	3,7
Dissipation factor at 1MHz	IEC 60250	10 <sup>6</sup> Hz	0,05
Volume resistivity	IEC 60093	Ω * cm	≥ 10 <sup>15</sup>
Surface resistivity	IEC 60093	Ω	≥ 10 <sup>13</sup>
Dielectric strength	IEC 60243	kV / mm	22
Tracking resistance (CTI)	IEC 60112	V	600
<b>Additional Data</b>			
Density	ISO 1183-1	g / cm <sup>3</sup>	1,14
Water absorption (saturation)	ISO 62	%	4,8
Humidity absorption (saturation)	ISO 62	%	1,4
Food compliance	EEC	-	-
Food compliance	FDA	-	Yes (natural MTO only)
Coefficient of Friction (pin-on-disk)	ISO 7148-2	-	<0,20
<b>Shapes</b>	Rod ( Ø50 → 180)	Sheet (10 → 60)	
<b>Colours</b>	Yellow	Yellow	

- **Oil filled cast nylon 6** offers enhanced abrasion resistance and low friction properties in applications where self-lubrication is required.

*The conditioned material values stated are average test results. The data provides information about our products and offers a guide for material selection. This does not provide an assurance of specific properties or the products suitability for a particular application.*

*It solely remains the customers responsibility to test and assess the suitability and compatibility of Plastem's products for its intended applications, processes and uses. The customer undertakes all liability in respect of the application, processing or use of the aforementioned information or product.*

- \* Long term service temperature are based on the thermal ageing of the polymer by oxidation, resulting in a decrease in mechanical capabilities
- \* Short term service temperature only applies to very low mechanical stress for a very limited time only.

*Properties can vary depending on the raw shape selected and the degree of crystallisation. The actual property values of a finished product may differ from the indicated values stated.*