

Omnia Plastica Omniamid PA6 G - G - at 50% RH

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Cast

Material Notes:

Cast nylon 6. The method of production of this polyamide (i.e. the polymerisation of the caprolactam directly in the mould) allows the production of stock shapes in larger than normal dimensions, such as big rings or very thick sheets. The general features are similar to those of PA66.6, which means that it is stiffer and more brittle than extruded PA6. Features: Wear resistance: good even in demanding environments. Tensile stress and compressive strength: the toughness is better than that of extruded PA6 and fatigue resistance is very high. Self-lubricating: the friction coefficient is low and generally for sliding applications it does not require lubricators. Ageing resistance: weatherproof, with good resistance at low temperature. Natural colour. Weak Point: Like extruded nylon 6 it is hygroscopic. Due to its high fragility (in comparison with extruded PA6) it is advisable to use cast nylon for larger-sized pieces. Because of the molecular structure, large-sized cast pieces have a better quality than those of small dimensions. Application: Mechanical: thanks to the possibility of obtaining large-sized pieces this material is widely used in the mechanical field to produce large diameters gears, cams, pulleys, wheels and anti-wear guides. In the building of parts for construction machines, excavators and earthmovers it is used for gear wheels, guide bearings, sliding bearings, etc. Food contact: generally it is not used in contact with food. Electrical: usage in the electrical field is to be avoided as the electrical properties change with the moisture content. Chemical: it is resistant to alkali, inorganic compounds and solvents. Information provided by Omnia Plastica s.p.a. for semifinished products such as sheet, rod, and tube.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Omnia-Plastica-Omniamid-PA6-G-G-at-50-RH.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	ISO.1183 DIN.53479
Moisture Absorption at Equilibrium	2.4 %	2.4 %	50% relative humidity (beginning dry)
Water Absorption at Saturation	7.0 %	7.0 %	23°C (beginning dry)

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	100 MPa	14500 psi	ISO2039.1 DIN.53456
Tensile Strength at Break	58.0 MPa	8410 psi	ISO.527 DIN.53455
Elongation at Break	100 %	100 %	ISO.527 DIN.53455
Tensile Modulus	1.90 GPa	276 ksi	ISO.527 DIN.53455
Compressive Strength	7.00 MPa	1020 psi	1% strain over 1000 hours; ISO.899 DIN.53444
Charpy Impact Unnotched	NB	NB	7.5 J; ISO.R179 DIN.53453
Charpy Impact, Notched	2.30 J/cm ²	10.9 ft-lb/in ²	ISO179/3C DIN.53453
Coefficient of Friction, Dynamic	0.42	0.42	on dry ground steel; load =0.05MPa; speed =0.6 m/s (dry sample)

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	dry sample
	@Temperature 23.0 - 60.0 $^{\circ}\text{C}$	@Temperature 73.4 - 140 $^{\circ}\text{F}$	
Thermal Conductivity	0.280 W/m-K	1.94 BTU-in/hr-ft ² - $^{\circ}\text{F}$	DIN.52612 (dry sample)
Melting Point	220 $^{\circ}\text{C}$	428 $^{\circ}\text{F}$	
Maximum Service Temperature, Air	100 $^{\circ}\text{C}$	212 $^{\circ}\text{F}$	Maximum operating temperature continuously for 5000 hours based on a tensile stress of 50% at 23 $^{\circ}\text{C}$. (dry sample)
	160 $^{\circ}\text{C}$	320 $^{\circ}\text{F}$	short period, no load (dry sample)
Deflection Temperature at 1.8 MPa (264 psi)	96.0 $^{\circ}\text{C}$	205 $^{\circ}\text{F}$	ISO.75 DIN.53461 (dry sample)
Minimum Service Temperature, Air	-30.0 $^{\circ}\text{C}$	-22.0 $^{\circ}\text{F}$	impact conditions and heavy loads not considered (dry sample)

Electrical Properties	Metric	English	Comments
Dielectric Constant	7.0	7.0	ISO.250 DIN.53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China