

Omnia Plastica Akulon® PA 66 - Akulon 66 - at 50% RH

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Unreinforced

Material Notes:

Polyamide obtained by the polymerisation of Hexamethylenediamine and Adipic acid. It is one of the oldest engineering plastics, having been created in the USA in 1930. Due to its origin it is widely used in the American and English markets. In comparison to PA6 it is more stiff and tougher but is also more brittle. It is advisable to use PA66 instead of Polyamide 6 when a higher stiffness is required to the detriment of resilience. It can be easily machined on automatic machine tools. All our stock shapes made of PA 66 are marked along the whole length with product code and batch number, according to ISO 9002 standards. Features: Wear resistance: it is good even in demanding environments. Self-lubricating: the friction coefficient is low and generally for sliding application it does not require lubricators. Toughness: very high tensile stress and compressive strength. Its toughness is higher than that of Polyamide 6. Machining on automatic machine tools is shown to be easy as the shavings break thanks to its higher toughness. Ageing resistance and weatherproof. Natural colour. Weak Point: It is hygroscopic, even if to a lesser extent than PA6. It absorbs moisture in time and consequently the mechanical features and the final dimensions will change. Application: Mechanical: because it has a higher stiffness than PA6 it is used for mechanical applications when this feature is more important than that of shock resistance: suitable for gears, cams, pulleys, anti-wear guides, wheels and mechanical parts. Like Akulon GX, it machines very easily on automatic tools. Food contact: in some cases it can be used in contact with food. Electrical: use in the electrical field is to be avoided as the electrical features 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-Akulon-PA-66-Akulon-66-at-50-RH.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in ³	ISO.1183 DIN.53479
Moisture Absorption at Equilibrium	2.6 %	2.6 %	50% relative humidity (beginning dry)
Water Absorption at Saturation	8.0 %	8.0 %	23°C (beginning dry)

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	100 MPa	14500 psi	ISO2039.1 DIN.53456
Tensile Strength at Break	61.0 MPa	8850 psi	ISO.527 DIN.53455
Elongation at Break	150 %	150 %	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	1.80 J/cm ²	8.57 ft-lb/in ²	ISO179/3C DIN.53453
	0.42	0.42	on dry ground steel; load =0.05MPa;

Coefficient of Friction, Dynamic Mechanical Properties	Metric	English	speed =0.6 m/s (dry sample) Comments
Thermal Properties	Metric	English	Comments
CTE, linear	85.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 60.0 °C	47.2 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 140 °F	dry sample
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft ² - °F	DIN.52612 (dry sample)
Melting Point	255 °C	491 °F	
Maximum Service Temperature, Air	95.0 °C	203 °F	Maximum operating temperature continuously for 5000 hours based on a tensile stress of 50% at 23 °C . (dry sample)
	165 °C	329 °F	short period, no load (dry sample)
Deflection Temperature at 1.8 MPa (264 psi)	103 °C	217 °F	ISO.75 DIN.53461 (dry sample)
Minimum Service Temperature, Air	-30.0 °C	-22.0 °F	impact conditions and heavy loads not considered (dry sample)
Electrical Properties	Metric	English	Comments
Dielectric Constant	7.0 @Frequency 1e+6 Hz	7.0 @Frequency 1e+6 Hz	ISO.250 DIN.53483

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