

Nilit Nilamid A3 H G10 50% Glass Reinforced PA66

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 50% Glass Fiber Filled

Material Notes:

Description: Nilamid A3 H G10 (50% Glass Reinforced) is a high strength material, that is used for structural applications. It is easy to mould, and shows outstanding stiffness and creep resistance, even at elevated temperatures. It is used for highly loaded applications like high torque transmission housings, electrical cable holders and tensioners of ski bindings. Key characteristics: High stiffness High strength Good impact strength Excellent thermal performance Good creep resistance Information provided by NILIT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nilit-Nilamid-A3-H-G10-50-Glass-Reinforced-PA66.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in ³	ASTM D792, ISO 1183
Water Absorption	0.50 %	0.50 %	23°C, 24h in H ₂ O; sim. ISO 62
Water Absorption at Saturation	3.5 %	3.5 %	sim. ISO 62
Linear Mold Shrinkage, Flow	0.0020 cm/cm	0.0020 in/in	Euronil
Linear Mold Shrinkage, Transverse	0.0030 cm/cm	0.0030 in/in	Euronil

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	220 MPa	31900 psi	ISO 527, ASTM D638
Elongation at Break	2.0 %	2.0 %	ISO 527, ASTM D638
Tensile Modulus	16.5 GPa	2390 ksi	ISO 527, ASTM D638
Flexural Yield Strength	310 MPa	45000 psi	ISO 178, ASTM D790
	230 MPa	33400 psi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Flexural Modulus	15.0 GPa	2180 ksi	ISO 178, ASTM D790
	9.50 GPa	1380 ksi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Izod Impact, Notched (ISO)	13.0 kJ/m ²	6.19 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	16.0 kJ/m ²	7.61 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	7.00 J/cm ²	33.3 ft-lb/in ²	ISO 179

Mechanical Properties	Metric	English	Comments
	3.50 J/cm ²	76.7 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.60 J/cm ²	7.61 ft-lb/in ²	ISO 179
	1.30 J/cm ²	6.19 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	115 °C	239 °F	20,000 hr; IEC 216
Deflection Temperature at 0.46 MPa (66 psi)	262 °C	504 °F	ISO 75, ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	257 °C	495 °F	ISO 75, ASTM D648
Vicat Softening Point	257 °C	495 °F	49 N; ISO 306, ASTM D1525
	260 °C	500 °F	9.8 N; ISO 306, ASTM D1525
Flammability, UL94	HB	HB	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	HB	HB	
	@Thickness 3.20 mm	@Thickness 0.126 in	
Oxygen Index	27 %	27 %	ASTM D2863
Glow Wire Test	650 °C	1200 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	
	650 °C	1200 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Dielectric Strength	22.0 kV/mm	559 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Comparative Tracking Index	350 V	350 V	Sol. B; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	
	500 V	500 V	

Electrical Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	Comments Sol. A: IEC 112, UL 746A
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Processing Properties	Metric	English	Comments
Nozzle Temperature	285 - 300 °C	545 - 572 °F	
Zone 1	270 - 290 °C	518 - 554 °F	hopper
Zone 2	275 - 290 °C	527 - 554 °F	
Zone 3	285 - 300 °C	545 - 572 °F	
Zone 4	285 - 300 °C	545 - 572 °F	
Melt Temperature	280 - 300 °C	536 - 572 °F	Do not melt above 300°C
Mold Temperature	100 - 120 °C	212 - 248 °F	Preferred
Drying Temperature	80.0 - 85.0 °C	176 - 185 °F	
Dry Time	4 hour	4 hour	
Injection Pressure	70.0 - 100 MPa	10200 - 14500 psi	

Descriptive Properties	Value	Comments
Clamping Force	in tons, 0.7 times the projected surface area in cm ²	
Flammability Rating	B28	FMVSS No. 302, 355x100x1 mm
Heat Resistance - Ball Test	OK	at 125°C, IEC 309
	OK	at 165°C, IEC 309
Holding Pressure	90 Mpa	

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