

Nilit Nilamid B3N Unfilled, Nucleated PA6

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Nucleated

Material Notes:

Description: Nilamid B3N is an unfilled, nucleated NYLON 6. It is fast cycling, and combines ease of processing with good overall mechanical characteristics. Key characteristics: Fast cycling Easy processing Excellent flow Good overall mechanical and thermal performance Good chemical resistance Information provided by NILIT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nilit-Nilamid-B3N-Unfilled-Nucleated-PA6.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	ASTM D792, ISO 1183
Water Absorption	2.5 %	2.5 %	23°C, 24h in H ₂ O; sim. ISO 62
Water Absorption at Saturation	9.5 %	9.5 %	sim. ISO 62
Linear Mold Shrinkage, Flow	0.013 cm/cm	0.013 in/in	Euronil
Linear Mold Shrinkage, Transverse	0.013 cm/cm	0.013 in/in	Euronil

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	85.0 MPa	12300 psi	ISO 527, ASTM D638
Elongation at Break	>= 100 %	>= 100 %	ISO 527, ASTM D638
Elongation at Yield	5.0 %	5.0 %	ISO 527, ASTM D638
Flexural Yield Strength	100 MPa	14500 psi	ISO 178, ASTM D790
	30.0 MPa	4350 psi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Flexural Modulus	2.65 GPa	384 ksi	ISO 178, ASTM D790
	0.600 GPa	87.0 ksi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Izod Impact, Notched (ISO)	3.50 kJ/m ²	1.67 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.50 kJ/m ²	2.14 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179

Mechanical Properties	$\geq 25.0 \text{ J/cm}^2$ Metric	$\geq 119 \text{ ft-lb/in}^2$ English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179
	0.300 J/cm ²	1.43 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	65.0 °C	149 °F	20,000 hr; IEC 216
Deflection Temperature at 0.46 MPa (66 psi)	190 °C	374 °F	ISO 75, ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	75.0 °C	167 °F	ISO 75, ASTM D648
Vicat Softening Point	200 °C	392 °F	49 N; ISO 306, ASTM D1525
	215 °C	419 °F	9.8 N; ISO 306, ASTM D1525
Flammability, UL94	HB	HB	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	HB	HB	
	@Thickness 3.20 mm	@Thickness 0.126 in	
Oxygen Index	23 %	23 %	ASTM D2863
Glow Wire Test	850 °C	1560 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	850 °C	1560 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Dielectric Strength	18.0 kV/mm	457 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Comparative Tracking Index	600 V	600 V	Sol. A; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	
	600 V	600 V	Sol. B; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	

Processing Properties	Metric	English	Comments
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Processing Properties	Metric	English	Comments
Zone 1	230 - 260 °C	446 - 500 °F	hopper
Zone 2	230 - 260 °C	446 - 500 °F	
Zone 3	240 - 270 °C	464 - 518 °F	
Zone 4	240 - 270 °C	464 - 518 °F	
Melt Temperature	240 - 280 °C	464 - 536 °F	Do not melt above 300°C
Mold Temperature	60.0 - 80.0 °C	140 - 176 °F	80°C is 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	SE	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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