

Nilit Nilamid A G5 FR PH1 25% Glass Fiber Reinforced, Flame Retardant PA66

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

Material Notes:

Description: Nilamid A G5 FR PH1 combines flame retardancy with outstanding mechanical performance. This product has a complete yellow card, with RTI and CTI listings. The formulation has been optimized for low phosphate release, to limit the formation of deposits on electrical contacts. The material has a red-brownish natural color. Key characteristics: UL 94 V0 at 1.5 mm High strength and stiffness RTI listing up to 110°C at 0.4 mm High CTI: 600V Low phosphate release Information provided by NILIT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nilit-Nilamid-A-G5-FR-PH1-25-Glass-Fiber-Reinforced-Flame-Retardant-PA66.php

Physical Properties	Metric	English	Comments
Density	1.38 g/cc	0.0499 lb/in ³	ASTM D792, ISO 1183
Water Absorption	0.80 %	0.80 %	23°C, 24h in H ₂ O; sim. ISO 62
Water Absorption at Saturation	5.5 %	5.5 %	sim. ISO 62
Linear Mold Shrinkage, Flow	0.0060 cm/cm	0.0060 in/in	Euronil
Linear Mold Shrinkage, Transverse	0.0080 cm/cm	0.0080 in/in	Euronil

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	150 MPa	21800 psi	ISO 527, ASTM D638
Elongation at Break	2.5 %	2.5 %	
Tensile Modulus	9.00 GPa	1310 ksi	ISO 527, ASTM D638
Flexural Yield Strength	210 MPa	30500 psi	ISO 178, ASTM D790
	125 MPa	18100 psi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Flexural Modulus	8.20 GPa	1190 ksi	ISO 178, ASTM D790
	4.30 GPa	624 ksi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.50 kJ/m ²	4.04 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	3.80 J/cm ²	18.1 ft-lb/in ²	ISO 179

Mechanical Properties	Metric	English	Comments
	2.70 J/cm ²	12.33 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179
	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	120 °C	248 °F	20,000 hr; IEC 216
Deflection Temperature at 0.46 MPa (66 psi)	250 °C	482 °F	ISO 75, ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	245 °C	473 °F	ISO 75, ASTM D648
Vicat Softening Point	250 °C	482 °F	49 N; ISO 306, ASTM D1525
	255 °C	491 °F	9.8 N; ISO 306, ASTM D1525
Flammability, UL94	V-0	V-0	
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-0	V-0	
	@Thickness 3.20 mm	@Thickness 0.126 in	
Oxygen Index	29 %	29 %	ASTM D2863
Glow Wire Test	960 °C	1760 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	
	960 °C	1760 °F	Glow Wire Flammability Index; IEC 694-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Electrical Properties	Metric	English	Comments
Dielectric Strength	20.0 kV/mm	508 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Comparative Tracking Index	500 V	500 V	Sol. A; 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	Sol. B: IEC 112, UL 746A Comments
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Processing Properties	Metric	English	Comments
Nozzle Temperature	275 - 285 °C	527 - 545 °F	
Zone 1	260 - 280 °C	500 - 536 °F	hopper
Zone 2	260 - 280 °C	500 - 536 °F	
Zone 3	270 - 280 °C	518 - 536 °F	
Zone 4	275 - 285 °C	527 - 545 °F	
Melt Temperature	275 - 290 °C	527 - 554 °F	Do not melt above 290°C
Mold Temperature	90.0 - 110 °C	194 - 230 °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	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	
Needle Test	OK	IEC 695-2-2, 1 or 2 mm

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