

Nilit Nilamid A G7 FR PH1 35% Glass Fiber Reinforced, Flame Retardant PA66 (with Red Phosphorous)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66 , 40% Glass Fiber Filled

Material Notes:

Description: Nilamid A G7 FR PH1 combines flame retardancy with outstanding mechanical performance. This product has a UL 94 V0 listing 1.5 and a complete yellow card. 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: Flame retardant, based on red phosphorous. Excellent mechanical performance. UL 94 V0 at 1.5 mm. UL 94 RTI 110°C at 1.5 mm. High CTI (600 V). Brownish natural color. Information provided by NILIT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nilit-Nilamid-A-G7-FR-PH1-35-Glass-Fiber-Reinforced-Flame-Retardant-PA66-with-Red-Phosphorous.php

Physical Properties	Metric	English	Comments
Density	1.48 g/cc	0.0535 lb/in ³	ASTM D792, ISO 1183
Water Absorption	0.60 %	0.60 %	23°C, 24h in H ₂ O; sim. ISO 62
Water Absorption at Saturation	4.5 %	4.5 %	sim. ISO 62
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	Euronil
Linear Mold Shrinkage, Transverse	0.0070 cm/cm	0.0070 in/in	Euronil

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	160 MPa	23200 psi	ISO 527, ASTM D638
Elongation at Break	2.5 %	2.5 %	
Tensile Modulus	11.0 GPa	1600 ksi	ISO 527, ASTM D638
Flexural Yield Strength	250 MPa	36300 psi	ISO 178, ASTM D790
	150 MPa	21800 psi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Flexural Modulus	10.0 GPa	1450 ksi	ISO 178, ASTM D790
	5.00 GPa	725 ksi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Izod Impact, Notched (ISO)	8.50 kJ/m ²	4.04 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	11.0 kJ/m ²	5.23 ft-lb/in ²	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 180/1A Comments
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	ISO 179
	4.00 J/cm ² @Temperature -30.0 °C	19.0 ft-lb/in ² @Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	ISO 179

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)	255 °C	491 °F	ISO 75, ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	248 °C	478 °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	V-1 @Thickness 0.800 mm	V-1 @Thickness 0.0315 in	
	V-0 @Thickness 1.60 mm	V-0 @Thickness 0.0630 in	
	V-0 @Thickness 3.20 mm	V-0 @Thickness 0.126 in	
Oxygen Index	29 %	29 %	ASTM D2863
Glow Wire Test	775 °C @Thickness 0.800 mm	1430 °F @Thickness 0.0315 in	Glow Wire Ignition Temperature; IEC 695-2-13
	825 °C @Thickness 3.20 mm	1520 °F @Thickness 0.126 in	Glow Wire Ignition Temperature; IEC 695-2-13
	960 °C @Thickness 3.20 mm	1760 °F @Thickness 0.126 in	Glow Wire Flammability Index; IEC 694-2-12
	960 °C @Thickness 0.800 mm	1760 °F @Thickness 0.0315 in	Glow Wire Flammability Index; IEC 694-2-12

Electrical Properties	Metric	English	Comments
Dielectric Strength	21.0 kV/mm	533 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Comparative Tracking Index	550 V	550 V	Sol. A; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	
	550 V	550 V	Sol. B; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	

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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