

Nilit Nilamid B FR HF Unfilled, Flame Retardant, Halogen and Red Phosphorous Free PA6

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, Unreinforced, Flame Retardant

Material Notes:

Description: Nilamid B FR HF is an unfilled, flame retardant NYLON 6 with excellent flow characteristics, outstanding elongation and impact strength and a good thermal performance. Because of its excellent processing characteristics it is often used in complicated components. Typical applications include electrical cooling fans and housings, fuse boxes and carriers, flame retardant cable ties and corrugated tube. This product can be supplied in a full range of colors and has an excellent surface finish. For this reason it is often used in aesthetical components, like public bathroom accessories or trash cans. Key characteristics: Easy processing Good heat aging characteristics: UL RTI listing (mechanical) up to 140°C V0 listing at 0.75 mm Halogen and red phosphorous free Excellent CTI value (600 V) Good impact strength Good elongation Information provided by NILIT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Nilit-Nilamid-B-FR-HF-Unfilled-Flame-Retardant-Halogen-and-Red-Phosphorous-Free-PA6.php

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in ³	ASTM D792, ISO 1183
Water Absorption	2.0 %	2.0 %	23°C, 24h in H ₂ O; sim. ISO 62
Water Absorption at Saturation	9.0 %	9.0 %	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	80.0 MPa	11600 psi	ISO 527, ASTM D638
Elongation at Break	5.0 %	5.0 %	ISO 527, ASTM D638
Tensile Modulus	2.70 GPa	392 ksi	ISO 527, ASTM D638
Flexural Yield Strength	115 MPa	16700 psi	ISO 178, ASTM D790
	50.0 MPa	7250 psi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Flexural Modulus	2.90 GPa	421 ksi	ISO 178, ASTM D790
	0.700 GPa	102 ksi	ISO 178, ASTM D790
	@Temperature 90.0 °C	@Temperature 194 °F	
Izod Impact, Notched (ISO)	3.00 kJ/m ²	1.43 ft-lb/in ²	ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Mechanical Properties	Metric	English	Comments
	4.00 kJ/cm ²	1.50 ft-lb/in ²	ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	12.0 J/cm ²	57.1 ft-lb/in ²	ISO 179
	6.00 J/cm ²	28.6 ft-lb/in ²	ISO 179
	@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	100 °C	212 °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)	70.0 °C	158 °F	ISO 75, ASTM D648
Vicat Softening Point	196 °C	385 °F	49 N; ISO 306, ASTM D1525
	210 °C	410 °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	18.0 kV/mm	457 kV/in	ASTM D149
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties <i>Comparative Tracking Index</i>	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	Sol. B; IEC 112, UL 746A
	600 V	600 V	Sol. A; IEC 112, UL 746A
	@Thickness 3.20 mm	@Thickness 0.126 in	

Processing Properties	Metric	English	Comments
Nozzle Temperature	235 - 265 °C	455 - 509 °F	
Zone 1	225 - 250 °C	437 - 482 °F	hopper
Zone 2	230 - 265 °C	446 - 509 °F	
Zone 3	235 - 265 °C	455 - 509 °F	
Zone 4	235 - 265 °C	455 - 509 °F	
Melt Temperature	230 - 260 °C	446 - 500 °F	Do not melt above 275°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	
Needle Test	OK	IEC 695-2-2, 1 or 2 mm

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