

Ascend Performance Materials Vydyn® R530H NAT Nylon 66, 30% Glass Reinforced, DAM

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

Material Notes:

Vydyn® R530H NAT is general-purpose, heat-stabilized, hydrolysis-resistant, 30% glass-fiber reinforced PA66 resin. Available in natural, it is specifically designed to maximize the retention of physical properties when exposed to anti-freeze solutions at elevated temperatures. This product is lubricated for improved machine feed and flow. Glass-reinforced Vydyn resins provide higher heat distortion temperature, resistance to creep and better dimensional stability when compared with unreinforced PA66. These products have good chemical resistance to a broad range of chemicals including gasoline, hydraulic fluids and most solvents. Vydyn R530H NAT is heat-stabilized to minimize oxidative degradation of the polymer when exposed to elevated temperatures in service. This product provides improved retention of physical properties under exposure to long-term heat. Also, Vydyn R530H NAT has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions. Typical Applications/End Uses: Vydyn R530 NAT has been used for several under-the-hood automotive applications. The hydrolysis-resistant properties make it an excellent candidate for radiator end tank and heater core applications. Availability:Asia PacificEuropeNorth AmericaFiller/Reinforcement:Glass Fiber, 30% Filler by WeightAdditive:Heat StabilizerLubricant Features: Antifreeze ResistantFatigue ResistantGasoline ResistanceGood Chemical ResistanceHeat StabilizedGood FlowHydrolysis Resistant Lubricated Solvent ResistantUses: Automotive Under the Hood Appearance: BlackForms: PelletsProcessing Method: Injection MoldingInformation provided by Ascend Performance Materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-R530H-NAT-Nylon-66-30-Glass-Reinforced-DAM.php

Physical Properties	Metric	English	Comments
Density	1.37 g/cc	0.0495 lb/in ³	ISO 1183
Water Absorption	0.90 % @Time 86400 sec	0.90 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	1.9 %	1.9 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.0040 cm/cm @Diameter 2.00 mm	0.0040 in/in @Diameter 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm @Diameter 2.00 mm	0.0090 in/in @Diameter 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	195 MPa	28300 psi	ISO 527-2
Elongation at Break	3.0 %	3.0 %	ISO 527-2
Tensile Modulus	10.0 GPa	1450 ksi	ISO 527-2
Flexural Strength	270 MPa	39200 psi	ISO 178

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched (ISO)	10.0 kJ/m²	4.76 ft-lb/in²	ISO 180
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	12.0 kJ/m²	5.71 ft-lb/in²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	6.50 J/cm²	30.9 ft-lb/in²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.50 J/cm²	35.7 ft-lb/in²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.00 J/cm²	4.76 ft-lb/in²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.10 J/cm²	5.23 ft-lb/in²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	2.20 µm/m-°C	1.22 µin/in-°F	ISO 11359-2
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	11.0 µm/m-°C	6.11 µin/in-°F	ISO 11359-2
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	
Melting Point	260 °C	500 °F	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	260 °C	500 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	250 °C	482 °F	Unannealed; ISO 75-2/A
UL RTI, Electrical	140 °C	284 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	140 °C	284 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	140 °C	284 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	

Thermal Properties	120 °C Metric	248 °F English	Comments
UL RTI, Mechanical with Impact	@Thickness 0.750 mm	@Thickness 0.0295 in	
	120 °C	248 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	120 °C	248 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	125 °C	257 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	140 °C	284 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	140 °C	284 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Glow Wire Test	675 °C	1250 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	675 °C	1250 °F	Flammability Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	675 °C	1250 °F	Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+13 ohm-cm	1.00e+13 ohm-cm	IEC 60093
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dielectric Strength	20.0 kV/mm	508 kV/in	IEC 60243
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Arc Resistance	60 - 119 sec	60 - 119 sec	ASTM D495
	@Thickness 3.00 mm	@Thickness 0.118 in	
Comparative Tracking Index	250 - 399 V	250 - 399 V	IEC 60112
	@Thickness 3.00 mm	@Thickness 0.118 in	
Hot Wire Ignition, HWI	7.0 - 14 sec	7.0 - 14 sec	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	7.0 - 14 sec	7.0 - 14 sec	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
	15 - 29 sec	15 - 29 sec	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	>= 120 arcs	>= 120 arcs	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	10.1 - 25.4 mm/min	0.398 - 1.00 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	280 - 310 °C	536 - 590 °F	
Middle Barrel Temperature	280 - 310 °C	536 - 590 °F	
Front Barrel Temperature	280 - 310 °C	536 - 590 °F	
Nozzle Temperature	280 - 310 °C	536 - 590 °F	
Melt Temperature	285 - 305 °C	545 - 581 °F	
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	

Processing Properties	Metric	English	Comments
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Suggested Max Regrind	25 %	

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