

Ascend Performance Materials Vydyn® R515H Nylon 66, 15% Glass Reinforced, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 20% Glass Fiber Filled

Material Notes:

Vydyn® R515H is general-purpose, heat-stabilized, hydrolysis-resistant, 15% 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 also lubricated for improved flow and offers superior surface appearance. 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 fluid and most solvents. Vydyn R515H 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 R515H has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions. Typical Applications/End uses: Vydyn R515H is successfully mused in a wide range of injection molding engineering applications, including automotive clips, radiator end tanks, parts of the air-conditioning and petrol distribution system, etc. (under the hood); electrical connectors, housings, bobbins, etc.; and industrial applications such as gears, bearing shells, covers, housings, etc.Availability:Asia PacificEuropeNorth AmericaFiller/Reinforcement:Glass Fiber, 15% Filler by WeightAdditive:Heat StabilizerLubricant Features: Gasoline ResistanceGood Chemical ResistanceGood FlowGood Mold ReleaseGrease ResistantHeat StabilizedHigh RigidityHigh StrengthLubricatedOil ResistantSolvent ResistantUses:Automotive Under the HoodGearsHousingsPower/Other ToolsAppearance: Natural ColorForms: 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-R515H-Nylon-66-15-Glass-Reinforced-DAM.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in³	ISO 1183
Water Absorption	1.0 %	1.0 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	2.2 %	2.2 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.0050 cm/cm	0.0050 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	120 MPa	17400 psi	ISO 527-2
Elongation at Break	3.0 %	3.0 %	ISO 527-2

Tensile Modulus Mechanical Properties	6.60 GPa Metric	957 ksi English	ISO 527-2 Comments
Flexural Strength	170 MPa	24700 psi	ISO 178
Flexural Modulus	5.90 GPa	856 ksi	ISO 178
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	5.70 kJ/m ²	2.71 ft-lb/in ²	ISO 180
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.60 kJ/m ²	3.14 ft-lb/in ²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	3.20 J/cm ²	15.2 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	3.90 J/cm ²	18.6 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	3.00 µm/m-°C	1.67 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)	258 °C	496 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	241 °C	466 °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

Thermal Properties	@Thickness 1.50 mm Metric	@Thickness 0.0591 in English	Comments
	140 °C	284 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	120 °C	248 °F	UL 746
	@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	

Thermal Properties	700 °C Metric	1290 °F English	Comments
	@Thickness 3.00 mm	@Thickness 0.118 in	Ignition Temperature; IEC 60695-2-13

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

Processing Properties	Metric	English	Comments
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	
Drying Temperature	80.0 °C	176 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Suggested Max Regrind	25 %	

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