

## Ascend Performance Materials Vydyne® R550H Nylon 66, 50% Glass Reinforced, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 50% Glass Fiber Filled

### Material Notes:

Vydyne® R550H is general-purpose, heat-stabilized, hydrolysis-resistant, 50% 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 Vydyne 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. Vydyne R550H 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 exposures to long term heat. Also, Vydyne R550H has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions. Typical Applications/End Uses: Vydyne R550H is successfully used in a wide range of injection-molding engineering applications. Typical parts include automotive clips, radiator end-tanks and parts of the air-conditioning and fuel distribution systems; electrical connectors, housings and bobbins; and industrial applications such as gears, bearing shells, covers and housings. Availability:Asia PacificEuropeNorth AmericaFiller/Reinforcement:Glass Fiber, 50% Filler by WeightAdditive:LubricantHeat Stabilizer Features:Good FlowGood Mold ReleaseHeat Stabilized High RigidityHigh Strength Lubricated Uses: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-Vydyne-R550H-Nylon-66-50-Glass-Reinforced-DAM.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-R550H-Nylon-66-50-Glass-Reinforced-DAM.php)

Physical Properties	Metric	English	Comments
Density	1.58 g/cc	0.0571 lb/in <sup>3</sup>	ISO 1183
Water Absorption	0.50 % @Time 86400 sec	0.50 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	1.2 %	1.2 %	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, Yield	240 MPa	34800 psi	ISO 527-2
Elongation at Break	2.5 %	2.5 %	ISO 527-2
Tensile Modulus	16.8 GPa	2440 ksi	ISO 527-2

Mechanical Properties	350 MPa Metric	50800 psi English	ISO 178 Comments
Flexural Modulus	16.0 GPa	2320 ksi	ISO 178
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	16.0 kJ/m <sup>2</sup>	7.61 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	17.0 kJ/m <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	9.10 J/cm <sup>2</sup>	43.3 ft-lb/in <sup>2</sup>	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	9.50 J/cm <sup>2</sup>	45.2 ft-lb/in <sup>2</sup>	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.40 J/cm <sup>2</sup>	6.66 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.50 J/cm <sup>2</sup>	7.14 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	1.20 µm/m-°C	0.667 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	10.0 µm/m-°C	5.56 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)	255 °C	491 °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	

Thermal Properties	140 °C Metric	284 °F English	Comments
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	130 °C	266 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	130 °C	266 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	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	
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	
	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	
	750 °C	1380 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	960 °C	1760 °F	

Thermal Properties	Metric @Thickness 3.00 mm	English @Thickness 0.118 in	Flammability Index; IEC 60695-2-12 Comments
Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm @Thickness 3.00 mm	1.00e+12 ohm-cm @Thickness 0.118 in	IEC 60093
Dielectric Strength	20.0 kV/mm @Thickness 1.00 mm	508 kV/in @Thickness 0.0394 in	IEC 60243
Arc Resistance	120 - 179 sec @Thickness 3.00 mm	120 - 179 sec @Thickness 0.118 in	ASTM D495
Comparative Tracking Index	400 - 499 V @Thickness 1.00 mm	400 - 499 V @Thickness 0.0394 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	
Melt Temperature	285 - 305 °C	545 - 581 °F	

Processing Properties	Metric	English	Comments
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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