

Ascend Performance Materials Vydyne® R533 NT Nylon 66, 33% Glass Reinforced, DAM

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

Material Notes:

Vydyne® R533 NT is general-purpose, 33% glass-fiber reinforced PA66 resin. Available in natural, it is an injection-molding grade that is lubricated for good machine feed, flow and mold release. 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 R533 NT resin has tensile strength and modulus properties just below aluminum and zinc and can replace these metals in numerous applications due to an excellent balance of properties. Reduction in production costs, energy consumption and part weight are key advantages to Vydyne glass-fiber reinforced PA66 resins over aluminum and/or zinc die-cast parts. Typical Applications/End Uses: Vydyne R533 NT resin has been used for many under-the-hood automotive applications, motor housings for power tools and garden appliances. These resins have also been used in miscellaneous brackets, gears and clips that require high rigidity and strength. Availability: Asia Pacific Europe North America Filler/Reinforcement: Glass Fiber, 33% Filler by Weight Additive: Lubricant Features: Good Mold Release High Flow High Rigidity High Strength Lubricated Uses: Automotive Under the Hood Gears Housings Power/Other Tools Appearance: Natural Color Forms: Pellets Processing Method: Injection Molding Information provided by Ascend Performance Materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-R533-NT-Nylon-66-33-Glass-Reinforced-DAM.php

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in ³	ISO 1183
Water Absorption	0.80 % @Time 86400 sec	0.80 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	1.7 %	1.7 %	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	205 MPa	29700 psi	ISO 527-2
Elongation at Break	3.0 %	3.0 %	ISO 527-2
Tensile Modulus	10.6 GPa	1540 ksi	ISO 527-2
Flexural Strength	290 MPa	42100 psi	ISO 178

Flexural Modulus Mechanical Properties	10.2 GPa Metric	1480 ksi English	ISO 178 Comments
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	ISO 180
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	12.0 kJ/m ²	5.71 ft-lb/in ²	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	7.00 J/cm ²	33.3 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.00 J/cm ²	38.1 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.10 J/cm ²	5.23 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	2.10 µm/m-°C	1.17 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	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

Thermal Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	Comments
UL RTI, Mechanical with Impact	100 °C	212 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	100 °C	212 °F	
UL RTI, Mechanical without Impact	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	105 °C	221 °F	
	@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	
	125 °C	257 °F	
Flammability, UL94	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	125 °C	257 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	HB	HB	
Flammability, UL94	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	IEC 60093
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Dielectric Strength	20.0 kV/mm	508 kV/in	IEC 60243
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Arc Resistance	120 - 179 sec	120 - 179 sec	ASTM D495
	@Thickness 3.00 mm	@Thickness 0.118 in	
Comparative Tracking Index	600 V	600 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	

Electrical Properties	7.0 - 14 sec Metric	7.0 - 14 sec English	Comments
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	7.0 - 14 sec	7.0 - 14 sec	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 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	
Drying Temperature	80.0 °C	176 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Suggested Max Regrind	50 %	

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