

## Ascend Performance Materials Vydyne® 41H Nylon 66, Impact Modified, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Impact Grade

### Material Notes:

Vydyne® 41H is a general-purpose, impact-modified PA66 resin. Available in natural, it is heat-stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyne 41H was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated. Vydyne 41H is recognized for all the processing and property advantages inherent to PA66 with the addition of improved impact strength. This resin offers a well balanced combination of engineering properties characterized by high melt point, good surface lubricity, abrasion resistance and resistance to many chemicals, machine and motor oils, solvents and gasoline. Availability: Asia Pacific Europe North America Additive: Impact Modifier Features: Gasoline Resistance Good Abrasion Resistance Good Chemical Resistance Good Processability High Impact Resistance Impact Modified Low Temperature Impact Resistance Oil Resistant Solvent Resistant Uses: Automotive Applications Connectors Consumer Applications Electrical/Electronic Applications Fasteners Gears Industrial Applications 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-41H-Nylon-66-Impact-Modified-DAM.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-41H-Nylon-66-Impact-Modified-DAM.php)

Physical Properties	Metric	English	Comments
Density	1.08 g/cc	0.0390 lb/in <sup>3</sup>	ISO 1183
Water Absorption	1.0 %	1.0 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	2.1 %	2.1 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.018 cm/cm	0.018 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	
Linear Mold Shrinkage, Transverse	0.016 cm/cm	0.016 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	43.0 MPa	6240 psi	ISO 527-2
Tensile Strength, Yield	50.0 MPa	7250 psi	ISO 527-2
Elongation at Break	>= 50 %	>= 50 %	ISO 527-2
Tensile Modulus	1.86 GPa	270 ksi	ISO 527-2
Flexural Strength	53.0 MPa	7690 psi	ISO 178
Flexural Modulus	1.75 GPa	254 ksi	ISO 178
	22.0 kJ/m <sup>2</sup>	10.5 ft-lb/in <sup>2</sup>	

Izod Impact Notched (ISO) Mechanical Properties	Metric @Temperature -40.0 °C	English @Temperature -40.0 °F	ISO 180 Comments
	40.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	19.0 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 180
	78.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	37.1 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179
Charpy Impact, Notched	2.00 J/cm <sup>2</sup> @Temperature -40.0 °C	9.52 ft-lb/in <sup>2</sup> @Temperature -40.0 °F	ISO 179
	3.50 J/cm <sup>2</sup> @Temperature -30.0 °C	16.7 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179
	7.60 J/cm <sup>2</sup> @Temperature 23.0 °C	36.2 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	17.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	9.44 µin/in-°F @Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
CTE, linear, Transverse to Flow	15.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	8.33 µin/in-°F @Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
Melting Point	260 °C	500 °F	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	145 °C	293 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	58.0 °C	136 °F	Unannealed; ISO 75-2/A
UL RTI, Electrical	130 °C @Thickness 0.750 mm	266 °F @Thickness 0.0295 in	UL 746
	130 °C @Thickness 1.50 mm	266 °F @Thickness 0.0591 in	UL 746

Thermal Properties	130 °C Metric	266 °F English	Comments
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	75.0 °C	167 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	75.0 °C	167 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	75.0 °C	167 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	115 °C	239 °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	
	125 °C	257 °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	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	725 °C	1340 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	725 °C	1340 °F	Flammability Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	750 °C	1380 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	750 °C	1380 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	775 °C	1430 °F	

Thermal Properties	Metric @Thickness 3.00 mm	English @Thickness 0.118 in	Flammability Index; IEC 60695-2-12 Comments
<b>Electrical Properties</b>	<b>Metric</b>	<b>English</b>	<b>Comments</b>
Volume Resistivity	1.00e+10 ohm-cm @Thickness 3.00 mm	1.00e+10 ohm-cm @Thickness 0.118 in	IEC 60093
Dielectric Strength	14.0 kV/mm @Thickness 1.00 mm	356 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	600 V @Thickness 3.00 mm	600 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 1.50 mm	7.0 - 14 sec @Thickness 0.0591 in	UL 746
	15 - 29 sec @Thickness 3.00 mm	15 - 29 sec @Thickness 0.118 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	25.5 - 80.0 mm/min	1.00 - 3.15 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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