

## Ascend Performance Materials Vydyne® 47H BK03 Nylon 66, Impact Modified, DAM

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

### Material Notes:

Vydyne® 47H BK03 is a general-purpose, impact-modified PA66 resin. Available in black, it is heat-stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyne 47H BK03 was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated. Vydyne 47H BK03 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. Vydyne 47H BK03 is designed to meet the critical low-temperature impact requirements called out in many automotive specifications. Availability: Asia Pacific Europe North America Additive: Impact Modifier Features: Gasoline Resistance General Purpose Good Abrasion Resistance Good Chemical Resistance Good Processability Good Toughness High Impact Resistance Impact Modified Low Temperature Impact Resistance Low Temperature Toughness Oil Resistant Solvent Resistant Uses: Automotive Applications Connectors Consumer Applications Electrical/Electronic Applications Fasteners Gears Industrial Applications Appearance: Black 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-47H-BK03-Nylon-66-Impact-Modified-DAM.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-47H-BK03-Nylon-66-Impact-Modified-DAM.php)

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in <sup>3</sup>	ISO 1183
Water Absorption	1.2 % @Time 86400 sec	1.2 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	2.3 %	2.3 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.018 cm/cm @Diameter 2.00 mm	0.018 in/in @Diameter 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.016 cm/cm @Diameter 2.00 mm	0.016 in/in @Diameter 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	52.0 MPa	7540 psi	ISO 527-2
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527-2
Elongation at Break	>= 22 %	>= 22 %	ISO 527-2
Tensile Modulus	2.78 GPa	403 ksi	ISO 527-2

Flexural Strength Mechanical Properties	70.0 MPa Metric	10200 psi English	ISO 178 Comments
Flexural Modulus	2.30 GPa	334 ksi	ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	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	
	18.0 kJ/m <sup>2</sup>	8.57 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.10 J/cm <sup>2</sup>	5.23 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.70 J/cm <sup>2</sup>	8.09 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.90 J/cm <sup>2</sup>	9.04 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel 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	
CTE, linear, Transverse to Flow	14.0 µm/m-°C	7.78 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)	185 °C	365 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	63.0 °C	145 °F	Unannealed; ISO 75-2/A
UL RTI, Electrical	130 °C	266 °F	UL 746

Thermal Properties	@Thickness 0.750 mm Metric	@Thickness 0.0295 in English	Comments
	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 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	
	115 °C	239 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	115 °C	239 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	HB	HB	
	@Thickness 3.00 mm	@Thickness 0.118 in	
	HB	HB	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Glow Wire Test	700 °C	1290 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	700 °C	1290 °F	Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	725 °C	1340 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	725 °C	1340 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	

Thermal Properties	<sup>775 °C</sup> Metric	<sup>1430 °F</sup> English	Comments
	@Thickness 1.50 mm	@Thickness 0.0591 in	Flammability Index, IEC 60695-2-12
	800 °C	1470 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+11 ohm-cm	1.00e+11 ohm-cm	IEC 60093
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Dielectric Strength	12.0 kV/mm	305 kV/in	IEC 60243
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Arc Resistance	60 - 119 sec	60 - 119 sec	ASTM D495
Comparative Tracking Index	525 V	525 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 1.50 mm	@Thickness 0.0591 in	
	15 - 29 sec	15 - 29 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	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	

Processing Properties	Metric	English	Comments
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	25 %	

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