

## Ascend Performance Materials Vydyn<sup>®</sup> M344 Nylon 66/6, ignition resistant, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 6/66 , Nylon 66/6, Unreinforced

### Material Notes:

Vydyn<sup>®</sup> M344 is a halogenated, unfilled, flame-retardant PA66/6 copolymer designed with excellent strength and toughness. It is lubricated for machine feed and easy mold release and has an Underwriters Laboratories UL 94 flammability classification of V-0 at 0.4 mm (0.016") thick. Availability: Asia Pacific Europe North America Additive: Halogen Lubricant Features: Ductile Good Mold Release Halogenated Ignition Resistant Low Density Lubricated Uses: Appliances Automotive Electronics Bobbins Connectors Electrical Housing Electrical Parts Electrical/Electronic Applications Fasteners Industrial Applications Lighting Applications Living Hinges Printed Circuit Boards Switches Appearance: Natural Color Forms: Pellets Processing Method: Injection Molding Information provided by Ascend

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Ascend-Performance-Materials-Vydyn-M344-Nylon-666-ignition-resistant-DAM.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-M344-Nylon-666-ignition-resistant-DAM.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ISO 1183
Water Absorption	0.80 %	0.80 %	24 hrs; ISO 62
Moisture Absorption at Equilibrium	1.9 %	1.9 %	Equilibrium at 50%rh; ISO 62
Linear Mold Shrinkage	0.013 cm/cm @Thickness 2.00 mm	0.013 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527-2
Elongation at Break	35 %	35 %	ISO 527-2
Elongation at Yield	5.2 %	5.2 %	ISO 527-2
Tensile Modulus	3.50 GPa	508 ksi	ISO 527-2
Flexural Strength	90.0 MPa	13100 psi	ISO 178
Flexural Modulus	3.00 GPa	435 ksi	ISO 178
Poissons Ratio	0.41	0.41	ISO 527-2
Izod Impact, Notched (ISO)	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	ISO 180
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.520 J/cm <sup>2</sup>	2.47 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.550 J/cm <sup>2</sup>	2.62 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 µm/m-°C	5.56 µin/in-°F	
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
CTE, linear, Transverse to Flow	10.0 µm/m-°C	5.56 µin/in-°F	
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
Melting Point	250 °C	482 °F	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	186 °C	367 °F	ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ISO 75-2/A
UL RTI, Electrical	65.0 °C	149 °F	UL 746B
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	130 °C	266 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	130 °C	266 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	130 °C	266 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	65.0 °C	149 °F	UL 746B
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	65.0 °C	149 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	95.0 °C	203 °F	UL 746B

Thermal Properties	@Thickness 1.50 mm Metric	@Thickness 0.0591 in English	Comments
	96.0 °C	205 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	65.0 °C	149 °F	UL 746B
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	95.0 °C	203 °F	UL 746B
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	95.0 °C	203 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
	96.0 °C	205 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Flammability, UL94	V-0	V-0	
	@Thickness 0.400 - 3.00 mm	@Thickness 0.0157 - 0.118 in	
Oxygen Index	30 %	30 %	ASTM D2863
Glow Wire Test	700 °C	1290 °F	Ignition Temp; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	700 °C	1290 °F	Ignition Temp; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	725 °C	1340 °F	Ignition Temp; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	960 °C	1760 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	960 °C	1760 °F	Flammability Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	960 °C	1760 °F	Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 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	
	26.0 kV/mm	660 kV/in	

Dielectric Strength Electrical Properties	Metric @Thickness 1.00 mm	English @Thickness 0.0394 in	IEC 60243 Comments
Arc Resistance	60 - 119 sec @Thickness 3.00 mm	60 - 119 sec @Thickness 0.118 in	ASTM D496
Comparative Tracking Index	400 - 599 V @Thickness 3.00 mm	400 - 599 V @Thickness 0.118 in	IEC 60112
Hot Wire Ignition, HWI	>= 120 sec @Thickness 0.750 mm	>= 120 sec @Thickness 0.0295 in	UL 746A
	>= 120 sec @Thickness 1.50 mm	>= 120 sec @Thickness 0.0591 in	UL 746A
	>= 120 sec @Thickness 3.00 mm	>= 120 sec @Thickness 0.118 in	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs @Thickness 0.750 mm	>= 120 arcs @Thickness 0.0295 in	UL 746A
	>= 120 arcs @Thickness 1.50 mm	>= 120 arcs @Thickness 0.0591 in	UL 746A
	>= 120 arcs @Thickness 3.00 mm	>= 120 arcs @Thickness 0.118 in	UL 746A
High Voltage Arc-Tracking Rate, HVTR	10.1 - 25.4 mm/min	0.398 - 1.00 in/min	UL 746A

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	240 - 270 °C	464 - 518 °F	
Middle Barrel Temperature	240 - 270 °C	464 - 518 °F	
Front Barrel Temperature	240 - 270 °C	464 - 518 °F	
Nozzle Temperature	240 - 270 °C	464 - 518 °F	
Melt Temperature	250 - 270 °C	482 - 518 °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
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Suggest Max Repeat  
Descriptive Properties

25%  
Value

Comments

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China