

Ascend Performance Materials Vydyn® ECO315 BK13 Nylon 66, Flame Retardant, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Unreinforced, Flame Retardant

Material Notes:

Vydyn® ECO366 BK13 is a non-halogenated, unfilled, flame-retardant PA66 homopolymer designed with superior flow properties to assist in filling thin-walled, intricate parts. It is lubricated for machine feed and easy mold release and has Underwriters Laboratories UL 94 flammability classification of V-0 at 0.4 mm (0.016") thick. Availability: Asia Pacific Europe North America Additive: Flame Retardant Lubricant Features: Ductile Flame Retardant Good Crack Resistance Good Mold Release Good Toughness Halogen Free 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: 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-Vydyn-ECO315-BK13-Nylon-66-Flame-Retardant-DAM.php

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in³	ISO 1183
Water Absorption	0.80 % @Time 86400 sec	0.80 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	2.3 %	2.3 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.0090 cm/cm @Diameter 2.00 mm	0.0090 in/in @Diameter 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0060 cm/cm @Diameter 2.00 mm	0.0060 in/in @Diameter 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	4.00 MPa	580 psi	ISO 527-2
Tensile Strength, Yield	83.0 MPa	12000 psi	ISO 527-2
Flexural Strength	107 MPa	15500 psi	ISO 178
Flexural Modulus	3.90 GPa	566 ksi	ISO 178
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	6.00 kJ/m²	2.86 ft-lb/in²	ISO 180
Charpy Impact Unnotched	7.50 J/cm² @Temperature 23.0 °C	35.7 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eU

Mechanical Properties	7.80 J/cm ² Metric	37.1 ft-lb/in ² English	Comments ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.340 J/cm ²	1.62 ft-lb/in ²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.370 J/cm ²	1.76 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
Melting Point	265 °C	509 °F	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	240 °C	464 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	75.0 °C	167 °F	Unannealed; ISO 75-2/A
UL RTI, Electrical	120 °C	248 °F	UL 746
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	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
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical with Impact	75.0 °C	167 °F	UL 746
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	80.0 °C	176 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	80.0 °C	176 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	80.0 °C	176 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	105 °C	221 °F	UL 746
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	110 °C	230 °F	UL 746

Thermal Properties	@Thickness 0.750 mm Metric	@Thickness 0.0295 in English	Comments
	110 °C	230 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	110 °C	230 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-0	V-0	
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	V-0	V-0	
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Glow Wire Test	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	960 °C	1760 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	960 °C	1760 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 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	
	960 °C	1760 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	960 °C	1760 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties	1.00e+10 ohm-cm Metric	1.00e+10 ohm-cm English	Comments
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Dielectric Strength	17.0 kV/mm	432 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 0.400 mm	@Thickness 0.0157 in	
	7.0 - 14 sec	7.0 - 14 sec	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	15 - 29 sec	15 - 29 sec	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	30 - 59 sec	30 - 59 sec	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	30 - 59 arcs	30 - 59 arcs	UL 746
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	60 - 119 arcs	60 - 119 arcs	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	60 - 119 arcs	60 - 119 arcs	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	60 - 119 arcs	60 - 119 arcs	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	260 - 290 °C	500 - 554 °F	
Middle Barrel Temperature	260 - 290 °C	500 - 554 °F	
Front Barrel Temperature	260 - 290 °C	500 - 554 °F	
Nozzle Temperature	260 - 290 °C	500 - 554 °F	

Processing Properties	Metric	English	Comments
Melt Temperature	270 - 285 °C	512 - 545 °F	
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	
Drying Temperature	80.0 °C	176 °F	

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