

Ascend Performance Materials Vydyn[®] 47 NT Nylon 66, Impact Modified, DAM

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

Material Notes:

Vydyn[®] 47 NT is general-purpose, impact-modified PA66 resin. Available in natural, it 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. Vydyn 47 NT is designed to meet the critical low-temperature impact requirements called out in many automotive specifications. Typical Applications/End Uses: Vydyn 47 NT may be used in both industrial and automotive applications. Typical end uses include: clips, fasteners, engine gearing, cable ties, electrical connectors and many other parts that require high-impact properties. Vydyn 47 NT resin can in many cases be used as a metal replacement, offering improvements on abrasion resistance, reduction in part weight, greater processing flexibility and lower energy consumption. Availability:Asia PacificEuropeNorth AmericaAdditive:Impact Modifier Features: Gasoline ResistanceGood Abrasion ResistanceGood Chemical ResistanceGood ProcessabilityHigh Impact ResistanceImpact ModifiedLow Temperature Impact ResistanceOil ResistantSolvent ResistantUses:Automotive ApplicationsConnectorsConsumer ApplicationsElectrical/Electronic ApplicationsFastenersGearsIndustrial ApplicationsAppearance: Natural ColorForms: PelletsProcessing Method: Injection MoldingInformation provided by Ascend Performance Materials.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-47-NT-Nylon-66-Impact-Modified-DAM.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	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	70.0 MPa	10200 psi	ISO 178

Flexural Modulus Mechanical Properties	2.30 GPa Metric	334 ksi English	ISO 178 Comments
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature -40.0 °C	5.71 ft-lb/in ² @Temperature -40.0 °F	ISO 180
	16.0 kJ/m ² @Temperature -30.0 °C	7.61 ft-lb/in ² @Temperature -22.0 °F	ISO 180
	18.0 kJ/m ² @Temperature 23.0 °C	8.57 ft-lb/in ² @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	1.10 J/cm ² @Temperature -40.0 °C	5.23 ft-lb/in ² @Temperature -40.0 °F	ISO 179
	1.70 J/cm ² @Temperature -30.0 °C	8.09 ft-lb/in ² @Temperature -22.0 °F	ISO 179
	1.90 J/cm ² @Temperature 23.0 °C	9.04 ft-lb/in ² @Temperature 73.4 °F	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	11.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	6.11 µin/in-°F @Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
CTE, linear, Transverse to Flow	14.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	7.78 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)	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	125 °C @Thickness 0.750 mm	257 °F @Thickness 0.0295 in	UL 746
	125 °C	257 °F	

Thermal Properties	Metric @Thickness 1.50 mm	English @Thickness 0.0591 in	UL 746 Comments
	125 °C	257 °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	85.0 °C	185 °F	UL 746
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	85.0 °C	185 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	85.0 °C	185 °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	725 °C	1340 °F	Flammability Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	750 °C	1380 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.750 mm	@Thickness 0.0295 in	
	750 °C	1380 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 3.00 mm	@Thickness 0.118 in	
	775 °C	1430 °F	Flammability Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	775 °C	1430 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Thermal Properties	Metric	English	Comments
	300 °C	500 °F	Ignition temperature, IEC 60693-2-13
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+12 ohm-cm	1.00e+12 ohm-cm	IEC 60093
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Dielectric Strength	24.0 kV/mm	610 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	
	7.0 - 14 sec	7.0 - 14 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	>= 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	

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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