

## Ascend Performance Materials Vydyn<sup>®</sup> 22HSP NT Nylon 66, DAM

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

### Material Notes:

Availability:Asia PacificEuropeNorth America Features: Fast Molding CycleGasoline ResistanceGeneral PurposeGood Abrasion

ResistanceGood Chemical ResistanceGood Mold ReleaseGood ToughnessHigh RigidityHigh StrengthLubricatedOil ResistantSolvent

ResistantUses:BearingsBushingsCamsConnectors HousingsIndustrial 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-22HSP-NT-Nylon-66-DAM.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-22HSP-NT-Nylon-66-DAM.php)

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in <sup>3</sup>	ISO 1183
Water Absorption	1.2 %	1.2 %	ISO 62
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	2.4 %	2.4 %	50% RH; ISO 62
Linear Mold Shrinkage, Flow	0.022 cm/cm	0.022 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	
Linear Mold Shrinkage, Transverse	0.020 cm/cm	0.020 in/in	ISO 294-4
	@Diameter 2.00 mm	@Diameter 0.0787 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	ISO 527-2
Tensile Strength, Yield	85.0 MPa	12300 psi	ISO 527-2
Elongation at Break	25 %	25 %	ISO 527-2
Elongation at Yield	5.0 %	5.0 %	ISO 527-2
Tensile Modulus	3.10 GPa	450 ksi	ISO 527-2
Flexural Strength	95.0 MPa	13800 psi	ISO 178
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	ISO 180
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.00 kJ/m <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 180 Comments
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.500 J/cm <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	10.0 µm/m-°C	5.56 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	10.0 µm/m-°C	5.56 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)	200 °C	392 °F	Unannealed; ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	70.0 °C	158 °F	Unannealed; ISO 75-2/A
UL RTI, Electrical	140 °C	284 °F	UL 746
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	140 °C	284 °F	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746
	140 °C	284 °F	UL 746
	@Thickness 3.00 mm	@Thickness 0.118 in	UL 746
UL RTI, Mechanical with Impact	95.0 °C	203 °F	UL 746
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	110 °C	230 °F	UL 746
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 746

Thermal Properties	110 °C Metric	230 °F English	Comments
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	115 °C	239 °F	UL 746
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	125 °C	257 °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	V-2	V-2	
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	V-2	V-2	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-2	V-2	
	@Thickness 3.00 mm	@Thickness 0.118 in	
Oxygen Index	24 %	24 %	ISO 4589-2
Glow Wire Test	700 °C	1290 °F	Ignition Temperature; IEC 60695-2-13
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	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	
	825 °C	1520 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	825 °C	1520 °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
Arc Resistance	60 - 119 sec	60 - 119 sec	ASTM D495
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	400 - 599 V Metric	400 - 599 V English	Comments
Dielectric Strength Index	@Thickness 3.00 mm	@Thickness 0.118 in	
Hot Wire Ignition, HWI	15 - 29 sec	15 - 29 sec	UL 746
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	15 - 29 sec	15 - 29 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 0.710 mm	@Thickness 0.0280 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	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	UL 746

Processing Properties	Metric	English	Comments
Rear Barrel Temperature	260 - 280 °C	500 - 536 °F	
Middle Barrel Temperature	270 - 285 °C	518 - 545 °F	
Front Barrel Temperature	280 - 290 °C	536 - 554 °F	
Nozzle Temperature	280 - 300 °C	536 - 572 °F	
Melt Temperature	285 - 300 °C	545 - 572 °F	
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	
Drying Temperature	<= 70.0 °C	<= 158 °F	
Dry Time	1.00 - 3.00 hour	1.00 - 3.00 hour	

Descriptive Properties	Value	Comments
Suggested Max Regrind	50 %	

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