Ascend Performance Materials Vydyne® 21SPC1 Nylon 66, DAM

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

Material Notes:

Vydyne® 21SPC1 is a general-purpose, improved-flow, lubricated PA66 resin available in natural color. 21SPC1 offers a balanced combination of properties characterized by high strength, rigidity, good toughness, a high melt point, abrasion resistance with good surface lubricity, and excellent resistance to many chemicals. Vydyne 21SPC1 resin has an external lubricant for improved machine feed and an internal lubricant for improved mold release. Typical Applications/End Uses: Include terminal blocks, bearings, bushings, control cams, electrical connectors, housings, cable ties, fasteners, switch components and industrial parts that require chemical resistance, stiffness, wear resistance and rigidity.Availability:Asia PacificEuropeNorth AmericaAdditive: Lubricant Features:Fast Molding CycleGasoline ResistanceGeneral PurposeGood Abrasion ResistanceGood Chemical ResistanceGood Mold ReleaseGood ToughnessHigh RigidityHigh StrengthLubricatedOil ResistantSolvent ResistantUses:BearingsBushingsCamsConnectorsHousingsIndustrial 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-Vydyne-21SPC1-Nylon-66-DAM.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in³	ISO 1183
Water Absorption	1.2 % @Time 86400 sec	1.2 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	2.4 %	2.4 %	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	0.017 cm/cm @Diameter 2.00 mm	0.017 in/in @Diameter 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	ISO 527-2
Tensile Strength, Yield	82.0 MPa	11900 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	80.0 MPa	11600 psi	ISO 178
Flexural Modulus	2.90 GPa	421 ksi	ISO 178

Mechanical Properties	Metric	English	Comments
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	5.00 kJ/m² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	ISO 180
	6.00 kJ/m² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
Charpy Impact, Notched	0.500 J/cm² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	ISO 179/1eA
	0.600 J/cm² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	10.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	5.56 µin/in-°F @Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359-2
CTE, linear, Transverse to Flow	10.0 µm/m-°C @Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	5.56 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)	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	130 °C @Thickness 0.710 mm	266 °F @Thickness 0.0280 in	UL 746
	130 °C @Thickness 1.50 mm	266 °F @Thickness 0.0591 in	UL 746
	130 °C @Thickness 3.00 mm	266 °F @Thickness 0.118 in	UL 746
	75.0 °C	167 °F	

Thermal Properties	Metric	English	Comments
UL RTI, Mechanical with Impact	@Thickness 0.710 mm	@Thickness 0.0280 in	UL 746
	75.0 °C @Thickness 1.50 mm	167 °F @Thickness 0.0591 in	UL 746
	75.0 °C @Thickness 3.00 mm	167 °F @Thickness 0.118 in	UL 746
UL RTI, Mechanical without Impact	85.0 °C @Thickness 0.710 mm	185 °F @Thickness 0.0280 in	UL 746
	85.0 °C @Thickness 1.50 mm	185 °F @Thickness 0.0591 in	UL 746
	85.0 °C @Thickness 3.00 mm	185 °F @Thickness 0.118 in	UL 746
Flammability, UL94	V-2 @Thickness 0.710 mm	V-2 @Thickness 0.0280 in	
	V-2 @Thickness 1.50 mm	V-2 @Thickness 0.0591 in	
	V-2 @Thickness 3.00 mm	V-2 @Thickness 0.118 in	
Oxygen Index	25 %	25 %	ISO 4589-2
Glow Wire Test	700 °C @Thickness 0.710 mm	1290 °F @Thickness 0.0280 in	Ignition Temperature; IEC 60695-2-13
	700 °C @Thickness 1.50 mm	1290 °F @Thickness 0.0591 in	Ignition Temperature; IEC 60695-2-13
	700 °C @Thickness 3.00 mm	1290 °F @Thickness 0.118 in	Ignition Temperature; IEC 60695-2-13
	800 °C @Thickness 0.710 mm	1470 °F @Thickness 0.0280 in	Flammability Index; IEC 60695-2-12
	800 °C @Thickness 1.50 mm	1470 °F @Thickness 0.0591 in	Flammability Index; IEC 60695-2-12
	930 °C @Thickness 3.00 mm	1710 °F @Thickness 0.118 in	Flammability Index; IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Dielectric Strength	26.0 kV/mm @Thickness 1.00 mm	660 kV/in @Thickness 0.0394 in	IEC 60243
Arc Resistance	120 - 179 sec @Thickness 3.00 mm	120 - 179 sec @Thickness 0.118 in	ASTM D495
Comparative Tracking Index	600 V @Thickness 3.00 mm	600 V @Thickness 0.118 in	IEC 60112
Hot Wire Ignition, HWI	7.0 - 14 sec @Thickness 0.710 mm	7.0 - 14 sec @Thickness 0.0280 in	UL 746
	15 - 29 sec @Thickness 1.50 mm	15 - 29 sec @Thickness 0.0591 in	UL 746
	15 - 29 sec @Thickness 3.00 mm	15 - 29 sec @Thickness 0.118 in	UL 746
High Amp Arc Ignition, HAI	>= 120 arcs @Thickness 0.710 mm	>= 120 arcs @Thickness 0.0280 in	UL 746
	>= 120 arcs @Thickness 1.50 mm	>= 120 arcs @Thickness 0.0591 in	UL 746
	>= 120 arcs @Thickness 3.00 mm	>= 120 arcs @Thickness 0.118 in	UL 746
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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