Ascend Performance Materials Vydyne® 21SPC Nylon 66, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Vydyne® 21SPC is a general-purpose PA66 resin available in natural color. It is designed principally for injection-molding fabrication. This resin offers a well balanced combination of engineering properties characterized by high strength; rigidity; good toughness, high melt point, good surface lubricity; abrasion resistance and resistance to many chemical, machine and motor oils, solvents and gasoline. Vydyne 21SPC permits production of molded parts with good initial color plus good property and color retention when using regrind. This resin is recognized by Underwriters Laboratories and conforms to the requirements of many industrial, federal and military specifications for premium-quality, general-purpose PA66 resins. Internally and externally lubricated for improved machine feed and exceptional mold release. Vydyne 21SPC is intended for use in high-productivity applications. In many applications, the molding cycle can be reduced because parts may be removed from the cavity at higher temperatures. In difficult molds where parts have a tendency to stick in the cavity. Vydyne 21SPC can reduce or eliminate the need for mold release sprays. Critical molded-part dimensions should be checked against specifications before implementing shorter molding cycles on a routine production basis. Typical Applications/End Uses: Vydyne 21 SPC has been used in many molding applications such as terminal blocks bearings, bushings, cams, electrical connectors and housings, electrical cable ties/tie straps and many other hardware and general industrial parts.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

Order this product through the following link:
http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-21SPC-Nylon-66-DAM.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ISO 1183
Water Absorption	1.2 %	1.2 %	24 hrs; ISO 62
Moisture Absorption at Equilibrium	2.4 %	2.4 %	Equilibrium at 50%rh; ISO 62
Linear Mold Shrinkage	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.017 cm/cm @Thickness 2.00 mm	0.017 in/in @Thickness 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	81.0 MPa	11700 psi	ISO 527-2
Elongation at Break	25 %	25 %	ISO 527-2

Mechanical Properties	Metric	English	Comments
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
Poissons Ratio	0.40	0.40	ISO 527-2
Izod Impact, Notched (ISO)	6.00 kJ/m²	2.86 ft-lb/in²	ISO 180
	5.00 kJ/m² @Temperature -30.0 °C	2.38 ft-lb/in² @Temperature -22.0 °F	ISO 180
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °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	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	ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	72.0 °C	162 °F	ISO 75-2/A
UL RTI, Electrical	130 °C @Thickness 0.710 mm	266 °F @Thickness 0.0280 in	UL 746
	130 °C	266 °F	

Thermal Properties	Metric	English	Comments
	@Thickness 0.710 mm	@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
UL RTI, Mechanical with Impact	75.0 °C @Thickness 0.400 mm	167 °F @Thickness 0.0157 in	UL 746
	75.0 °C @Thickness 0.710 mm	167 °F @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	75.0 °C @Thickness 0.400 mm	167 °F @Thickness 0.0157 in	UL 746
	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 0.400 mm	V-2 @Thickness 0.0157 in	
	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	26 %	26 %	ISO 4589-2

Thermal Properties	Metric	English	Comments
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
Volume Resistivity	1.00e+10 ohm-cm @Thickness 0.750 mm	1.00e+10 ohm-cm @Thickness 0.0295 in	IEC 60093
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 746A
	15 - 29 sec @Thickness 1.50 mm	15 - 29 sec @Thickness 0.0591 in	UL 746A
	15 - 29 sec @Thickness 3.00 mm	15 - 29 sec @Thickness 0.118 in	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs @Thickness 0.710 mm	>= 120 arcs @Thickness 0.0280 in	UL 746A
	>= 120 arcs @Thickness 1.50 mm	>= 120 arcs @Thickness 0.0591 in	UL 746

Electrical Properties	Metric	English	Comments
	PLC 120 arcs @Thickness 3.00 mm	PLC 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
Processing Temperature	285 - 300 °C	545 - 572 °F	Melt
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	
Mold Temperature	65.0 - 95.0 °C	149 - 203 °F	
Drying Temperature	<= 70.0 °C	<= 158 °F	

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