

Ascend Performance Materials Vydyn[®] 22WSP Nylon 66, Weather Resistant, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Vydyn[®] 25WSP is a black, weather resistant injection molding grade Nylon 66 resin. These resins offer a well-balanced combination of engineering properties characterized by high strength, rigidity, good toughness, high melt point, good surface lubricity and abrasion resistance. Vydyn 25WSP maintains the chemical resistance typical of nylon to many chemicals, solvents, gasoline, and machine and motor oils. Information provided by Ascend

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-22WSP-Nylon-66-Weather-Resistant-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	0.014 cm/cm @Thickness 2.00 mm	0.014 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.016 cm/cm @Thickness 2.00 mm	0.016 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	83.0 MPa	12000 psi	ISO 527
Elongation at Break	20 %	20 %	ISO 527
Elongation at Yield	4.5 %	4.5 %	ISO 527
Tensile Modulus	3.40 GPa	493 ksi	ISO 527
Flexural Strength	87.0 MPa	12600 psi	ISO 178
Flexural Modulus	3.10 GPa	450 ksi	ISO 178
Poissons Ratio	0.41	0.41	ISO 527
Shear Modulus	1.21 GPa	175 ksi	Calculated
Izod Impact, Notched (ISO)	6.00 kJ/m ²	2.86 ft-lb/in ²	ISO 180
Charpy Impact Unnotched	7.60 J/cm ² @Temperature 23.0 °C	36.2 ft-lb/in ² @Temperature 73.4 °F	ISO 179

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179
Charpy Impact, Notched	0.480 J/cm ²	2.28 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	10.0 µm/m-°C	5.56 µin/in-°F	
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359
CTE, linear, Transverse to Flow	11.0 µm/m-°C	6.11 µin/in-°F	
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	ISO 11359
Melting Point	260 °C	500 °F	ISO 3146
Deflection Temperature at 0.46 MPa (66 psi)	225 °C	437 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	70.0 °C	158 °F	ISO 75
Vicat Softening Point	237 °C	459 °F	50N; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
UL RTI, Mechanical with Impact	75.0 °C	167 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
UL RTI, Mechanical without Impact	85.0 °C	185 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
Flammability, UL94	V-2	V-2	
	@Thickness 0.710 mm	@Thickness 0.0280 in	
Oxygen Index	23 %	23 %	ASTM D2863
Glow Wire Test	700 °C	1290 °F	Ignition Temp; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	700 °C	1290 °F	Ignition Temp; IEC 60695-2-12

Thermal Properties	@Thickness 1.50 mm Metric	@Thickness 0.0591 in English	Comments
	725 °C	1340 °F	Ignition Temp; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
	850 °C	1560 °F	Flammability Index; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	875 °C	1610 °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
Volume Resistivity	2.60e+16 ohm-cm	2.60e+16 ohm-cm	IEC 60093
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dielectric Strength	12.0 kV/mm	305 kV/in	step by step; IEC 60243
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Voltage Arc Resistance to Ignition (HVAR)	120 - 180 sec	120 - 180 sec	UL 746A
	@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 - 15 sec	7.0 - 15 sec	UL 746A
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	15 - 30 sec	15 - 30 sec	UL 746A
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	30 - 60 sec	30 - 60 sec	UL 746A
	@Thickness 3.00 mm	@Thickness 0.118 in	
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
	@Thickness 0.710 mm	@Thickness 0.0280 in	
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	UL 746A
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	270 - 310 °C	518 - 590 °F	

Processing Properties	Metric ^{105 °C}	English ^{201 °F}	Comments
Mold Temperature	15.0 - 95.0 °C	59.0 - 203 °F	
Injection Pressure	55.0 - 140 MPa	7980 - 20300 psi	
Hold Pressure	55.0 - 140 MPa	7980 - 20300 psi	
Back Pressure	0.200 - 1.00 MPa	29.0 - 145 psi	
Clamp Pressure	26.7 - 62.3 MPa	3870 - 9040 psi	
Cushion	3.00 - 6.40 cm	1.18 - 2.52 in	
Screw Speed	50 - 150 rpm	50 - 150 rpm	

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