

Ascend Performance Materials Vydyn® 50BW Nylon 66, Dry as Molded

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

Material Notes:

Vydyn® 50BW is a general purpose Nylon 66 resin. Available in natural. Designed for extrusion applications that do not require use of a high-viscosity resin. This resin offers a well-balanced combination of engineering properties characterized by high strength, rigidity, good toughness, high melt point, good surface lubricity, and abrasion resistance. Vydyn 50BW maintains the chemical resistance typical of nylon to many chemicals, solvents, gasoline, and machine and motor oils. Vydyn 50BW permits the manufacture of 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 Nylon 66 resins. Typical Applications/End Uses. Vydyn 50BW has been successfully extruded in applications that do not require high melt strength, such as monofilament and bristle products.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-50BW-Nylon-66-Dry-as-Molded.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ISO 1183
Water Absorption	1.3 % @Time 86400 sec	1.3 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	2.4 %	2.4 %	50% RH; ISO 62
Linear Mold Shrinkage	0.012 cm/cm @Thickness 2.00 mm	0.012 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.014 cm/cm @Thickness 2.00 mm	0.014 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	80.0 MPa	11600 psi	ISO 527
Elongation at Break	45 %	45 %	ISO 527
Elongation at Yield	11 %	11 %	ISO 527
Tensile Modulus	3.00 GPa	435 ksi	ISO 527
Flexural Strength	33.0 MPa	4790 psi	ISO 178
Flexural Modulus	2.90 GPa	421 ksi	ISO 178
Poissons Ratio	0.40	0.40	ISO 527
Shear Modulus	1.07 GPa	155 ksi	Calculated

Mechanical Properties (ISO)	Metric	English	Comments
Charpy Impact Unnotched	NB	NB	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.550 J/cm²	2.62 ft-lb/in²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.650 J/cm²	3.09 ft-lb/in²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	11.0 µm/m-°C	6.11 µin/in-°F	ISO 11359
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	12.0 µm/m-°C	6.67 µin/in-°F	ISO 11359
	@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 3146
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °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	ISO 306
	@Load 5.10 kg	@Load 11.2 lb	
UL RTI, Electrical	65.0 °C	149 °F	UL 746B
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	130 °C	266 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	130 °C	266 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	130 °C	266 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	

Thermal Properties with Impact	65.0 °C Metric	149 °F English	Comments
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	75.0 °C	167 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	75.0 °C	167 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	75.0 °C	167 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
UL RTI, Mechanical without Impact	65.0 °C	149 °F	UL 746B
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	85.0 °C	185 °F	UL 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	85.0 °C	185 °F	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	85.0 °C	185 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	
Flammability, UL94	V-2	V-2	
	@Thickness 0.400 mm	@Thickness 0.0157 in	
	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	27 %	27 %	ASTM D2863
Glow Wire Test	725 °C	1340 °F	Ignition Temperature; IEC 60695-2-12
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	725 °C	1340 °F	Ignition Temperature; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	725 °C	1340 °F	Ignition Temperature; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	

Thermal Properties	Metric	English	Comments
	@Thickness 0.710 mm	@Thickness 0.0280 in	Flame Index; IEC 60695-2-12
	825 °C	1520 °F	Flame Index; IEC 60695-2-12
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	960 °C	1760 °F	Flame Index; IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.00e+15 ohm-cm	6.00e+15 ohm-cm	IEC 60093
	@Thickness 3.00 mm	@Thickness 0.118 in	
Dielectric Strength	12.0 kV/mm	305 kV/in	IEC 60243
	@Thickness 3.00 mm	@Thickness 0.118 in	
Arc Resistance	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 746B
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	15 - 30 sec	15 - 30 sec	UL 746B
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	30 - 60 sec	30 - 60 sec	UL 746B
	@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	
	>= 120 arcs	>= 120 arcs	UL 746A
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	>= 120 arcs	>= 120 arcs	UL 746A
	@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 746A
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Processing Temperature	270 - 310 °C	518 - 590 °F	
Melt Temperature	275 - 305 °C	527 - 581 °F	
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	29.43 - 68.67 MPa	4268 - 9960 psi	

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