

Ascend Performance Materials Vydyn® 47 Nylon 66, DAM

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Vydyn® 47 Nylon resins are general purpose polyamide, impact modified grades. They are available in natural, black and heat stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyn 47H was formulated to provide thermal endurance when used in applications in which continuous or extended high temperature exposure is anticipated. Information provided by Ascend

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-47-Nylon-66-DAM.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.10 g/cc	1.10 g/cc	ISO 1183
Water Absorption	1.2 %	1.2 %	24 hrs; 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	0.016 cm/cm @Thickness 2.00 mm	0.016 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122	122	ISO 2039
Tensile Strength at Break	52.0 MPa	7540 psi	ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	ISO 527
Elongation at Break	22 %	22 %	ISO 527
Tensile Modulus	2.78 GPa	403 ksi	ISO 527
Flexural Strength	70.0 MPa	10200 psi	ISO 178
Flexural Modulus	2.30 GPa	334 ksi	ISO 178
Izod Impact, Notched (ISO)	12.0 kJ/m² @Temperature -40.0 °C	5.71 ft-lb/in² @Temperature -40.0 °F	ISO 180
	16.0 kJ/m² @Temperature -30.0 °C	7.61 ft-lb/in² @Temperature -22.0 °F	ISO 180
	18.0 kJ/m² @Temperature 23.0 °C	8.57 ft-lb/in² @Temperature 73.4 °F	ISO 180

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	1.10 J/cm ²	8.23 ft-lb/in ²	ISO 179
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	1.70 J/cm ²	8.09 ft-lb/in ²	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.90 J/cm ²	9.04 ft-lb/in ²	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	111 µm/m-°C	61.7 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	136 µm/m-°C	75.6 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)	185 °C	365 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	63.0 °C	145 °F	ISO 75
Flammability, UL94	HB	HB	
	@Thickness 0.710 mm	@Thickness 0.0280 in	
Oxygen Index	21.7 %	21.7 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.90e+14 ohm-cm	6.90e+14 ohm-cm	ASTM D257-07
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	9.80e+14 ohm-cm	9.80e+14 ohm-cm	ASTM D257-07
	@Thickness 3.00 mm	@Thickness 0.118 in	
	1.10e+15 ohm-cm	1.10e+15 ohm-cm	ASTM D257-07
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Dielectric Strength	17.7 kV/mm	450 kV/in	short time, 1/4" electrodes, 500 V/sec; ASTM D149-97a
	@Thickness 3.00 mm	@Thickness 0.118 in	
	24.4 kV/mm	620 kV/in	short time, 1/4" electrodes, 500 V/sec; ASTM D149-97a

Electrical Properties	@Thickness 2.00 mm Metric	@Thickness 0.0787 in English	Comments
	29.9 kV/mm	759 kV/in	short time, 1/4" electrodes, 500 V/sec; ASTM D149-97a
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Comparative Tracking Index	550 - 600 V	550 - 600 V	IEC 60112
	@Thickness 3.00 mm	@Thickness 0.118 in	

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