Vydyne® 47H BK0644

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 47H BK0644 is a high-performance, medium-impact-modified, heat-stabilized PA66 resin with excellent UV stability and outstanding processing characteristics. This product has an UL 746C f1 rating, making it suitable for a variety of outdoor applications.

General Information	
Additive	Impact Modifier
Features	Gasoline Resistance General Purpose Good Abrasion Resistance Good Chemical Resistance Good Processability Good Toughness High Impact Resistance Impact Modified Low Temperature Impact Resistance Low Temperature Toughness Oil Resistant Solvent Resistant
Uses	Automotive Applications Connectors Consumer Applications Electrical/Electronic Applications Fasteners Gears Industrial Applications
Agency Ratings	ASTM D 4066 PA0161 ASTM D 6779 PA0161
Appearance	Black
Forms	Pellets
Processing Method	Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.6	--	%	

Flow : 23°C, 2.00 mm	1.8	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	
Outdoor Suitability	f1	--		UL 746C
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	2780	1740	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	60.0	45.0	MPa	
Break, 23°C	52.0	40.0	MPa	
Tensile Strain (Break, 23°C)	22	60	%	ISO 527-2
Flexural Modulus (23°C)	2300	780	MPa	ISO 178
Flexural Strength (23°C)	70.0	24.0	MPa	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°C	11	18	kJ/m²	
-30°C	17	24	kJ/m²	
23°C	19	62	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-40°C	12	18	kJ/m²	
-30°C	16	24	kJ/m²	
23°C	18	44	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	185	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	63.0	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.4E-4	--	cm/cm/°C	
RTI Elec				UL 746
0.750 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	

RTI Imp				UL 746
0.750 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
RTI Str				UL 746
0.750 mm	115	--	°C	
1.50 mm	115	--	°C	
3.00 mm	115	--	°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.750 mm)	1.0E+11	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	12	--	kV/mm	IEC 60243
Arc Resistance	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	525	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 4	--		
1.50 mm	PLC 4	--		
3.00 mm	PLC 3	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.750 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	700	--	°C	
1.50 mm	775	--	°C	
3.00 mm	700	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	725	--	°C	
1.50 mm	800	--	°C	
3.00 mm	725	--	°C	
Additional Information	**Dry**	**Conditioned**		**Test Method**
Automotive Materials - (thickness d = 1 mm)	+	--		FMVSS 302

Injection	Dry	Unit
Drying Temperature	80.0	°C
Drying Time	4.0	hr
Suggested Max Regrind	25	%
Rear Temperature	280 to 310	°C
Middle Temperature	280 to 310	°C
Front Temperature	280 to 310	°C
Nozzle Temperature	280 to 310	°C
Processing (Melt) Temp	285 to 305	°C
Mold Temperature	65.0 to 95.0	°C

Recommended distributors for this material

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