

Vydyne® 47H BK0644

polyamide 66



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				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
Additive	• Heat Stabilizer	• Impact Modifier		
Features	• Abrasion Resistant • Chemical Resistant • Gasoline Resistant • General Purpose • Good Processability	• Good Toughness • Heat Stabilized • High Impact Resistance • Impact Modified • Low Temperature Impact Resistance	• Low Temperature Toughness • Oil Resistant • Solvent Resistant • Weather Resistant	
Uses	• Automotive Applications • Connectors • Consumer Applications	• Electrical/Electronic Applications • Fasteners • Gears	• Industrial Applications	
Agency Ratings	• ASTM D4066 PA0161	• ASTM D6779 PA0161		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN 1826 • FORD ESB-M4D178-A2 • FORD WSK-M4D706-A	• FORD WSS-M4D706-B1 • GM GMP.PA66.015 • GM GMW16447P-PA66-T2	• HYUNDAI MS941-03 Type A-1	
Appearance	• Black			
Forms	• Pellets			
Processing Method	• Injection Molding			

Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm ³	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
24 hr, 23°C	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/m ²	
-30°C	11	24	kJ/m ²	
23°C	16	62	kJ/m ²	
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/m ²	
-30°C	16	24	kJ/m ²	
23°C	18	44	kJ/m ²	

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
0.75 mm	130	--	°C	
1.5 mm	130	--	°C	
3.0 mm	130	--	°C	
RTI Imp				UL 746
0.75 mm	75.0	--	°C	
1.5 mm	75.0	--	°C	
3.0 mm	75.0	--	°C	
RTI Str				UL 746
0.75 mm	115	--	°C	
1.5 mm	115	--	°C	
3.0 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
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.75 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 3	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.75 mm	HB	--		
1.5 mm	HB	--		
3.0 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.75 mm	700	--	°C	
1.5 mm	775	--	°C	
3.0 mm	700	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	725	--	°C	
1.5 mm	800	--	°C	
3.0 mm	725	--	°C	
Additional Information	Dry	Conditioned	Unit	Test Method
Automotive Materials - (thickness d = 1 mm)	+	--		FMVSS 302
Injection		Dry <td>Unit</td> <td></td>	Unit	
Drying Temperature		80	°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 to 95	°C	

Notes

Typical properties: these are not to be construed as specifications.

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North America

+1 888 927 2363

Europe

+32 10 608 600

Asia

+86 21 2315 0888

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