

# Vydyne® 47H BK11

## polyamide 66



Vydyne 47H BK11 is general-purpose, impact-modified PA66 resin. Available in black, it is heat-stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyne 47H BK11 was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated.

Vydyne 47H BK11 is recognized for all the processing and property advantages inherent to PA66 with the addition of improved impact strength. This resin offers a well balanced combination of engineering properties characterized by high melt point, good surface lubricity, abrasion resistance and resistance to

many chemicals, machine and motor oils, solvents and gasoline. Vydyne 47H BK11 is designed to meet the critical low-temperature impact requirements called out in many automotive specifications.

### Typical Applications/End Uses:

Vydyne 47H BK11 may be used in most market segments, including industrial, consumer, automotive and electrical applications. Typical end uses include clips, fasteners, gears, cable ties, electrical connectors and many other parts that require additional toughness at room and low temperatures.

General				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
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/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.6	--	%	
Flow : 73°F, 0.0787 in	1.8	--	%	
Water Absorption (73°F, 24 hr)	1.2	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	2.3	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	403000	252000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	8700	6530	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7540	5800	psi	ISO 527-2
Tensile Strain (Break, 73°F)	22	60	%	ISO 527-2
Flexural Modulus (73°F)	334000	113000	psi	ISO 178
Flexural Strength (73°F)	10200	3480	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	5.2	8.6	ft·lb/in <sup>2</sup>	
-22°F	8.1	11	ft·lb/in <sup>2</sup>	
73°F	9.0	30	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-40°F	5.7	8.6	ft·lb/in <sup>2</sup>	
-22°F	7.6	11	ft·lb/in <sup>2</sup>	
73°F	8.6	21	ft·lb/in <sup>2</sup>	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 66 psi, Unannealed	365	--	°F	ISO 75-2/B
Heat Deflection Temperature 264 psi, Unannealed	145	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	6.2E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	7.6E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.0295 in	266	--	°F	
0.0591 in	266	--	°F	
0.118 in	266	--	°F	
RTI Imp				UL 746
0.0295 in	167	--	°F	
0.0591 in	167	--	°F	
0.118 in	167	--	°F	
RTI Str				UL 746
0.0295 in	239	--	°F	
0.0591 in	239	--	°F	
0.118 in	239	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+11	--	ohm·cm	IEC 60093
Dielectric Strength (0.0394 in)	300	--	V/mil	IEC 60243
Arc Resistance	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	525	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.0295 in	PLC 0	--		
0.0591 in	PLC 0	--		
0.118 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.0295 in	PLC 4	--		
0.0591 in	PLC 4	--		
0.118 in	PLC 3	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.0295 in	HB	--		
0.0591 in	HB	--		
0.118 in	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.0295 in	1290	--	°F	
0.0591 in	1430	--	°F	
0.118 in	1290	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.0295 in	1340	--	°F	
0.0591 in	1470	--	°F	
0.118 in	1340	--	°F	
Injection		Dry Unit		
Drying Temperature		176 °F		
Drying Time		4.0 hr		
Suggested Max Regrind		25 %		
Rear Temperature		536 to 590 °F		
Middle Temperature		536 to 590 °F		
Front Temperature		536 to 590 °F		
Nozzle Temperature		536 to 590 °F		
Processing (Melt) Temp		545 to 581 °F		
Mold Temperature		149 to 203 °F		

**Notes**

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

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