

# Vydyne® R525H BK02

## polyamide 66



Vydyne R525H BK02 is high-flow, 25% glass-fiber reinforced, heat-stabilized PA66 resin. Available in black, it is specifically designed to maximize the retention of physical properties when exposed to anti-freeze solutions at elevated temperatures. This product is lubricated for improved machine feed and flow.

Glass-reinforced Vydyne resins provide higher heat distortion temperature, resistance to creep and better dimensional stability when compared with unreinforced PA66. These products have good chemical resistance to a broad range of chemicals including gasoline, hydraulic fluids and most solvents.

Vydyne R525H BK02 is heat-stabilized to minimize oxidative degradation of the polymer when exposed to elevated temperatures in service. This product provides improved retention of physical properties under exposure to long-term heat. Also, Vydyne R525H BK02 has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions.

Typical Applications/End Uses  
To come

General				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight			
Additive	• Heat Stabilizer	• Lubricant		
Features	• Antifreeze Resistant	• Good Chemical Resistance	• Lubricated	
	• Fatigue Resistant	• Heat Stabilized	• Solvent Resistant	
	• Gasoline Resistance	• High Flow		
Uses	• Automotive Under the Hood			
Agency Ratings	• ASTM D 4066 PA0121G25	• ASTM D 6779 PA0121G25		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN4098	• GM GMP.PA66.046	• OPEL QK 003012 H	
	• DAEWOO EDS-M-5163-12	• GM GMP.PA66.083		
	• FORD WSK-M4D641-A	• GM GMW3038P-PA66-GF15H		
Appearance	• Black			
Forms	• Pellets			
Processing Method	• Injection Molding			
Physical	Dry	Conditioned	Unit	Test Method
Density	1.32	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.90	--	%	
Flow : 73°F, 0.0787 in	0.40	--	%	
Water Absorption (73°F, 24 hr)	0.90	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	2.0	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.25E+6	798000	psi	ISO 527-2
Tensile Stress (Break, 73°F)	25200	17000	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.0	7.0	%	ISO 527-2
Flexural Modulus (73°F)	1.12E+6	827000	psi	ISO 178
Flexural Stress (73°F)	36300	21800	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	4.8	4.8	ft·lb/in <sup>2</sup>	
73°F	5.2	5.7	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	26	31	ft·lb/in <sup>2</sup>	
73°F	31	32	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength				ISO 180
-22°F	4.3	4.8	ft·lb/in <sup>2</sup>	
73°F	4.8	7.1	ft·lb/in <sup>2</sup>	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	496	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	473	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.4E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.1E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.0295 in	284	--	°F	
0.0591 in	284	--	°F	
0.118 in	284	--	°F	
RTI Imp				UL 746
0.0295 in	248	--	°F	
0.0591 in	248	--	°F	
0.118 in	248	--	°F	
RTI Str				UL 746
0.0295 in	257	--	°F	
0.0591 in	284	--	°F	
0.118 in	284	--	°F	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+13	--	ohm-cm	IEC 60093
Dielectric Strength (0.0394 in)	510	--	V/mil	IEC 60243
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	250 to 399	--	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 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.0295 in	PLC 4	--		
0.0591 in	PLC 3	--		
0.118 in	PLC 4	--		
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	1250	--	°F	
0.0591 in	1250	--	°F	
0.118 in	1250	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.0295 in	1290	--	°F	
0.0591 in	1290	--	°F	
0.118 in	1290	--	°F	
Additional Information	Dry	Conditioned	Unit	Test Method
Automotive Materials - (thickness d = 1mm)	+	--		FMVSS 302

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.

<sup>1</sup> Typical properties: these are not to be construed as specifications.



**North America**  
+1 888 927 2363

**Europe**  
+32 10 608 600

**Asia**  
+86 21 6340 3300

**Disclaimer of Warranty and Liability**

NOTICE: Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Ascend Performance Materials Operations LLC makes no representations or warranties as to the completeness or accuracy thereof.

Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Ascend Performance Materials Operations LLC be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information or the products to which information refers. Nothing contained herein is to be construed as a recommendation to use any product, equipment or formulation in conflict with any patent, and Ascend Performance Materials Operations LLC makes no representation or warranty, express or implied, that use thereof will not infringe any patent. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers.