

# Vydyne® R413H BK07

## polyamide 66



Vydyne R413H BK07 is general-purpose, heat-stabilized, impact-modified, 15% glass-fiber reinforced PA66 resin. Available in black, It is specifically designed to maximize toughness, while retaining physical properties. This product is also lubricated for improved flow and offers superior surface appearance.

Glass-fiber 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.

### Typical Applications/End Uses:

Vydyne R413H BK07 is successfully used in a wide range of injection-molding engineering applications, including automotive clips, fasteners, brackets and carbon canisters; electrical connectors, housings, bobbins, etc.; and industrial gears, bearing shells, covers, housings, etc.

General				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight			
Additive	• Heat Stabilizer	• Impact Modifier	• Lubricant	
Features	• Chemical Resistant	• Good Impact Resistance	• High Strength	
	• Creep Resistant	• Good Mold Release	• High Tensile Strength	
	• Gasoline Resistant	• Grease Resistant	• Lubricated	
	• Good Dimensional Stability	• Heat Stabilized	• Oil Resistant	
	• Good Flow	• High Rigidity	• Solvent Resistant	
Uses	• Automotive Under the Hood	• Lawn and Garden Equipment	• Power/Other Tools	
Agency Ratings	• ASTM D4066 PA016G15	• ASTM D6779 PA016G15		
	• ASTM D4066 PA018G15	• ASTM D6779 PA018G15		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN 3152	• DELPHI M-2279		
UL File Number	• E70062			
Appearance	• Black			
Forms	• Pellets			
Processing Method	• Injection Molding			

Physical	Dry	Conditioned	Unit	Test Method
Density	1.21	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	0.80	--	%	
Flow : 23°C, 2.00 mm	0.70	--	%	
Water Absorption				ISO 62
24 hr, 23°C	1.0	--	%	
Equilibrium, 23°C, 50% RH	1.9	--	%	

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	5500	4100	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	110	80.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	5.0	13	%	ISO 527-2
Flexural Modulus (23°C)	4800	2800	MPa	ISO 178
Flexural Stress (23°C)	140	73.0	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	5.0	5.0	kJ/m <sup>2</sup>	
-30°C	6.0	10	kJ/m <sup>2</sup>	
23°C	12	18	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179
-30°C	75	70	kJ/m <sup>2</sup>	
23°C	80	76	kJ/m <sup>2</sup>	
Notched Izod Impact Strength				ISO 180
-40°C	9.0	9.0	kJ/m <sup>2</sup>	
-30°C	10	10	kJ/m <sup>2</sup>	
23°C	12	21	kJ/m <sup>2</sup>	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	258	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	235	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	3.0E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	

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Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+9	--	ohms-cm	IEC 60093
Dielectric Strength (1.00 mm)	3.0	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.40 mm	PLC 1	--		
0.75 mm	PLC 1	--		
1.5 mm	PLC 1	--		
3.0 mm	PLC 1	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 3	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.40 mm	PLC 4	--		
0.75 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.75 mm	HB	--		
1.5 mm	HB	--		
3.0 mm	HB	--		
Injection	Dry 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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