

Vydyne® R413H BK07 polyamide 66



Vydyne R413H BK07 is general-purpose, heat-stabilized, impact-modified, 13% 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, 13% Filler by Weight
Additive	• Lubricant
Features	<ul style="list-style-type: none"> • Gasoline Resistance • Good Chemical Resistance • Good Creep Resistance • Good Dimensional Stability • Good Flow • Good Impact Resistance • Good Mold Release • Grease Resistant • High Rigidity • High Strength • High Tensile Strength • Lubricated • Oil Resistant • Solvent Resistant
Uses	<ul style="list-style-type: none"> • Automotive Under the Hood • Gears • Housings • Lawn and Garden Equipment • Power/Other Tools
Agency Ratings	• ASTM D 4066 PA0161G15 • ASTM D 6779 PA0161G15
UL File Number	• E70062
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.21	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.80	--	%	
Flow : 73°F, 0.0787 in	0.70	--	%	
Water Absorption (73°F, 24 hr)	1.0	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.9	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	798000	595000	psi	ISO 527-2
Tensile Stress (Break, 73°F)	16000	11600	psi	ISO 527-2
Tensile Strain (Break, 73°F)	5.0	13	%	ISO 527-2
Flexural Modulus (73°F)	696000	406000	psi	ISO 178
Flexural Stress (73°F)	20300	10600	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	2.4	2.4	ft·lb/in ²	
-22°F	2.9	4.8	ft·lb/in ²	
73°F	5.7	8.6	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	38	33	ft·lb/in ²	
73°F	36	36	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180
-40°F	4.3	4.3	ft·lb/in ²	
-22°F	4.8	4.8	ft·lb/in ²	
73°F	5.7	10	ft·lb/in ²	
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	455	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.7E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.2E-5	--	in/in/°F	ISO 11359-2

Vydyne® R413H BK07
polyamide 66



Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+9	--	ohm·cm	IEC 60093
Dielectric Strength (0.0394 in)	76	--	V/mil	IEC 60243
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.0157 in	PLC 1	--		
0.0295 in	PLC 1	--		
0.0591 in	PLC 1	--		
0.118 in	PLC 1	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 3	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.0157 in	PLC 4	--		
0.0295 in	PLC 4	--		
0.0591 in	PLC 4	--		
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	--		
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.

¹ 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.