

Vydyne® R535H BK02

polyamide 66



Vydyne R535H BK02 is general-purpose, heat-stabilized, 35% glass-fiber reinforced PA66 resin. It is specifically designed to maximize the retention of physical properties when exposed to anti-freeze solutions at elevated temperatures. This product is also lubricated for improved flow and offers superior surface appearance.

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 R535H 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 R535H BK02 has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions.

Typical Applications/End Uses:

Vydyne R535H BK02 has been used successfully in a wide range of injection-molding engineering applications, including automotive clips, radiator end-tanks, parts of the air-conditioning and fuel distribution systems; electrical connectors, housings and bobbins; and industrial applications such as gears, bearing shells, covers and housings.

General	
Material Status	<ul style="list-style-type: none"> Commercial: Active
Availability	<ul style="list-style-type: none"> Asia Pacific Europe North America
Filler / Reinforcement	<ul style="list-style-type: none"> Glass Fiber, 35% Filler by Weight
Additive	<ul style="list-style-type: none"> Heat Stabilizer Lubricant
Features	<ul style="list-style-type: none"> Antifreeze Resistant Fatigue Resistant Gasoline Resistance Good Chemical Resistance Heat Stabilized High Flow Lubricated Solvent Resistant
Uses	<ul style="list-style-type: none"> Automotive Under the Hood
Agency Ratings	<ul style="list-style-type: none"> ASTM D 4066 PA012G35 ASTM D 6779 PA012G35
Automotive Specifications	<ul style="list-style-type: none"> FORD WSK-M4D752-A Color: Black GM GMP.PA66.040 Color: Black GM GMP.PA66.040 Color: Natural GM GMW3038P-PA66-GF30H Color: Black GM GMW3038P-PA66-GF30H Color: Natural CHRYSLER MS-DB-41 CPN4018 Color: Black DAEWOO EDS-M-5164-11 FEDERAL LP410A FORD WSK-M4D642-A Color: Black FORD WSK-M4D642-A2 Color: Black OPEL QK 003013 H Color: Black OPEL QK 003013 H Color: Natural OPEL QK 003013 HW Color: Black TagAZ TAMS-8723-01
UL File Number	<ul style="list-style-type: none"> E70062
Appearance	<ul style="list-style-type: none"> Black
Forms	<ul style="list-style-type: none"> Pellets
Processing Method	<ul style="list-style-type: none"> Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.41	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 0.0787 in	0.90	--	%	
Flow : 0.0787 in	0.40	--	%	
Water Absorption (73°F, 24 hr)	0.80	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.6	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.68E+6	1.23E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	30500	21800	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.0	5.0	%	ISO 527-2
Flexural Modulus (73°F)	1.52E+6	1.02E+6	psi	ISO 178
Flexural Stress (73°F)	43500	29700	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	5.2	5.7	ft·lb/in ²	
73°F	5.7	6.7	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	33	40	ft·lb/in ²	
73°F	38	43	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180
-22°F	5.2	5.7	ft·lb/in ²	
73°F	5.7	6.7	ft·lb/in ²	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 66 psi, Unannealed	500	--	°F	ISO 75-2/B
Heat Deflection Temperature 264 psi, Unannealed	482	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F)	1.1E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	5.8E-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	257	--	°F	
0.0591 in	257	--	°F	
0.118 in	257	--	°F	
RTI Str				UL 746
0.0295 in	284	--	°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 = 1 mm)	+	--		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

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