

Vydyne® R530H

polyamide 66



Vydyne R530H is general-purpose, heat-stabilized, hydrolysis-resistant, 30% glass-fiber reinforced PA66 resin. Available in natural, 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 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 R530H 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 R530H has

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

Typical Applications/End Uses:

Vydyne R530H has been used for several under-the-hood automotive applications. The hydrolysis-resistant properties make it an excellent candidate for radiator end tank and heater core applications.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Additive	• Heat Stabilizer	• Lubricant	
Features	• Antifreeze Resistant • Fatigue Resistant • Gasoline Resistance	• Good Chemical Resistance • Good Flow • Heat Stabilized	• Hydrolysis Resistant • Lubricated • Solvent Resistant
Uses	• Automotive Under the Hood		
Agency Ratings	• ASTM D 4066 PA0121G30	• ASTM D 6779 PA0121G30	
Automotive Specifications	• 3M 11-0003-5762-1 • CHRYSLER MS-DB-41 CPN4018 • FORD WSK-M4D642-A • FORD WSK-M4D642-A2	• FORD WSK-M4D752-A • GM EDS-M-5164-11 • GM GMP.PA66.040 Color: Natural • GM GMW16270P-PA66-GF30 Color: Natural	• GM GMW3038P-PA66-GF30H Color: Natural • GM QK 003013 H Color: Natural • GM QK 003013 HW • VOLKSWAGEN VW 52682
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.37	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	0.90	--	%	
Flow : 23°C, 2.00 mm	0.40	--	%	
Water Absorption (23°C, 24 hr)	0.90	--	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	1.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10000	7400	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	195	135	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.0	5.0	%	ISO 527-2
Flexural Modulus (23°C)	9600	6000	MPa	ISO 178
Flexural Stress (23°C)	270	190	MPa	ISO 178
Poisson's Ratio (23°C)	0.40	--		ISO 527
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	10	11	kJ/m ²	
23°C	11	13	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	65	80	kJ/m ²	
23°C	75	85	kJ/m ²	
Notched Izod Impact Strength				ISO 180
-30°C	10	11	kJ/m ²	
23°C	12	13	kJ/m ²	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature 0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
Heat Deflection Temperature 1.8 MPa, Unannealed	250	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE - Flow (23 to 55°C, 2.00 mm)	2.2E-5	--	cm/cm/°C	ISO 11359-2
CLTE - Transverse (23 to 55°C, 2.00 mm)	1.1E-4	--	cm/cm/°C	ISO 11359-2
RTI Elec				UL 746
0.750 mm	140	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
RTI Imp				UL 746
0.750 mm	120	--	°C	
1.50 mm	120	--	°C	
3.00 mm	120	--	°C	
RTI Str				UL 746
0.750 mm	125	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (3.00 mm)	1.0E+13	--	ohms-cm	IEC 60093
Dielectric Strength (1.00 mm)	20	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	250 to 399	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 4	--		
1.50 mm	PLC 3	--		
3.00 mm	PLC 4	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.750 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	675	--	°C	
1.50 mm	675	--	°C	
3.00 mm	675	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	700	--	°C	
1.50 mm	700	--	°C	
3.00 mm	700	--	°C	
Injection		Dry Unit		
Drying Temperature		80.0 °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		65.0 to 95.0 °C		

Notes

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