

Vydyne® R525H Nat polyamide 66



Vydyne R525H Nat is high-flow, 25% glass-fiber reinforced, heat-stabilized 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 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 Nat 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 Nat 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 • Fatigue Resistant • Gasoline Resistance	• Good Chemical Resistance • Heat Stabilized • High Flow	• Lubricated • Solvent Resistant	
Uses	• Automotive Under the Hood			
Agency Ratings	• ASTM D 4066 PA0121G25	• ASTM D 6779 PA0121G25		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN4098 • DAEWOO EDS-M-5163-12 • FORD WSK-M4D641-A	• GM GMP.PA66.046 • GM GMP.PA66.083 • GM GMW3038P-PA66-GF15H	• OPEL QK 003012 H	
Appearance	• Natural Color			
Forms	• Pellets			
Processing Method	• Injection Molding			
Physical	Dry	Conditioned	Unit	Test Method
Density	1.32	--	g/cm ³	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 ²	
73°F	5.2	5.7	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	26	31	ft·lb/in ²	
73°F	31	32	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180
-22°F	4.3	4.8	ft·lb/in ²	
73°F	4.8	7.1	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	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

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