

# Vydyne® R540 polyamide 66



Vydyne R540 is general-purpose, hydrolysis-resistant, 40% 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 flow and offers superior surface appearance.

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:  
To come

Glass-reinforced Vydyne resins provide higher heat distortion temperature, resistance to creep and better dimensional stability

General	
Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight
Additive	• Lubricant
Features	• Antifreeze Resistant • Fatigue Resistant • Gasoline Resistance • Good Chemical Resistance • Good Flow • Hydrolysis Resistant • Lubricated • Solvent Resistant
Agency Ratings	• ASTM D 4066 PA011G40 • ASTM D 6779 PA011G40
Automotive Specifications	• CHRYSLER MS-DB-41 CPN4018 • DAEWOO EDS-M-5164-11 • FORD WSK-M4D642-A • FORD WSK-M4D642-A2 • FORD WSK-M4D752-A • GM GMP.PA66.040 • GM • GMW3038P-PA66-GF30H • OPEL QK 003013 HW • TagAZ TAMS-8723-01 • OPEL QK 003013 H
UL File Number	• E70062
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density (73°F)	1.46	--	g/cm <sup>3</sup>	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)	0.60	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.5	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	2.05E+6	1.61E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	31900	23900	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.0	4.0	%	ISO 527-2
Flexural Modulus (73°F)	1.78E+6	1.35E+6	psi	ISO 178
Flexural Stress (73°F)	48600	36300	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-22°F	5.7	5.2	ft·lb/in <sup>2</sup>	
73°F	5.7	9.0	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179
-22°F	38	41	ft·lb/in <sup>2</sup>	
73°F	43	44	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength				ISO 180
-22°F	6.2	6.2	ft·lb/in <sup>2</sup>	
73°F	6.7	9.0	ft·lb/in <sup>2</sup>	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	500	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	486	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	9.4E-6	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	5.7E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.0295 in	248	--	°F	
0.0591 in	248	--	°F	
0.118 in	248	--	°F	
RTI Imp				UL 746
0.0295 in	185	--	°F	
0.0591 in	185	--	°F	
0.118 in	221	--	°F	
RTI Str				UL 746
0.0295 in	239	--	°F	
0.0591 in	248	--	°F	
0.118 in	248	--	°F	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.118 in)	1.0E+13	--	ohm·cm	IEC 60093
Dielectric Strength (0.0394 in)	610	--	V/mil	IEC 60243
Arc Resistance (0.118 in)	PLC 5	--		ASTM D495
Comparative Tracking Index (0.118 in)	600	--	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 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

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