

Vydyne® R543

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne R543 is general purpose, 43% glass-fiber reinforced PA66 resin. Available in natural, it is an injection-molding grade resin that is lubricated for machine feed, flow and mold release.

Glass-reinforced Vydyne resins provide a higher heat distortion temperature, better resistance to creep, higher impact and better dimensional stability when compared with unreinforced PA66. This product has good chemical resistance to a broad range of chemicals, including many aliphatic and aromatic hydrocarbons found in most solvents, gasoline, hydraulic fluids, greases and machine oils.

Vydyne R543 resin has tensile strength and modulus properties just below aluminum and zinc and can replace these metals in numerous applications due to an excellent balance of properties. Reduction in production costs, energy consumption and part weight are key advantages of Vydyne glass-reinforced PA66 resins over aluminum and/or zinc die-cast parts.

Typical Applications/End Uses:
To come

General Information	
UL YellowCard	E70062-249088
Filler / Reinforcement	Glass Fiber,43% Filler by Weight
Additive	Lubricant
Features	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	Gears
	Housings
	Lawn and Garden Equipment
	Power/Other Tools
Agency Ratings	ASTM D 4066 PA011G45
	ASTM D 6779 PA011G45
UL File Number	E70062

Appearance		Natural Color		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.50	--	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				ISO 62
23°C, 24 hr	0.60	--	%	
Equilibrium, 23°C, 50% RH	1.5	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	14800	11300	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	225	170	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3.0	4.0	%	ISO 527-2
Flexural Modulus (23°C)	12500	9400	MPa	ISO 178
Flexural Stress (23°C)	340	250	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-30°C	13	14	kJ/m ²	
23°C	14	20	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	87	90	kJ/m ²	
23°C	92	95	kJ/m ²	
Notched Izod Impact Strength				ISO 180
-30°C	13	13	kJ/m ²	
23°C	13	19	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	252	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.6E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.0E-4	--	cm/cm/°C	
RTI Elec				UL 746

0.750 mm	125	--	°C	
1.50 mm	125	--	°C	
3.00 mm	125	--	°C	
RTI Imp				UL 746
0.750 mm	110	--	°C	
1.50 mm	110	--	°C	
3.00 mm	110	--	°C	
RTI Str				UL 746
0.750 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+13	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	22	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 5	--		ASTM D495
Comparative Tracking Index (3.00 mm)	600	--	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 4	--		
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	--		
Oxygen Index	25	--	%	ISO 4589-2
Additional Information	Dry	Conditioned		Test Method
Automotive Materials - (thickness d = 1mm)	+	--		FMVSS 302
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

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



WECHAT