

Vydyne® R533T

polyamide 66



Vydyne R533T is a translucent 33% glass-fiber reinforced PA66 resin designed specifically for use in power-steering reservoirs and other applications where chemical resistance, whiteness and transmittance are required.

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.

Vydyne R533T resin has tensile strength and modulus properties just below aluminum and zinc and can replace these metals in

General				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
Filler / Reinforcement	• Glass Fiber, 33% Filler by Weight			
Features	• Chemical Resistant	• High Tensile Strength		
Uses	• Automotive Under the Hood			
Agency Ratings	• ASTM D4066 PA113G35	• ASTM D6779 PA083G35		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN2043	• GM GMP.PA66.013		
Appearance	• Translucent			
Forms	• Pellets			
Processing Method	• Injection Molding			
Physical	Dry	Conditioned	Unit	Test Method
Density	1.40	--	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
24 hr, 23°C	0.80	--	%	
Equilibrium, 23°C, 50% RH	1.8	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	10200	7900	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	210	150	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	4.0	6.0	%	ISO 527-2
Flexural Modulus (23°C)	9500	6500	MPa	ISO 178
Flexural Stress (23°C)	290	205	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	8.0	12	kJ/m ²	
23°C	12	14	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	No Break	85 kJ/m ²		
23°C	No Break	90 kJ/m ²		
Notched Izod Impact Strength				ISO 180
-30°C	10	12	kJ/m ²	
23°C	12	14	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	252	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	235	--	°C	ISO 75-2/A
Melting Temperature	264	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	2.2E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
RTI Elec				UL 746
0.75 mm	120	--	°C	
1.5 mm	120	--	°C	
3.0 mm	120	--	°C	
RTI Imp				UL 746
0.75 mm	100	--	°C	
1.5 mm	100	--	°C	
3.0 mm	105	--	°C	
RTI Str				UL 746
0.75 mm	125	--	°C	
1.5 mm	125	--	°C	
3.0 mm	125	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (3.00 mm)	1.0E+14	--	ohms-cm	IEC 60093
Dielectric Strength (1.00 mm)	20	--	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
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.75 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 3	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.75 mm	HB	--		
1.5 mm	HB	--		
3.0 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.75 mm	750	--	°C	
1.5 mm	725	--	°C	
3.0 mm	800	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	775	--	°C	
1.5 mm	725	--	°C	
3.0 mm	750	--	°C	
Optical	Dry	Conditioned	Unit	Test Method
Transmittance	23.0	--	%	ASTM D1003

Injection	Dry Unit
Drying Temperature	80 °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 to 95 °C

Notes

Typical properties: these are not to be construed as specifications.

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