

Vydyne® R533T

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

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.

Vydyne R533T 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				
Filler / Reinforcement		Glass Fiber,33% Filler by Weight		
Features		Good Chemical Resistance		
		High Tensile Strength		
Uses		Automotive Under the Hood		
		Metal Replacement		
Agency Ratings		ASTM D 4066 PA0111G35		
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
23°C, 24 hr	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/m²	
23°C	12	14	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	No Break	85 kJ/m²		
23°C	No Break	90 kJ/m²		
Notched Izod Impact Strength				ISO 180
-30°C	10	12	kJ/m²	
23°C	12	14	kJ/m²	
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	
Optical	Dry	Conditioned	Unit	Test Method
Transmittance	23.0	--	%	ASTM D1003
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	

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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

