Vydyne® R533T

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

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. R533T offers standard flow and maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline.

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	
Agency Ratings	• ASTM D4066 PA113G35	• ASTM D6779 PA083G35	• SAE J1639 PA1116 Z6
Automotive Specifications	• STELLANTIS MS-DB-41 CPN2043	• TOYOTA TSM 5603G Color: Class 2B, Rev 5	
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66-GF33		

Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.40	--	g/cm³	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 (24 hr, 73°F)	0.80	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.8	--	%	ISO 62
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.48E+6	1.15E+6	psi	ISO 527-1
Tensile Stress (Break, 73°F)	30500	21800	psi	ISO 527-2
Tensile Strain (Break, 73°F)	4.0	6.0	%	ISO 527-2
Flexural Modulus (73°F)	1.38E+6	943000	psi	ISO 178
Flexural Stress (73°F)	42100	29700	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	3.8	5.7	ft·lb/in²	
73°F	5.7	6.7	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	40 ft·lb/in²		
73°F	No Break	43 ft·lb/in²		
Notched Izod Impact Strength				ISO 180/1A
-22°F	4.8	5.7	ft·lb/in²	
73°F	5.7	6.7	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	486	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	455	--	°F	ISO 75-2/A
Melting Temperature	507	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.2E-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 746B

0.030 in	248	--	°F	
0.06 in	248	--	°F	
0.12 in	248	--	°F	
RTI Imp				UL 746B
0.030 in	212	--	°F	
0.06 in	212	--	°F	
0.12 in	221	--	°F	
RTI Str				UL 746B
0.030 in	257	--	°F	
0.06 in	257	--	°F	
0.12 in	257	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0394 in)	1.0E+14	--	ohms·cm	IEC 60093
Electric Strength (0.0394 in)	510	--	V/mil	IEC 60243-1
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 746A
0.030 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR) (0.118 in)	PLC 1	--		UL 746A
Hot-wire Ignition (HWI)				UL 746A
0.030 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 3	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.030 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.030 in	1380	--	°F	
0.06 in	1340	--	°F	
0.12 in	1470	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.030 in	1430	--	°F	
0.06 in	1340	--	°F	
0.12 in	1380	--	°F	

Processing Information

Injection	**Dry**	**Unit**
Drying Temperature	176	°F
Drying Time	4.0	hr
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