Vydyne® R550H

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne R550H is general-purpose, heat-stabilized, hydrolysis-resistant, 50% 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.
Glass-reinforced Vydyne resins provide higher heat distortion temperature, resistance to creep and better dimensional stability when compared with unreinforced PA66. These products have good chemical resistance to a broad range of chemicals including gasoline, hydraulic fluids and most solvents.
Vydyne R550H is heat-stabilized to minimize oxidative degradation of the polymer when exposed to elevated temperatures in service. This product provides improved retention of physical properties under exposure to long term heat. Also, Vydyne R550H has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions.
Typical Applications/End Uses:
Vydyne R550H is successfully used in a wide range of injection-molding engineering applications. Typical parts include automotive clips, radiator endtanks and parts of the air-conditioning and fuel distribution systems; electrical connectors, housings and bobbins; and industrial applications such as gears, bearing shells, covers and housings.

General Information	
UL YellowCard	E70062-249089
Filler / Reinforcement	Glass Fiber,50% Filler by Weight
Additive	Heat Stabilizer Lubricant
Features	Good Flow Good Mold Release Heat Stabilized High Rigidity High Strength Lubricated
Uses	Automotive Under the Hood Gears Housings Power/Other Tools
Agency Ratings	ASTM D 4066 PA012G50 ASTM D 6779 PA012G50
UL File Number	E70062
Appearance	Natural Color
Forms	Pellets
Processing Method	Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.58	--	g/cm³	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	0.50	--	%	
Equilibrium, 23°C, 50% RH	1.2	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	16800	15200	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	240	190	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.5	2.8	%	ISO 527-2
Flexural Modulus (23°C)	16000	11200	MPa	ISO 178
Flexural Strength (23°C)	350	270	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	14	15	kJ/m²	
23°C	15	21	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	91	95	kJ/m²	
23°C	95	110	kJ/m²	
Notched Izod Impact Strength				ISO 180
-30°C	16	18	kJ/m²	
23°C	17	21	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	255	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.2E-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	140	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
RTI Imp				UL 746
0.750 mm	130	--	°C	

1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Str				UL 746
0.750 mm	140	--	°C	
1.50 mm	140	--	°C	
3.00 mm	140	--	°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.750 mm)	1.0E+12	--	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)	400 to 599	--	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 3	--		
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	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	675	--	°C	
1.50 mm	675	--	°C	
3.00 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	700	--	°C	
1.50 mm	700	--	°C	
3.00 mm	750	--	°C	
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

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