



Vydyne® R530HR BK652

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Vydyne R530HR is specifically formulated to give superior hydrolysis resistance for demanding automotive cooling system components. This product has demonstrated more than twice the tensile strength and elongation retention of standard 30% glass-fiber reinforced PA66 after 3,500 hours of aging in automotive coolant at 120° C. Vydyne R530HR demonstrates similar property retention benefits at 130° C for 1,000 hours of coolant aging as well.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight		
Additive	• Heat Stabilizer	• Lubricant	
Features	• Antifreeze Resistant	• Gasoline Resistant	• Lubricated
	• Chemical Resistant	• Heat Stabilized	• Solvent Resistant
	• Fatigue Resistant	• High Flow	
Uses	• Automotive Under the Hood		
Agency Ratings	• ASTM D4066 PA012G30	• ASTM D6779 PA012G30	
Automotive Specifications	• CHRYSLER MS-DB-41 CPN 4018	• DELPHI SD-2-181	• VOLKSWAGEN TL 52682
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.37	--	g/cm ³	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)	0.90	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.9	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.41E+6	1.12E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	26800	20300	psi	ISO 527-2
Tensile Strain (Break, 73°F)	4.0	6.5	%	ISO 527-2
Flexural Modulus (73°F)	1.38E+6	870000	psi	ISO 178
Flexural Stress (73°F)	38400	22500	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	4.8	4.8	ft·lb/in ²	
-22°F	5.0	4.8	ft·lb/in ²	
73°F	5.9	8.6	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179
-40°F	40	43	ft·lb/in ²	
-22°F	40	43	ft·lb/in ²	
73°F	45	48	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180
-40°F	5.2	6.2	ft·lb/in ²	
-22°F	5.2	6.2	ft·lb/in ²	
73°F	6.7	8.1	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	500	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	482	--	°F	
Melting Temperature	500	--	°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)	5.9E-5	--	in/in/°F	ISO 11359-2

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Suggested Max Regrind	25	%
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

Notes

¹ Typical properties: these are not to be construed as specifications.