Vydyne® R860 BK02

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Vydyne R860 BK02 is general-purpose, glass-fiber and mineral-reinforced PA66 resin. Available in black, this product is also lubricated for improved flow and offers superior surface appearance.

Glass fiber and mineral-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.

Typical Applications/End Uses:
Vydyne R860 BK02 can be successfully used in a wide range of injection-molding engineering applications. Typical parts include automotive clips, radiator shrouds, fans and mirror brackets; electrical connectors, housings and bobbins; and industrial applications such as gears, bearing shells, covers and housings.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber	• Mineral	
Additive	• Lubricant		
Features	• Good Mold Release • High Rigidity	• High Strength • High Tensile Strength	• Lubricated • Outstanding Surface Finish
Uses	• Automotive Under the Hood • Bearings	• Connectors • Housings	
Agency Ratings	• ASTM D4066 PA114R35	• ASTM D6779 PA084R35	
Automotive Specifications	• BOSCH VDA EMPB • CHRYSLER MS-DB-41 CPN 2554	• FORD ESB-M4D353-A7 • GM GMP.PA66.003	• GM GMP.PA66.042R • HYUNDAI MS211-47 Type C
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.47	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.80	--	%	
Flow : 73°F, 0.0787 in	0.25	--	%	
Water Absorption (24 hr, 73°F)	0.60	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.0	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.45E+6	856000	psi	ISO 527-2
Tensile Stress (Break, 73°F)	17400	13100	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.5	2.8	%	ISO 527-2
Flexural Modulus (73°F)	1.31E+6	653000	psi	ISO 178
Flexural Stress (73°F)	27600	14100	psi	ISO 178

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Mechanical	Dry	Conditioned	Unit	Test Method
Poisson's Ratio	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-22°F	1.8	2.9	ft·lb/in²	
73°F	2.1	4.8	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	20	29	ft·lb/in²	
73°F	23	27	ft·lb/in²	
Notched Izod Impact Strength				ISO 180
-22°F	2.2	3.1	ft·lb/in²	
73°F	2.7	4.8	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	446	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	419	--	°F	
Melting Temperature	491	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.3E-4	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	3.8E-4	--	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.

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