Vydyne® R433H BK0746

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Vydyne R433H BK0746 is designed to reinforce downgauged steel and aluminum used in vehicle body-in-white (BIW) structures, helping reduce weight without sacrificing safety or comfort.

Vydyne R433H BK0746 has improved energy absorption over traditional glass-filled PA66, helping reduce noise, vibration and harshness (NVH) and absorbing impact energy from crashes. Using Vydyne R433H BK0746 in the BIW structure reinforces sheet metal, helping manufacturers shave substantial weight and improve efficiency. Trends in lightweight and NVH are becoming even more paramount with the growth of Electric Vehicles. Vydyne R433H BK0746 has excellent performance attributes to support applications where this will be of prime importance such as battery frames and housings.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 33% Filler by Weight		
Additive	• Heat Stabilizer	• Impact Modifier	• Lubricant
Features	• Balanced Stiffness/Toughness • Chemical Resistant • Gasoline Resistant • Good Dimensional Stability • Good Heat Resistance	• Good Rigidity • Good Tensile Strength • Good Toughness • Heat Stabilized • Impact Modified	• Lubricated • Oil Resistant • Solvent Resistant
Uses	• Automotive Applications • Automotive Under the Hood	• Handles • Lawn and Garden Equipment	• Power/Other Tools • Pulleys
Agency Ratings	• ASTM D4066 PA016G33 • ASTM D4066 PA018G33	• ASTM D6779 PA016G33 • ASTM D6779 PA018G33	
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.33	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.55	--	%	
Flow : 73°F, 0.0787 in	0.53	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.35E+6	783000	psi	ISO 527-2
Tensile Stress (Break, 73°F)	21300	15500	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.2	6.8	%	ISO 527-2
Flexural Modulus (73°F)	1.22E+6	870000	psi	ISO 178
Flexural Stress (73°F)	30500	18900	psi	ISO 178

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°F	6.7	--	ft·lb/in²	
-22°F	7.1	3.8	ft·lb/in²	
73°F	11	13	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-40°F	47	--	ft·lb/in²	
-22°F	45	45	ft·lb/in²	
73°F	41	47	ft·lb/in²	
Notched Izod Impact Strength				ISO 180
-40°F	7.1	--	ft·lb/in²	
-22°F	--	7.6	ft·lb/in²	
73°F	10	14	ft·lb/in²	

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	473	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	9.4E-6	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.9E-5	--	in/in/°F	ISO 11359-2

Electrical	Dry	Conditioned	Unit	Test Method
Dielectric Strength (0.0394 in)	710	--	V/mil	IEC 60243

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.06 in	HB	--		
0.12 in	HB	--		
0.016 in	V-2	--		
0.030 in	V-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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