Vydyne® AVS1AF1 NT0840

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne AVS1AF1 NT0840 is a 50% glass fiber reinforced, heat-stabilized PA66 designed for injection molding applications. AVS1AF1 NT0840 offers improved flow with a natural color and maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline. Application targets include automotive mounts, brackets and suspension components.Vydyne AVS1AF1 NT0840 has been characterized in anisotropic tensile tests as well as anisotropic fatigue. Material data and models are available at Ascend Performance Materials and in Digimat®-MX.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight		
Additive	• Heat Stabilizer	• Lubricant	
Features	• General Purpose • Good Flow • Good Heat Resistance	• Good Processability • Good Stiffness • Heat Stabilized	• High Strength • High Tensile Strength • Lubricated
Automotive Specifications	• TESLA TM-1006 V3 201150		
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66-GF50		

Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.60	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.80	--	%	
Flow : 73°F, 0.0787 in	0.30	--	%	
Water Absorption (24 hr, 73°F)	1.2	--	%	ISO 62
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	2.55E+6	2.07E+6	psi	ISO 527-1
Tensile Stress (Break, 73°F)	36800	29700	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.3	3.0	%	ISO 527-2
Flexural Modulus (73°F)	2.39E+6	1.77E+6	psi	ISO 178
Flexural Stress (73°F)	55100	37900	psi	ISO 178
Poisson's Ratio (73°F)	0.36	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	7.6	7.6	ft·lb/in²	
-22°F	7.6	7.6	ft·lb/in²	
73°F	7.6	9.0	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	47	50	ft·lb/in²	
-22°F	48	49	ft·lb/in²	
73°F	48	53	ft·lb/in²	
Notched Izod Impact Strength				ISO 180/1A
-40°F	7.6	7.1	ft·lb/in²	
-22°F	7.6	7.6	ft·lb/in²	
73°F	7.1	8.1	ft·lb/in²	

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Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	502	498	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	486	482	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	7.2E-6	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	3.5E-5	--	in/in/°F	ISO 11359-2
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Electric Strength (0.0394 in)	890	610	V/mil	IEC 60243-1

Notes

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

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