

Vydyne® AVS1AF1 BK0781

polyamide 66



Vydyne AVS1AF1 BK0781 is a 50% glass fiber reinforced, heat-stabilized PA66 designed for injection molding applications. AVS1AF1 BK0781 offers improved flow with a black surface finish 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 BK0781 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

Additive	• Heat Stabilizer		
Features	• Chemical Resistant	• Creep Resistant	• Fatigue Resistant
	• Good Dimensional Stability	• Good Flow	• Good Heat Resistance
	• Good Processability	• Good Stiffness	• Good Strength
	• Grease Resistant	• Heat Aging Resistant	• Heat Stabilized
	• High Rigidity	• High Tensile Strength	• Oil Resistant
Agency Rating	• ASTM, D6779	• ASTM, D4066	
Automotive Specifications	• Stellantis 01378_22_03161	• Tesla TM-1006 v3 - 201150	
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	dry	cond.	Unit	Test Standard
Density	1.58	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	0.8	*	%	
Flow : 23°C, 2.00 mm	0.3	*	%	
Water Absorption				ISO 62
23°C, 24 hr	0.5	*	%	
Equilibrium, 23°C, 50% RH	1.2	*	%	

Mechanical	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	16800	12600	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	240	180	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.5	3.5	%	ISO 527-2
Flexural Modulus (23°C)	16000	11200	MPa	ISO 178
Flexural Strength (23°C)	350	270	MPa	ISO 178
Poisson's Ratio (23°C)	0.4			ISO 527-2

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Impact	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	15	21	kJ/m²	
-30°C	14	15	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	95	110	kJ/m²	
-30°C	91	95	kJ/m²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	17	21	kJ/m²	
-30°C	16	18	kJ/m²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	255	-	°C	
0.45 MPa, Unannealed	260	-	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	12	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	100	*	E-6/K	

Flammability	Value	Unit	Test Standard
Burning Rate, 2.00 mm		mm/min	ISO 3795

Injection	Value	Unit
Drying Temperature	80	°C
Drying Time	4	h
Rear Temperature	280 - 310	°C
Middle Temperature	280 - 310	°C
Front Temperature	280 - 310	°C
Nozzle temperature	280 - 310	°C
Processing (Melt) Temperature	285 - 305	°C
Mold Temperature	65 - 95	°C



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