

Vydyne® 22HSP BK

 Ascend Performance Materials Operations LLC - *Polyamide 66*
General Information
Product Description

Vydyne 22HSP BK is a general-purpose, unfilled, lubricated, heat stabilized PA66 resin. Designed principally for injection-molding fabrication, this product offers a combination of engineering properties characterized by high strength; rigidity; good toughness; high melt point; good surface lubricity; abrasion resistance; and resistance to many chemicals, machine and motor oils, solvents and gasoline. This product is designed to resist thermal degradation when exposed to warm climates.

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Heat Stabilizer • Lubricant		
Features	• Abrasion Resistant • Chemical Resistant • Fast Molding Cycle • Gasoline Resistant • General Purpose	• Good Mold Release • Good Toughness • Heat Stabilized • High Rigidity • High Strength	• Lubricated • Oil Resistant • Solvent Resistant
Agency Ratings	• ASTM D4066 PA0121 • ASTM D6779 PA0121	• FED L-P-410A • MIL M-20693B	• SAE J1639 PA0121 Z6
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• AISIN TO20141124 - P-PA66-N-808 • APTIV M5543V • FORD WSS-M4D648-B1	• GM GMW16036P-PA66 • HYUNDAI MS941-03 Type A-1 FRV2 • MERCEDES BENZ DBL 5410 ¹	• STELLANTIS MS-DB-41 CPN1899 • TOYOTA TSM 5516G Color: Class 2, Rev 9 • VOLKSWAGEN 50180
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66		

Properties²

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm ³	ISO 1183
Outdoor Suitability	f1	--		UL 746C
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	450000	232000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	12900	8270	psi	ISO 527-2
Tensile Stress (Break, 73°F)	11700	6960	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	4.8	20	%	ISO 527-2
Tensile Strain (Break, 73°F)	25	76	%	ISO 527-2
Flexural Modulus (73°F)	464000	160000	psi	ISO 178
Flexural Stress (73°F)	14800	4210	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	1.6	1.3	ft·lb/in ²	
-22°F	1.3	1.3	ft·lb/in ²	
73°F	2.0	5.2	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	No Break	No Break		
-22°F	No Break	No Break		
73°F	No Break	No Break		



Notched Izod Impact Strength				ISO 180/1A
-40°F	1.9	2.2	ft·lb/in ²	
-22°F	2.0	2.4	ft·lb/in ²	
73°F	2.0	4.0	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	406	383	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	158	181	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
RTI Elec				UL 746B
0.028 in	284	--	°F	
0.06 in	284	--	°F	
0.12 in	284	--	°F	
RTI Imp				UL 746B
0.028 in	203	--	°F	
0.06 in	230	--	°F	
0.12 in	230	--	°F	
RTI Str				UL 746B
0.028 in	239	--	°F	
0.06 in	257	--	°F	
0.12 in	257	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength (0.0394 in)	740	--	V/mil	IEC 60243-1
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
0.028 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR) (0.118 in)	PLC 0	--		UL 746A
Hot-wire Ignition (HWI)				UL 746A
0.028 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate (0.0787 in)	0.0	--	in/min	ISO 3795
Flame Rating				UL 94
0.028 in	V-2	--		
0.06 in	V-2	--		
0.12 in	V-2	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.028 in	1520	--	°F	
0.06 in	1520	--	°F	
0.12 in	1760	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.028 in	1290	--	°F	
0.06 in	1290	--	°F	
0.12 in	1290	--	°F	
Oxygen Index	24	--	%	ISO 4589-2

Processing Information

Injection	Dry Unit
Drying Temperature	< 158 °F
Drying Time	1.0 to 3.0 hr
Rear Temperature	500 to 536 °F
Middle Temperature	518 to 545 °F
Front Temperature	536 to 554 °F
Nozzle Temperature	536 to 572 °F
Processing (Melt) Temp	545 to 572 °F
Temperature	149 to 203 °F

