Vydyne® 22HSP NT

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne 22HSP NT 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 • FDA 21 CFR 177.1500	• FED L-P-410A • MIL M-20693B • NSF STD-51	• SAE J1639 PA0121 Z6
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• AISIN TO20141124 - P-PA66-N-808 • APTIV M5543V • DENSO MSR-18-019 • GM GMW16036P-PA66	• HYUNDAI MS941-03 Type A-1 FRV2 • RENAULT UB15b • STELLANTIS MS-DB-41 CPN1076 • STELLANTIS MS-DB-41 CPN3490	• STELLANTIS MS-DB-41 CPN4814 • TOYOTA TSM 5516G Color: Class 2, Rev 9 • VOLKSWAGEN 50180 • VOLKSWAGEN 96043
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66		

Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.7	--	%	
Flow : 73°F, 0.0787 in	1.6	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	421000	247000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	12000	7980	psi	ISO 527-2
Tensile Strain (Break, 73°F)	27	77	%	ISO 527-2
Flexural Modulus (73°F)	435000	160000	psi	ISO 178
Flexural Stress (73°F)	13900	4210	psi	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	1.3	1.2	ft·lb/in²	
-22°F	1.6	1.4	ft·lb/in²	
73°F	1.8	4.1	ft·lb/in²	
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	2.0	2.0	ft·lb/in²	
-22°F	1.7	2.1	ft·lb/in²	
73°F	2.0	2.8	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	354	360	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	153	172	°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
erature	536 to 572	°F
Melt) Temp	545 to 572	°F
ature	149 to 203	°F