



Vydyne® 22HSP BK

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Vydyne 22HSP BK

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
Uses	• Bearings • Bushings • Cams • Connectors	• Electrical/Electronic Applications • Fasteners • General Purpose • Housings	• Industrial Applications • Valves/Valve Parts • Washer
Agency Ratings	• ASTM D4066 PA0121 • ASTM D6779 PA0121	• FED L-P-410A • MIL M-20693B	
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN 1899 • CHRYSLER MS-DB-41 CPN 3490 • CHRYSLER MS-DB-41 CPN 4814	• DELPHI M-5507 • GM GMP.PA66.018 • GM GMW16036P-PA66	• GM QK 002921 • HYUNDAI MS941-03 Type A-1 FRV2
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	2.0	--	%	
Flow : 73°F, 0.0787 in	2.2	--	%	
Water Absorption (24 hr, 73°F)	1.2	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.4	--	%	
Outdoor Suitability (Black)	f1	--		UL 746C
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	450000	261000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	12300	7980	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7980	5800	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	5.0	20	%	ISO 527-2

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Mechanical	Dry	Conditioned	Unit	Test Method
Nominal Tensile Strain at Break				ISO 527-2
73°F	25	> 50	%	
Flexural Modulus (73°F)	421000	145000	psi	ISO 178
Flexural Strength (73°F)	13800	4350	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	2.4	3.3	ft·lb/in ²	
73°F	2.9	9.5	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-22°F	2.4	3.3	ft·lb/in ²	
73°F	2.9	9.5	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	392	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	158	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F)	5.6E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	5.6E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.028 in	284	--	°F	
0.06 in	284	--	°F	
0.12 in	284	--	°F	
RTI Imp				UL 746
0.028 in	203	--	°F	
0.06 in	230	--	°F	
0.12 in	230	--	°F	
RTI Str				UL 746
0.028 in	239	--	°F	
0.06 in	257	--	°F	
0.12 in	257	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+18	--	ohms·cm	IEC 60093
Dielectric Strength (0.0295 in)	500	--	V/mil	ASTM D149
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index				IEC 60112
0.118 in	400 to 599	--	V	
High Amp Arc Ignition (HAI)				UL 746
0.028 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 0	--		UL 746

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Electrical	Dry	Conditioned	Unit	Test Method
Hot-wire Ignition (HWI)				UL 746
0.028 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate				ISO 3795
0.0787 in, Self-Extinguishing	0.0	--	in/min	
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
Suggested Max Regrind	50	%
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
Mold Temperature	149 to 203	°F

Notes

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