Vydyne® 22HSP
polyamide 66

Vydyne 22HSP product description to come.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Lubricant		
Features	• Abrasion Resistant • Chemical Resistant • Fast Molding Cycle • Gasoline Resistant	• General Purpose • Good Mold Release • Good Toughness • High Rigidity	• High Strength • Lubricated • Oil Resistant • Solvent Resistant
Uses	• Bearings • Bushings	• Cams • Connectors	• Housings • Industrial Applications
Agency Ratings	• ASTM D 4066 PA0121 • ASTM D 6779 PA0121 • EC 1935/2004	• EU 10/2011 • EU 2023/2006 • FDA 21 CFR 177.1500	• FED L-P-410A • MIL M-20693B • NSF STD-51
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• FORD WSK-M4D647-A • FORD WSK-M4D647-A Color: Black • FORD WSK-M4D648-A • GM GMP.PA66.005	• GM GMP.PA66.005 Color: Black • GM GMP.PA66.018 Color: Natural • GM QK 002921 Color: Natural • NISSAN PA66-INX-1	• SAE J1639 PA0121 Z6 • SAE J1639 PA0121 Z6 Color: Black
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.14	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	2.0	--	%	
Flow : 23°C, 2.00 mm	2.2	--	%	
Water Absorption (23°C, 24 hr)	1.2	--	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	2.4	--	%	ISO 62

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Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3100	1800	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	85.0	55.0	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	55.0	40.0	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	5.0	20	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	25	> 50	%	ISO 527-2
Flexural Modulus (23°C)	2900	1000	MPa	ISO 178
Flexural Strength (23°C)	95.0	30.0	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	5.0	7.0	kJ/m²	
23°C	6.0	20	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-30°C	5.0	7.0	kJ/m²	
23°C	6.0	20	kJ/m²	

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Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
0.45 MPa, Unannealed	200	--	°C	
Heat Deflection Temperature				ISO 75-2/A
1.8 MPa, Unannealed	70.0	--	°C	
Melting Temperature	260	--	°C	ISO 11357-3
CLTE - Flow (23 to 55°C)	1.0E-4	--	cm/cm/°C	ISO 11359-2
CLTE - Transverse (23 to 55°C)	1.0E-4	--	cm/cm/°C	ISO 11359-2
RTI Elec				UL 746
0.71 mm	140	--	°C	
1.5 mm	140	--	°C	
3.0 mm	140	--	°C	
RTI Imp				UL 746
0.71 mm	95.0	--	°C	
1.5 mm	110	--	°C	
3.0 mm	110	--	°C	
RTI Str				UL 746
0.71 mm	115	--	°C	
1.5 mm	125	--	°C	
3.0 mm	125	--	°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.71 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 0	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.71 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 4	--		

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Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.71 mm	V-2	--		
1.5 mm	V-2	--		
3.0 mm	V-2	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.71 mm	825	--	°C	
1.5 mm	825	--	°C	
3.0 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.71 mm	700	--	°C	
1.5 mm	700	--	°C	
3.0 mm	700	--	°C	
Oxygen Index	24	--	%	ISO 4589-2

Injection	Dry	Unit
Drying Temperature	< 70	°C
Drying Time	1.0 to 3.0	hr
Suggested Max Regrind	50	%
Rear Temperature	260 to 280	°C
Middle Temperature	270 to 285	°C
Front Temperature	280 to 290	°C
Nozzle Temperature	280 to 300	°C
Processing (Melt) Temp	285 to 300	°C
Mold Temperature	65 to 95	°C

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

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North America
+1 888 927 2363

Europe
+32 10 608 600

Asia
+86 21 6340 3300

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