



Vydyne® 20NSP1

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

Vydyne 20NSP1

General

Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Lubricant	• Nucleating Agent	
Features	• Fast Molding Cycle • General Purpose • Good Mold Release	• Good Stiffness • High Rigidity • Lubricated	• Nucleated
Uses	• Bearings • Cams • Connectors	• Electrical/Electronic Applications • Fasteners • General Purpose	• Housings • Industrial Applications
Agency Ratings	• ASTM D4066 PA0131 • ASTM D6779 PA0131 • EC 1935/2004	• EU 10/2011 • EU 2023/2006 • FDA 21 CFR 177.1500	• FED L-P-410A
RoHS Compliance	• RoHS Compliant		
UL File Number	• E70062		
Appearance	• Natural Color		
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	1.6	--	%	
Flow : 73°F, 0.0787 in	1.4	--	%	
Water Absorption (24 hr, 73°F)	1.2	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.4	--	%	
Outdoor Suitability (All Colors)	f2	--		UL 746C
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	551000	363000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	13800	8700	psi	ISO 527-2
Tensile Stress (Break, 73°F)	10900	7250	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	5.0	15	%	ISO 527-2
Nominal Tensile Strain at Break				ISO 527-2
73°F	13	20	%	
Flexural Modulus (73°F)	464000	189000	psi	ISO 178
Flexural Strength (73°F)	14500	5080	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	2.4	2.4	ft·lb/in ²	
73°F	2.9	7.1	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	2.4	ft·lb/in ²	
73°F	2.9	7.1	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	446	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	194	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	5.6E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	5.6E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.028 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
RTI Imp				UL 746
0.028 in	167	--	°F	
0.06 in	167	--	°F	
0.12 in	167	--	°F	
RTI Str				UL 746
0.028 in	185	--	°F	
0.06 in	185	--	°F	
0.12 in	185	--	°F	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+13	--	ohms·cm	IEC 60093
Dielectric Strength (0.0394 in)	660	--	V/mil	IEC 60243
Arc Resistance (0.118 in)	PLC 5	--		ASTM D495
Comparative Tracking Index				IEC 60112
0.118 in	600	--	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
Hot-wire Ignition (HWI)				UL 746
0.028 in	PLC 4	--		
0.06 in	PLC 3	--		
0.12 in	PLC 2	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.028 in	V-2	--		
0.06 in	V-2	--		
0.12 in	V-2	--		

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Flammability	Dry	Conditioned	Unit	Test Method
Glow Wire Flammability Index				IEC 60695-2-12
0.028 in	1760	--	°F	
0.06 in	1760	--	°F	
0.12 in	1760	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.028 in	1560	--	°F	
0.06 in	1560	--	°F	
0.12 in	1560	--	°F	
Oxygen Index	26	--	%	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.