Vydyne® 20NSP

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 20NSP is a general-purpose, highly nucleated, lubricated PA66 resin available in natural color. It is designed to crystallize rapidly in order to reduce cycle times and increase productivity through faster part set-up. The higher crystalline structure will increase tensile modulus and strength, reduce elongation and may slightly lower mold shrinkage when compared to standard general-purpose non nucleated PA66. The rapid crystallization of Vydyne 20NSP resin may allow part ejection at a higher temperature compared to general-purpose PA66. Critical factors unique to each application such as mold design, part design, tolerances and other factors will dictate ultimate cycle time benefits. It is recommended to check critical part dimensions against specifications before adopting shorter molding cycles. Vydyne 20NSP resin has an external lubricant for improved machine feed and an internal lubricant for improved mold release.
Typical Applications/End Uses:
End uses for Vydyne 20NSP include terminal blocks, bearings, control cams, electrical connectors, housings, cable ties, fasteners, switch components and industrial parts that require chemical resistance, stiffness, wear resistance and rigidity.

General Information	
UL YellowCard	E70062-249058
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 D 4066 PA0131 ASTM D 6779 PA0131 FED L-P-410A
RoHS Compliance	RoHS Compliant
UL File Number	E70062

Appearance		Natural Color		
Forms		Pellets		
Processing Method		Injection Molding		
Multi-Point Data		Isothermal Stress vs. Strain (ISO 11403-1)		
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	1.6	--	%	
Flow : 23°C, 2.00 mm	1.4	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	--	%	
Equilibrium, 23°C, 50% RH	2.4	--	%	
Outdoor Suitability	f2	--		UL 746C
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	3800	2500	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	95.0	60.0	MPa	
Break, 23°C	75.0	50.0	MPa	
Tensile Strain (Yield, 23°C)	5.0	15	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	13	20	%	ISO 527-2
Flexural Modulus (23°C)	3200	1300	MPa	ISO 178
Flexural Strength (23°C)	100	35.0	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	5.0	5.0	kJ/m²	
23°C	6.0	15	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	5.0	kJ/m²	
23°C	6.0	15	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	230	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	90.0	--	°C	ISO 75-2/A

Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.0E-4	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.0E-4	--	cm/cm/°C	
RTI Elec				UL 746
0.400 mm	130	--	°C	
0.710 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
0.400 mm	75.0	--	°C	
0.710 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
RTI Str				UL 746
0.400 mm	75.0	--	°C	
0.710 mm	85.0	--	°C	
1.50 mm	85.0	--	°C	
3.00 mm	85.0	--	°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.750 mm)	1.0E+13	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	26	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 5	--		ASTM D495
Comparative Tracking Index (3.00 mm)	600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.400 mm	PLC 1	--		
0.710 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 0	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.400 mm	PLC 4	--		
0.710 mm	PLC 4	--		
1.50 mm	PLC 3	--		
3.00 mm	PLC 2	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94

0.400 mm	V-2	--		
0.710 mm	V-2	--		
1.50 mm	V-2	--		
3.00 mm	V-2	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.400 mm	960	--	°C	
0.710 mm	960	--	°C	
1.50 mm	960	--	°C	
3.00 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.400 mm	825	--	°C	
0.710 mm	850	--	°C	
1.50 mm	850	--	°C	
3.00 mm	850	--	°C	
Oxygen Index	26	--	%	ISO 4589-2

Injection	Dry	Unit	
Drying Temperature	< 70.0	°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	65.0 to 95.0	°C	

Recommended distributors for this material

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