

Vydyne® 20NSP1ML

polyamide 66



Vydyne 20NSP1ML is a general-purpose, highly nucleated, enhanced crystallization temperature PA66 resin with an alternate internal lubricant. Designed to crystallize rapidly in order to reduce cycle times and increase productivity through faster part set-up.

General

Regional Availability	• North America	• Europe	• Asia Pacific
Additive	• Lubricant		
Features	• Fast Molding Cycle • Good Stiffness • Nucleated	• General Purpose • High Rigidity	• Good Mold Release • Lubricated
Certifications	• Food approval 10/2011	• Food approval FDA 21 CFR	
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	dry	cond.	Unit	Test Standard
Density	1.14	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.7	*	%	
Flow : 23°C, 2.00 mm	1.3	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.64	*	%	
Equilibrium, 23°C, 50% RH	2.4	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	3400	2300	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	95	67	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	90	64	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	5.2	18	%	ISO 527-2
Tensile Strain (Break, 23°C)	15	23	%	ISO 527-2
Flexural Modulus (23°C)	3300	1200	MPa	ISO 178
Flexural Strength (23°C)	103	28	MPa	ISO 178
Poisson's Ratio (23°C)	0.4		-	ISO 527-2

Impact

	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	4	6	kJ/m ²	
-30°C	3	3	kJ/m ²	
-40°C	3	3	kJ/m ²	

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Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	N	N	kJ/m ²	
-30°C	N	N	kJ/m ²	
-40°C	N	N	kJ/m ²	

Notched Izod Impact Strength				ISO 180/1A
+23°C	4	6	kJ/m ²	
-30°C	3	4	kJ/m ²	
-40°C	3	4	kJ/m ²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	78	-	°C	
0.45 MPa, Unannealed	232	221	°C	
Melting Temperature	262	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	100	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	100	*	E-6/K	
RTI Elec				UL 746
0.750 mm	130		°C	
1.50 mm	130		°C	
3.00 mm	130		°C	
RTI Imp				UL 746
0.750 mm	75		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.750 mm	85		°C	
1.50 mm	85		°C	
3.00 mm	85		°C	

Electrical	dry	cond.	Unit	Test Standard
Volume Resistivity (1.00 mm)	1E11	-	Ohm*m	IEC 60093
Arc Resistance (3.00 mm)	5		-	ASTM D 495
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0		-	
1.50 mm	PLC 0		-	
3.00 mm	PLC 0		-	
High Voltage Arc Tracking Rate (HVTR), 3.00 mm	PLC 0		-	UL 746
Hot-wire Ignition (HWI)				UL 746

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0.750 mm	PLC 4	-
1.50 mm	PLC 3	-
3.00 mm	PLC 2	-

Flammability	Value	Unit	Test Standard
Flammability			UL 94
0.750 mm	V-2	-	
1.50 mm	V-2	-	
3.00 mm	V-2	-	
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	960	°C	
1.50 mm	960	°C	
3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.750 mm	850	°C	
1.50 mm	850	°C	
3.00 mm	850	°C	

Injection	Value	Unit
Drying Temperature	80	°C
Drying Time	4	h
Rear Temperature	260 - 280	°C
Middle Temperature	270 - 285	°C
Front Temperature	280 - 290	°C
Nozzle temperature	280 - 300	°C
Processing (Melt) Temperature	285 - 300	°C
Mold Temperature	65 - 95	°C

