Vydyne® 20NSP

polyamide 66

Vydyne 20NSP is a general-purpose, highly nucleated, lubricated PA66 resin with a further enhanced crystallization temperature. 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 • Lubricated	• General Purpose • High Crystallinity • Nucleated	• Good Mold Release • High Rigidity
Agency Rating	• ASTM, D4066 PA0131 • EU, 10/2011 • FED, L-P-410A	• ASTM, D6779 PA0131 • EU, 2023/2006 • NSF, STD-51	• EC, 1935/2004 • FDA, 21 CFR 177.1500
Automotive Specifications	• Toyota TSM5516G Class 2 (compliance)		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	dry	cond.	Unit	Test Standard
Density	1.14	-	g/cm³	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	*	%	
Outdoor Suitability	f2		-	UL 746C

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

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polyamide 66

Impact	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	4	4	kJ/m²	
-30°C	3	3	kJ/m²	
-40°C	3	3	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	N	N	kJ/m²	
-30°C	N	N	kJ/m²	
-40°C	N	N	kJ/m²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	4	6	kJ/m²	
-30°C	3	4	kJ/m²	
-40°C	3	4	kJ/m²	

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
0.400 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		°C	
0.710 mm	75		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.400 mm	75		°C	
0.710 mm	85		°C	
1.50 mm	85		°C	
3.00 mm	85		°C	

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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
0.400 mm	PLC 1		-	
0.710 mm	PLC 0		-	
1.50 mm	PLC 0		-	
3.00 mm	PLC 0		-	
High Voltage Arc Tracking Rate (HVTR), 3.00 mm	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	cond.	Unit	Test Standard
Flammability				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	*	%	EN ISO 4589-2

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

North America
+1 888 927 2363

Europe
+32 10 608 600

Asia
+86 21 2315 0888

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