

Vydyne® 21SPR

polyamide 66



Vydyne 21SPR is a general-purpose, unfilled, PA66 resin with an performance lubricant. Designed principally for injection-molding applications, this product offers a combination of engineering properties characterized by high strength; rigidity; good toughness; high melt point; good surface lubricity; abrasion resistance; and resistance to many chemicals, machine and motor oils, solvents and gasoline.

General

Regional Availability	• North America	• Europe	• Asia Pacific
Additive	• Lubricant		
Features	• Abrasion Resistance • Gasoline Resistant • Good Toughness • Lubricated	• Chemical Resistant • General Purpose • High Rigidity • Oil Resistant	• Fast Molding Cycle • Good Mold Release • High Strength • Solvent Resistant
UL File Number	• E70062		
Appearance	• Natural Color		
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	1.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.7	*	%	
Equilibrium, 23°C, 50% RH	2.5	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	3000	1700	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	82	53	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	55	45	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	5	25	%	ISO 527-2
Tensile Strain (Break, 23°C)	33.2	46	%	ISO 527-2
Flexural Modulus (23°C)	2900	1100	MPa	ISO 178
Flexural Strength (23°C)	90	30	MPa	ISO 178
Poisson's Ratio (23°C)	0.4		-	ISO 527-2

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Impact	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	4.8	8.3	kJ/m²	
-30°C	3.4	4.4	kJ/m²	
-40°C	2.9	4.3	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	4.5	6.4	kJ/m²	
-30°C	4.3	5.4	kJ/m²	
-40°C	4.9	5	kJ/m²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	73	85	°C	
0.45 MPa, Unannealed	198	185	°C	
Melting Temperature	262	*	°C	ISO 11357-3
RTI Elec				UL 746
0.710 mm	130		°C	
1.50 mm	130		°C	
3.00 mm	130		°C	
RTI Imp				UL 746
0.710 mm	75		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.710 mm	85		°C	
1.50 mm	85		°C	
3.00 mm	85		°C	

Electrical	Value	Test Standard
High Amp Arc Ignition (HAI)		UL 746
0.710 mm	PLC 0	
1.50 mm	PLC 0	
3.00 mm	PLC 0	
Hot-wire Ignition (HWI)		UL 746
0.710 mm	PLC 4	

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1.50 mm	PLC 3
3.00 mm	PLC 3

Flammability	Value	Test Standard
Flammability		UL 94
0.710 mm	V-2	
1.50 mm	V-2	
3.00 mm	V-2	

Injection	Value	Unit
Drying Temperature	≤ 70	°C
Drying Time	1 - 3	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

