

Vydyne® 25WSP

polyamide 66



Vydyne 25WSP is a weather-resistant injection-molding grade PA66 resin meeting MIL Spec criteria. This resin offers a well-balanced combination of engineering properties characterized by high strength, rigidity, good toughness, high melt point, good surface lubricity and abrasion resistance. 25WSP maintains the chemical resistance typical of PA66 to many chemicals, machine and motor oils, solvents and gasoline.

General

Regional Availability	• North America	• Europe	• Asia Pacific
Additive	• Lubricant		
Features	• Abrasion Resistance • Fast Molding Cycle • Good Mold Release • High Strength • Solvent Resistant	• Chemical Resistant • Gasoline Resistant • Good Toughness • Lubricated • Weatherable	• Ductile • General Purpose • High Rigidity • Oil Resistant
Agency Rating	• ASTM, D4066 PA0191	• ASTM, D6779 PA0191	• MIL, M-20693B
Automotive Specifications	• Franklin Precision 25WSP Black (compliance)	• Toyota TSM5516G Class 2 (compliance)	
UL File Number	• E70062		
Appearance	• Black		
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	1.4	*	%	
Flow : 23°C, 2.00 mm	1.6	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	*	%	
Equilibrium, 23°C, 50% RH	2.4	*	%	
Outdoor Suitability	f1		-	UL 746C

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	3400	1600	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	83	77	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	4.5	25	%	ISO 527-2
Tensile Strain (Break, 23°C)	20	60	%	ISO 527-2
Flexural Modulus (23°C)	3100	1400	MPa	ISO 178
Flexural Strength (23°C)	87	22	MPa	ISO 178

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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	6	-	kJ/m²	
-30°C	4.8	-	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	N	-	kJ/m²	
-30°C	N	-	kJ/m²	
Notched Izod Impact Strength, +23°C	6	-	kJ/m²	ISO 180/1A
Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	70	-	°C	
0.45 MPa, Unannealed	225	-	°C	
Melting Temperature	260	*	°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	110	*	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
Dielectric Strength (1.00 mm)	26	-	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	5		-	ASTM D 495
Comparative Tracking Index (3.00 mm)	600		V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0		-	
1.50 mm	PLC 0		-	

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3.00 mm	PLC 0	-	
High Voltage Arc Tracking Rate (HVTR), 3.00 mm	PLC 0	-	UL 746
Hot-wire Ignition (HWI)			UL 746
0.750 mm	PLC 4	-	
1.50 mm	PLC 3	-	
3.00 mm	PLC 2	-	

Flammability	dry	cond.	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	850		°C	
1.50 mm	875		°C	
3.00 mm	960		°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	700		°C	
1.50 mm	700		°C	
3.00 mm	725		°C	
Oxygen index	23	*	%	EN ISO 4589-2

Railway Application	dry	cond.	Unit	Test Standard
Oxygen index	23	-	%	EN ISO 4589-2

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

