Vydyne® 25WSP

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 25WSP is a black, weather-resistant injection-molding grade PA66 resin. 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. Vydyne 25WSP maintains the chemical resistance typical of PA66 to many chemicals, machine and motor oils, solvents and gasoline.
Weather resistance is obtained by incorporating finely divided, well-dispersed carbon black particles in the PA66 matrix. While the presence of carbon black usually increases brittleness, this resin has been formulated to minimize loss of ductility properties such as elongation and Izod impact strength. As a result, parts molded from 25WSP frequently exhibit higher ductility and practical toughness compared with other black, weather-resistant, non-impact-modified PA66 molded parts.
Vydyne 25WSP resin is internally and externally lubricated for improved machine feed and exceptional mold release. Vydyne 25WSP is intended for use in high-productivity applications. In many applications, the molding cycle can be reduced because molded parts may be removed from the cavity at higher temperatures. In difficult molds where parts have a tendency to stick in the cavity, Vydyne 25WSP can reduce or eliminate the need for mold release sprays. Critical molded part dimensions should be checked against specifications before implementing shorter molding cycles on a routine production basis.
Typical Applications/End Uses:
Lubricated for machine feed and mold release, Vydyne 25WSP provides very good flow and easy moldability. Typical applications include cable ties/tie straps, where its combination of easy flow, good ductility and high tensile strength is particularly attractive, and a wide variety of electrical/electronic and miscellaneous applications requiring weather resistance.

General Information	
UL YellowCard	E70062-249063
Additive	Carbon Black
	Lubricant
Features	Ductile
	Gasoline Resistance
	Good Abrasion Resistance
	Good Chemical Resistance
	Good Flow
	Good Mold Release
	Good Toughness
	Good Weather Resistance
	High Rigidity
	High Strength
	High Tensile Strength
	Lubricated
	Oil Resistant
	Solvent Resistant
Uses	Electrical/Electronic Applications
Agency Ratings	ASTM D 4066 PA0191
	ASTM D 6779 PA0191
	MIL M-20693B

	UL f1

UL File Number		E70062		
Appearance		Black		
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	1.4	--	%	
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**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	3400	1550	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	83.0	77.0	MPa	ISO 527-2
Tensile Strain (Yield, 23°C)	4.5	25	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	20	60	%	ISO 527-2
Flexural Modulus (23°C)	3100	1400	MPa	ISO 178
Flexural Strength (23°C)	87.0	22.0	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	4.8	--	kJ/m²	
23°C	6.0	--	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	--		
23°C	No Break	--		
Notched Izod Impact Strength (23°C)	6.0	--	kJ/m²	ISO 180
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				
0.45 MPa, Unannealed	225	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	70.0	--	°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	1.1E-4	--	cm/cm/°C	
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	85.0	--	°C	
1.50 mm	85.0	--	°C	
3.00 mm	85.0	--	°C	
RTI Str				UL 746
0.750 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
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
0.750 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
0.750 mm	PLC 4	--		
1.50 mm	PLC 3	--		
3.00 mm	PLC 2	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				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	--	%	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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