Vydyne® 21SPF

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 21SPF is a general-purpose PA66 resin. Available in natural, it is designed principally for injection-molding fabrication. This grades offer a well-balanced 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.
Vydyne 21SPF resin permits production of molded parts with good initial color plus good property and color retention when using regrind. This resin is recognized by Underwriters Laboratories and conforms to the requirements of many industrial, federal and military specifications for premium-quality, general-purpose PA66 resins.
Vydyne 21SPF resin is internally and externally lubricated for improved machine feed and exceptional mold release. It is intended for use in high-productivity applications. In many applications, the molding cycle can be reduced because parts may be removed from the cavity at higher temperatures. In difficult molds where parts have a tendency to stick in the cavity, Vydyne 21SPF 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:
To come

General Information	
UL YellowCard	E70062-249058
Additive	Lubricant
Features	Fast Molding Cycle Gasoline Resistance Good Abrasion Resistance Good Chemical Resistance Good Mold Release Good Toughness High Rigidity High Strength Lubricated Oil Resistant Solvent Resistant
Uses	Bearings Bushings Cams Connectors Electrical Housing Industrial Applications
Agency Ratings	ASTM D 4066 PA0111 ASTM D 6779 PA0111 FDA 21 CFR 177.1500 FED L-P-410A

RoHS Compliance		RoHS Compliant		
UL File Number		E70062		
Appearance		Natural Color		
Forms		Pellets		
Processing Method		Injection Molding		
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	2.0	--	%	
Flow : 23°C, 2.00 mm	2.0	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	--	%	
Equilibrium, 23°C, 50% RH	2.4	--	%	
Outdoor Suitability	f2	--		UL 746C
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (23°C)	3300	1600	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	88.0	55.0	MPa	
Break, 23°C	60.0	45.0	MPa	
Tensile Strain (Yield, 23°C)	5.0	20	%	ISO 527-2
Nominal Tensile Strain at Break (23°C)	20	> 50	%	ISO 527-2
Flexural Modulus (23°C)	3300	1050	MPa	ISO 178
Flexural Strength (23°C)	105	30.0	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	5.0	7.0	kJ/m²	
23°C	6.0	23	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-30°C	5.0	7.0	kJ/m²	
23°C	6.0	23	kJ/m²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**

Heat Deflection Temperature				
0.45 MPa, Unannealed	210	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	72.0	--	°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	1.0E-4	--	cm/cm/°C	
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	75.0	--	°C	
0.710 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
RTI Str				UL 746
0.400 mm	75.0	--	°C	
0.710 mm	85.0	--	°C	
1.50 mm	85.0	--	°C	
3.00 mm	85.0	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+13	--	ohms·cm	IEC 60093
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
0.400 mm	PLC 1	--		
0.710 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	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**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				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	--	%	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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