Vydyne® 909

Monday, November 4, 2019

Ascend Performance Materials Operations LLC - Polyamide 66/6 Copolymer

General Information

Product Description

Vydyne 909 is an halogenated, 25% glass-filled, flame-retardant PA66/6 copolymer with excellent strength and toughness. It is lubricated for machine feed and easy mold release and has an Underwriters Laboratories UL 94 flammability classification of V-0 at 0.4 mm (0.016") thick.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight		
Additive	• Flame Retardant	• Halogen	• Lubricant
Features	• Crack Resistant • Flame Retardant • Good Mold Release	• Good Toughness • Halogenated • High Rigidity	• High Strength • Ignition Resistant • Lubricated
Uses	• Appliances • Automotive Electronics • Bobbins • Connectors • Electrical Housing	• Electrical Parts • Electrical/Electronic Applications • Housings • Industrial Applications • Lighting Applications	• Living Hinges • Printed Circuit Boards • Switches
RoHS Compliance	• RoHS Compliant		
Automotive Specifications	• DELPHI M-6538V	• GM GMP.PA66.058	
UL File Number	• E70062		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.47	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.0	--	%	
Flow : 73°F, 0.0787 in	0.40	--	%	
Water Absorption (24 hr, 73°F)	0.70	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.3	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.32E+6	1.03E+6	psi	ISO 527-2
Tensile Stress (Break, 73°F)	19100	13100	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.2	3.0	%	ISO 527-2
Flexural Modulus (73°F)	1.20E+6	725000	psi	ISO 178
Flexural Strength (73°F)	28000	20300	psi	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	4.5	--	ft·lb/in²	
73°F	4.5	--	ft·lb/in²	

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	17	--	ft·lb/in²	
73°F	19	--	ft·lb/in²	
Notched Izod Impact Strength				ISO 180
73°F	4.3	--	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	482	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	446	--	°F	
Melting Temperature	482	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.1E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	5.6E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.016 in	149	--	°F	
0.030 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
RTI Imp				UL 746
0.016 in	149	--	°F	
0.030 in	149	--	°F	
0.06 in	203	--	°F	
0.12 in	203	--	°F	
RTI Str				UL 746
0.016 in	149	--	°F	
0.030 in	230	--	°F	
0.06 in	230	--	°F	
0.12 in	230	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index				IEC 60112
0.118 in	250 to 399	--	V	
High Amp Arc Ignition (HAI)				UL 746
0.030 in	PLC 0	--		
0.06 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)				UL 746
0.118 in	PLC 3	--		
Hot-wire Ignition (HWI)				UL 746
0.030 in	PLC 0	--		
0.06 in	PLC 0	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.016 in	V-0	--		
0.030 in	V-0	--		
0.06 in	• V-0 • 5VA	--		
0.12 in	• V-0 • 5VA	--		

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Flammability	Dry	Conditioned	Unit	Test Method
Glow Wire Flammability Index				IEC 60695-2-12
0.016 in	1760	--	°F	
0.030 in	1760	--	°F	
0.06 in	1760	--	°F	
0.12 in	1760	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.016 in	1710	--	°F	
0.030 in	1380	--	°F	
0.06 in	1380	--	°F	
0.12 in	1470	--	°F	
Oxygen Index	32	--	%	ISO 4589-2

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Suggested Max Regrind	25	%
Rear Temperature	464 to 518	°F
Middle Temperature	464 to 518	°F
Front Temperature	464 to 518	°F
Nozzle Temperature	464 to 518	°F
Processing (Melt) Temp	482 to 518	°F
Mold Temperature	149 to 203	°F

Notes

[1] Typical properties: these are not to be construed as specifications.