

Vydyne® M344

Polyamide 66/6 Copolymer

Ascend Performance Materials Operations LLC

Message:

Vydyne M344 is an halogenated, unfilled, flame-retardant PA66/6 copolymer designed 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 Information	
UL YellowCard	E70062-249075
Additive	Halogen
	Lubricant
Features	Ductile
	Flame Retardant
	Good Crack Resistance
	Good Mold Release
	Good Toughness
	Halogenated
	High Elongation
	Ignition Resistant
	Low Density
	Lubricated
Uses	Appliances
	Automotive Electronics
	Bobbins
	Connectors
	Electrical Housing
	Electrical Parts
	Electrical/Electronic Applications
	Fasteners
	Industrial Applications
	Lighting Applications
	Living Hinges
	Printed Circuit Boards
	Switches
UL File Number	E70062
Appearance	Natural Color
Forms	Pellets

Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.27	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.8	--	%	
Flow : 23°C, 2.00 mm	1.3	--	%	
Water Absorption				ISO 62
23°C, 24 hr	0.80	--	%	
Equilibrium, 23°C, 50% RH	1.9	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3500	2300	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	60.0	40.0	MPa	ISO 527-2
Tensile Strain				ISO 527-2
Yield, 23°C	5.2	25	%	
Break, 23°C	35	75	%	
Flexural Modulus (23°C)	3000	1400	MPa	ISO 178
Flexural Strength (23°C)	90.0	43.0	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	5.2	--	kJ/m ²	
23°C	5.5	--	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	--		
23°C	No Break	--		
Notched Izod Impact Strength (23°C)				ISO 180
	5.0	--	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	186	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	65.0	--	°C	ISO 75-2/A
Melting Temperature (DSC)	250	--	°C	ISO 3146
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	65.0	--	°C	
0.750 mm	130	--	°C	

1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
0.400 mm	65.0	--	°C	
0.750 mm	65.0	--	°C	
1.50 mm	95.0	--	°C	
3.00 mm	95.0	--	°C	
RTI Str				UL 746
0.400 mm	65.0	--	°C	
0.750 mm	95.0	--	°C	
1.50 mm	95.0	--	°C	
3.00 mm	95.0	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+10	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	26	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	400 to 599	--	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 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.400 mm	V-0	--		
0.750 mm	V-0	--		
1.50 mm	V-0	--		
3.00 mm	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	960	--	°C	
1.50 mm	960	--	°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	30	--	%	ISO 4589-2
Injection	Dry	Unit		
Drying Temperature	80.0		°C	
Drying Time	4.0		hr	
Suggested Max Regrind	25		%	
Rear Temperature	240 to 270		°C	
Middle Temperature	240 to 270		°C	
Front Temperature	240 to 270		°C	
Nozzle Temperature	240 to 270		°C	
Processing (Melt) Temp	250 to 270		°C	
Mold Temperature	65.0 to 95.0		°C	

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