Vydyne® ECO366
polyamide 66

Vydyne ECO366 is a non-halogenated, unfilled, flame-retardant PA66 homopolymer designed with superior flow properties to assist in filling thin-walled, intricate parts. 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
Additive	• Flame Retardant	• Heat Stabilizer	• Lubricant
Features	• Crack Resistant • Ductile • Flame Retardant	• Good Mold Release • Good Toughness • Halogen Free	• Heat Stabilized • 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	1.17	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.2	--	%	
Flow : 23°C, 2.00 mm	0.90	--	%	
Water Absorption				ISO 62
24 hr, 23°C	0.80	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Stress (Yield, 23°C)	83.0	58.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	5.0	6.0	%	ISO 527-2
Flexural Modulus (23°C)	3900	1350	MPa	ISO 178
Flexural Strength (23°C)	107	39.0	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	3.7	--	kJ/m²	
23°C	3.4	--	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	78	--	kJ/m²	
23°C	75	--	kJ/m²	
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	240	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	75.0	--	°C	ISO 75-2/A
Melting Temperature	265	--	°C	ISO 11357-3
RTI Elec				UL 746
0.40 mm	120	--	°C	
0.75 mm	120	--	°C	
1.5 mm	120	--	°C	
3.0 mm	120	--	°C	
RTI Imp				UL 746
0.40 mm	75.0	--	°C	
0.75 mm	80.0	--	°C	
1.5 mm	80.0	--	°C	
3.0 mm	80.0	--	°C	
RTI Str				UL 746
0.40 mm	105	--	°C	
0.75 mm	110	--	°C	
1.5 mm	110	--	°C	
3.0 mm	110	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+10	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	17	--	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
0.40 mm	PLC 2	--		
0.75 mm	PLC 1	--		
1.5 mm	PLC 1	--		
3.0 mm	PLC 1	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 0	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.40 mm	PLC 4	--		
0.75 mm	PLC 4	--		
1.5 mm	PLC 3	--		
3.0 mm	PLC 2	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.40 mm	V-0	--		
0.75 mm	V-0	--		
1.5 mm	V-0	--		
3.0 mm	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.40 mm	960	--	°C	
0.75 mm	960	--	°C	
1.5 mm	960	--	°C	
3.0 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.40 mm	960	--	°C	
0.75 mm	960	--	°C	
1.5 mm	700	--	°C	
3.0 mm	700	--	°C	
Oxygen Index	35	--	%	ISO 4589-2

Injection	Dry	Unit
Drying Temperature	80	°C
Drying Time	4.0	hr
Suggested Max Regrind	50	%
Rear Temperature	260 to 290	°C
Middle Temperature	260 to 290	°C
Front Temperature	260 to 290	°C
Nozzle Temperature	260 to 290	°C
Processing (Melt) Temp	270 to 285	°C
Mold Temperature	65 to 95	°C

Notes
Typical properties: these are not to be construed as specifications.

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

North America
+1 888 927 2363

Europe
+32 10 608 600

Asia
+86 21 2315 0888