

# Vydyne® ECO315 BLK

## polyamide 66/6 copolymer



Vydyne ECO315 BLK is a non-halogenated, unfilled, flame-retardant PA66/6 copolymer with excellent toughness and ductility. 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	• Lubricant		
Features	• Ductile • Good Mold Release	• Halogen Free • 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	• Black			
Forms	• Pellets			
Processing Method	• Injection Molding			
Physical	Dry	Conditioned	Unit	Test Method
Density	1.16	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.4	--	%	
Flow : 73°F, 0.0787 in	1.2	--	%	
Water Absorption (73°F, 24 hr)	0.80	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	2.3	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	725000	508000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	10900	7540	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	5.5	20	%	ISO 527-2
Tensile Strain (Break, 73°F)	25	30	%	ISO 527-2
Flexural Modulus (73°F)	464000	226000	psi	ISO 178
Flexural Strength (73°F)	13300	6530	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	2.6	--	ft·lb/in <sup>2</sup>	
73°F	2.6	--	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	--		
73°F	No Break	--		
Notched Izod Impact Strength (73°F)	2.9	--	ft·lb/in <sup>2</sup>	ISO 180
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	437	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	149	--	°F	
Melting Temperature	471	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	6.1E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.1E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.0157 in	266	--	°F	
0.0295 in	266	--	°F	
0.0591 in	266	--	°F	
0.118 in	266	--	°F	
RTI Imp				UL 746
0.0157 in	149	--	°F	
0.0295 in	149	--	°F	
0.0591 in	185	--	°F	
0.118 in	185	--	°F	
RTI Str				UL 746
0.0157 in	212	--	°F	
0.0295 in	212	--	°F	
0.0591 in	212	--	°F	
0.118 in	230	--	°F	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0295 in)	1.0E+11	--	ohm-cm	IEC 60093
Dielectric Strength (0.0394 in)	330	--	V/mil	IEC 60243
Arc Resistance (0.118 in)	PLC 5	--		ASTM D495
Comparative Tracking Index (0.118 in)	600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.0157 in	PLC 0	--		
0.0295 in	PLC 0	--		
0.0591 in	PLC 0	--		
0.118 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.0157 in	PLC 4	--		
0.0295 in	PLC 4	--		
0.0591 in	PLC 4	--		
0.118 in	PLC 3	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.0157 in	V-0	--		
0.0295 in	V-0	--		
0.0591 in	V-0	--		
0.118 in	V-0	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.0157 in	1760	--	°F	
0.0295 in	1760	--	°F	
0.0591 in	1760	--	°F	
0.118 in	1760	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.0157 in	1610	--	°F	
0.0295 in	1610	--	°F	
0.0591 in	1430	--	°F	
0.118 in	1340	--	°F	
Oxygen Index	29	--	%	ISO 4589-2

Injection	Dry Unit
Drying Temperature	176 °F
Drying Time	4.0 hr
Suggested Max Regrind	50 %
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**

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

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