Vydyne® ECO315J BK0707
polyamide 66/6 copolymer

Vydyne ECO315J BK0707 is a non-halogenated, unfilled, flame-retardant PA66/6 copolymer with excellent toughness and ductility. It is stabilized to provide heat stability up to 125°C for 1,000 hours in a dry environment. ECO315J BK0707 is also 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 • High Elongation	• 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
Automotive Specifications	• GM GMW15702-110049		
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.16	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.4	--	%	
Flow : 23°C, 2.00 mm	1.2	--	%	
Water Absorption				ISO 62
24 hr, 23°C	0.80	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	3250	1200	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	75.0	42.0	MPa	ISO 527-2
Tensile Strain				ISO 527-2
Yield, 23°C	3.5	23	%	
Break, 23°C	22	140	%	
Flexural Modulus (23°C)	3200	1560	MPa	ISO 178
Flexural Strength (23°C)	92.0	45.0	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	5.4	--	kJ/m²	
23°C	5.4	--	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	No Break	--		
23°C	No Break	--		
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	225	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	65.0	--	°C	ISO 75-2/A
Melting Temperature	244	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
RTI Elec				UL 746
0.40 mm	130	--	°C	
0.75 mm	130	--	°C	
1.5 mm	130	--	°C	
3.0 mm	130	--	°C	
RTI Imp				UL 746
0.40 mm	65.0	--	°C	
0.75 mm	65.0	--	°C	
1.5 mm	85.0	--	°C	
3.0 mm	85.0	--	°C	
RTI Str				UL 746
0.40 mm	100	--	°C	
0.75 mm	100	--	°C	
1.5 mm	100	--	°C	
3.0 mm	110	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+11	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	13	--	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 0	--		
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.40 mm	PLC 4	--		
0.75 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 3	--		

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	875	--	°C	
0.75 mm	875	--	°C	
1.5 mm	775	--	°C	
3.0 mm	725	--	°C	
Oxygen Index	29	--	%	ISO 4589-2

Injection	Dry	Unit
Drying Temperature	80	°C
Drying Time	4.0	hr
Suggested Max Regrind	50	%
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 to 95	°C

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

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