Vydyne® ECO315J BK0707

Monday, November 4, 2019

Ascend Performance Materials Operations LLC - Polyamide 66/6 Copolymer

General Information

Product Description

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		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.16	--	g/cm³	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 (24 hr, 73°F)	0.80	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	2.3	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	471000	174000	psi	ISO 527-2
Tensile Stress (Yield, 73°F)	10900	6090	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	3.5	23	%	ISO 527-2
Tensile Strain (Break, 73°F)	22	140	%	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/in²	
73°F	2.6	--	ft·lb/in²	

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Impact	Dry	Conditioned	Unit	Test Method
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	--		
73°F	No Break	--		
Notched Izod Impact Strength				ISO 180
73°F	2.9	--	ft·lb/in²	
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
0.016 in	266	--	°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	185	--	°F	
0.12 in	185	--	°F	
RTI Str				UL 746
0.016 in	212	--	°F	
0.030 in	212	--	°F	
0.06 in	212	--	°F	
0.12 in	230	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0295 in)	1.0E+11	--	ohms·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				IEC 60112
0.118 in	600	--	V	
High Amp Arc Ignition (HAI)				UL 746
0.016 in	PLC 0	--		
0.030 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.016 in	PLC 4	--		
0.030 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 3	--		

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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	--		
0.12 in	V-0	--		
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	1610	--	°F	
0.030 in	1610	--	°F	
0.06 in	1430	--	°F	
0.12 in	1340	--	°F	
Oxygen Index	29	--	%	ISO 4589-2

Processing Information

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

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