Vydyne® R535J BK0701

Ascend Performance Materials Operations LLC - Polyamide 66

Monday, November 4, 2019

General Information

Product Description

R535J BK0701 is a black, 35% glass-filled, high-flow PA66 that is heat-stabilized with an electrically neutral heat stabilizer. It is specially designed for electrical applications requiring high dielectric strength, low conductivity and corrosion resistance.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight		
Additive	• Lubricant		
Features	• Chemical Resistant • Corrosion Resistant • Good Colorability	• Good Electrical Properties • Good Mold Release • Heat Stabilized	• High Flow • High Strength • Lubricated
Uses	• Appliance Components • Automotive Applications • Connectors	• Electrical/Electronic Applications • Engineered Applications • Lighting Applications	• Living Hinges • Thin-walled Parts
Agency Ratings	• ASTM D4066 PA012G35	• ASTM D6779 PA012G35	
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

ASTM & ISO Properties [1]

Physical	Dry	Conditioned	Unit	Test Method
Density (73°F)	1.41	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 0.0787 in	0.90	--	%	
Flow : 0.0787 in	0.40	--	%	
Water Absorption (24 hr, 73°F)	0.80	--	%	ISO 62
Water Absorption				ISO 62
Equilibrium, 73°F, 50% RH	1.6	--	%	
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	1.68E+6	--	psi	ISO 527-2
Tensile Stress (Break, 73°F)	30300	--	psi	ISO 527-2
Tensile Strain (Break, 73°F)	2.8	--	%	ISO 527-2
Flexural Modulus (73°F)	1.52E+6	--	psi	ISO 178
Flexural Strength (73°F)	43500	--	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	5.2	--	ft·lb/in²	
73°F	5.7	--	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	32	--	ft·lb/in²	
73°F	38	--	ft·lb/in²	

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Impact	Dry	Conditioned	Unit	Test Method
Notched Izod Impact Strength				ISO 180
-22°F	5.2	--	ft·lb/in²	
73°F	5.7	--	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	502	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	484	--	°F	
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F)	1.2E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F)	5.9E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746
0.030 in	248	--	°F	
0.06 in	248	--	°F	
0.12 in	248	--	°F	
RTI Imp				UL 746
0.030 in	212	--	°F	
0.06 in	212	--	°F	
0.12 in	221	--	°F	
RTI Str				UL 746
0.030 in	257	--	°F	
0.06 in	257	--	°F	
0.12 in	257	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0295 in)	1.0E+14	--	ohms·cm	IEC 60093
Dielectric Strength (0.0394 in)	510	--	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
0.030 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
0.030 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 3	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.030 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.030 in	1380	--	°F	
0.06 in	1340	--	°F	
0.12 in	1470	--	°F	

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Flammability	Dry	Conditioned	Unit	Test Method
Glow Wire Ignition Temperature				IEC 60695-2-13
0.030 in	1430	--	°F	
0.06 in	1340	--	°F	
0.12 in	1380	--	°F	
Additional Information	**Dry**	**Conditioned**	**Unit**	**Test Method**
Automotive Materials - (thickness d = 1mm)	+	--		FMVSS 302

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Suggested Max Regrind	25	%
Rear Temperature	536 to 590	°F
Middle Temperature	536 to 590	°F
Front Temperature	536 to 590	°F
Nozzle Temperature	536 to 590	°F
Processing (Melt) Temp	545 to 581	°F
Mold Temperature	149 to 203	°F

Notes

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