

Vydyne® R413J BK0836

Ascend Performance Materials Operations LLC - Polyamide 66

General Information

Product Description

Vydyne R413J BK0836 is a black, electrically neutral heat stabilized impact-modified, 15% glass-fiber reinforced PA66 resin. R413J BK0836 is designed to produce a light on dark mark using an IR 1064nm laser.

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Europe • North America • Asia Pacific • Latin America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Additive	• Heat Stabilizer • Impact Modifier • Mold Release
Features	• Balanced Stiffness/Toughness • Impact Modified • Heat Stabilized • Laser Markable
Agency Ratings	• ASTM D4066 PA016G15 • ASTM D6779 PA016G15 • SAE J1639 PA1122
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• PA66-I-GF15

 Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.21	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.0	--	%	
Flow : 73°F, 0.0787 in	0.80	--	%	
Water Absorption (24 hr, 73°F)	1.2	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	754000	493000	psi	ISO 527-1
Tensile Stress (Break, 73°F)	15100	9570	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.9	9.4	%	ISO 527-2
Flexural Modulus (73°F)	711000	435000	psi	ISO 178
Flexural Stress (73°F)	18900	11500	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	2.3	2.9	ft·lb/in ²	
-22°F	2.4	3.0	ft·lb/in ²	
73°F	5.7	5.2	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	29	29	ft·lb/in ²	
-22°F	31	32	ft·lb/in ²	
73°F	32	40	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180/1A
-40°F	2.3	3.0	ft·lb/in ²	
-22°F	2.5	3.2	ft·lb/in ²	
73°F	5.2	5.2	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	495	491	°F	ISO 75-2/B



Deflection Temperature Under Load (264 psi, Unannealed)	460	451	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.8E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.4E-5	--	in/in/°F	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Electric Strength (0.0394 in)	790	--	V/mil	IEC 60243-1

Processing Information

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Rear Temperature	536 to 572	°F
Middle Temperature	536 to 572	°F
Front Temperature	536 to 572	°F
Nozzle Temperature	536 to 572	°F
Processing (Melt) Temp	536 to 572	°F
Mold Temperature	149 to 203	°F

Notes

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

