

Vydyne® R513H Black

polyamide 66



Vydyne R513H Black is a general purpose, 13% glass-filled, heat-stabilized PA66 based resin designed for injection molding applications. R513H BK02 offers improved flow with a black surface finish and maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline.

General

Additive	• Heat Stabilizer	• Lubricant	
Features	• Chemical Resistant • Good Mold Release • High Strength • Oil Resistant	• Gasoline Resistant • Grease Resistant • Hydrolysis Resistant • Solvent Resistant	• Good Flow • High Rigidity • Lubricated
Agency Rating	• ASTM, D4066 PA012G15	• ASTM, D6779 PA012G15	• SAE, J1639 PA1112
Automotive Specifications	• Aisin TO20141124 - P-PA66-GF13-802	• Stellantis MS-DB-41 CPN 2239	
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical

	dry	cond.	Unit	Test Standard
Density	1.23	-	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.0	*	%	
Flow : 23°C, 2.00 mm	0.5	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1	*	%	
Equilibrium, 23°C, 50% RH	2.2	*	%	

Mechanical

	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	6200	3900	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	115	75	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3	13	%	ISO 527-2
Flexural Modulus (23°C)	5200	3150	MPa	ISO 178
Flexural Strength (23°C)	165	106	MPa	ISO 178
Poisson's Ratio (23°C)	0.4			ISO 527-2

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Impact	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	6	7.5	kJ/m ²	
-30°C	6	5.3	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	38	42	kJ/m ²	
-30°C	31	37	kJ/m ²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	5.1	8.5	kJ/m ²	
-30°C	5	5.4	kJ/m ²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	240	-	°C	
0.45 MPa, Unannealed	258	-	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	30	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	113	*	E-6/K	
RTI Elec				UL 746
0.750 mm	140		°C	
1.50 mm	140		°C	
3.00 mm	140		°C	
RTI Imp				UL 746
0.750 mm	120		°C	
1.50mm	120		°C	
3.00 mm	120		°C	
RTI Str				UL 746
0.750 mm	125		°C	
1.50 mm	140		°C	
3.00 mm	140		°C	

Electrical	dry	cond.	Unit	Test Standard
Volume Resistivity (1.00 mm)	1E11	-	Ohm*m	IEC 60093
Dielectric Strength (1.00 mm)	20	-	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	6			ASTM D 495
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0			
1.50 mm	PLC 0			

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3.00 mm	PLC 0	
High Voltage Arc Tracking Rate (HVTR), 3.00 mm	PLC 1	UL 746
Hot-wire Ignition (HWI)		UL 746
0.400 mm	PLC 4	
0.750 mm	PLC 3	
1.50 mm	PLC 4	

Flammability	dry	cond.	Unit	Test Standard
Flammability				UL 94
0.750 mm	HB			
1.50 mm	HB			
3.00 mm	HB			
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	675		°C	
1.50 mm	675		°C	
3.00 mm	675		°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	700		°C	
1.50 mm	700		°C	
3.00 mm	700		°C	
Oxygen index	25	*	%	EN ISO 4589-2

Injection	Value	Unit
Drying Temperature	80	°C
Drying Time	4	h
Rear Temperature	280 - 310	°C
Middle Temperature	280 - 310	°C
Front Temperature	280 - 310	°C
Nozzle temperature	280 - 310	°C
Processing (Melt) Temperature	285 - 305	°C
Mold Temperature	65 - 95	°C



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