Vydyne® R515H BK02

polyamide 66

Vydyne R515H BK02 is a general purpose, 15% glass-filled, heat-stabilized PA66 based resin designed for injection molding applications. R515H 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 • Grease Resistant • High Strength • Oil Resistant	• Gasoline Resistant • High Flow • Hydrolysis Resistant • Solvent Resistant	• Good Mold Release • High Rigidity • Lubricated
Agency Rating	• ASTM, D4066 PA012G15	• ASTM, D6779 PA012G15	• SAE, J1639 PA1112
Automotive Specifications	• Aisin TO20141124 - P-PA66-GF15-805	• GM GMW3038P-PA66-GF15H	• Mahle SD2-435
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	dry	cond.	Unit	Test Standard
Density	1.24	-	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.4	*	%	
Flow : 23°C, 2.00 mm	0.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.5	*	%	
Equilibrium, 23°C, 50% RH	2.2	*	%	

Mechanical	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	6600	4000	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	120	80	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	3	13	%	ISO 527-2
Flexural Modulus (23°C)	5400	3400	MPa	ISO 178
Flexural Strength (23°C)	176	89	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	5.5	6.6	kJ/m²	
-30°C	5.4	5.4	kJ/m²	
-40°C	5.4	5.3	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	34	62	kJ/m²	
-30°C	34	37	kJ/m²	
-40°C	36	37	kJ/m²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	5.2	5.8	kJ/m²	
-30°C	5.1	4.8	kJ/m²	
-40°C	5	4.7	kJ/m²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	235	230	°C	
0.45 MPa, Unannealed	258	255	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	38.3	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	80.2	*	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
Dielectric Strength (1.00 mm)	29	27	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	6			ASTM D 495
Comparative Tracking Index (3.00 mm)	250 - 399		V	IEC 60112

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

Flammability	Value	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	

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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