Vydyne® 47H BK03

polyamide 66

Vydyne 47H BK03 is general-purpose, medium impact-modified, heat stabilized PA66 resin. The product offers improved resistance to thermal degradation.
47H BK03 is recognized for all the processing and property advantages inherent to PA66 with the addition of improved impact strength. This resin offers a well balanced combination of engineering properties characterized by high melt point, good surface lubricity, abrasion resistance and resistance to many chemicals, machine and motor oils, solvents and gasoline.

General

Additive	• Heat Stabilizer		
Features	• Abrasion Resistance	• Chemical Resistant	• Gasoline Resistant
	• General Purpose	• Good Processability	• Good Toughness
	• Heat Stabilized	• High Impact Resistance	• Low Temperature Impact Resistance
	• Low Temperature Toughness	• Oil Resistant	• Solvent Resistant
Agency Rating	• ASTM, D4066 PA0161	• ASTM, D6779 PA0161	• SAE, J1639 PA0171
Automotive Specifications	• BMW GS 93016	• Chery Motor Q-SQR.S1-33-2012 CMP.PA66.A2	• Daimler DBL1224 (partial compliance)
	• Daimler DBL1232 (partial compliance)	• Ford WSS-M4D706-B1	• GM GMW16447P-PA66-T2
	• HMG MS941-03 Type A-1	• Stellantis MS-DB-41 CPN 1826	
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	dry	cond.	Unit	Test Standard
Density	1.10	-	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.6	*	%	
Flow : 23°C, 2.00 mm	1.8	*	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	*	%	
Equilibrium, 23°C, 50% RH	2.3	*	%	

Mechanical	dry	cond.	Unit	Test Standard
Tensile Modulus (23°C)	2800	1700	MPa	ISO 527-2
Tensile Stress (Yield, 23°C)	60	45	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	52	40	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	22	60	%	ISO 527-2

Flexural Modulus (23°C)	2400	1000	MPa	ISO 178
Flexural Strength (23°C)	75	26	MPa	ISO 178

Impact	dry	cond.	Unit	Test Standard
Charpy Notched Impact Strength				ISO 179/1eA
+23°C	16	55	kJ/m²	
-30°C	11	17	kJ/m²	
-40°C	11	17	kJ/m²	
Charpy Unnotched Impact Strength				ISO 179/1eU
+23°C	N	N	kJ/m²	
-30°C	N	N	kJ/m²	
Notched Izod Impact Strength				ISO 180/1A
+23°C	15	44	kJ/m²	
-30°C	12	18	kJ/m²	
-40°C	11	18	kJ/m²	

Thermal	dry	cond.	Unit	Test Standard
Heat Deflection Temperature				ISO 75-2/A
1.80 MPa, Unannealed	64	-	°C	
0.45 MPa, Unannealed	185	-	°C	
Melting Temperature	260	*	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	111	*	E-6/K	
Transverse : 23 to 55°C, 2.00 mm	136	*	E-6/K	
RTI Elec				UL 746
0.750 mm	130		°C	
1.50 mm	130		°C	
3.00 mm	130		°C	
RTI Imp				UL 746
0.750 mm	75		°C	
1.50mm	75		°C	
3.00 mm	75		°C	
RTI Str				UL 746
0.750 mm	115		°C	
1.50 mm	115		°C	
3.00 mm	115		°C	

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Electrical	dry	cond.	Unit	Test Standard
Volume Resistivity (1.00 mm)	1E9	-	Ohm*m	IEC 60093
Dielectric Strength (1.00 mm)	12	-	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	6			ASTM D 495
Comparative Tracking Index (3.00 mm)	525		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 2			UL 746
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 4			
1.50 mm	PLC 4			
3.00 mm	PLC 3			

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
0.400 mm	700	°C	
0.750 mm	775	°C	
1.50 mm	700	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.400 mm	725	°C	
0.750 mm	800	°C	
1.50 mm	725	°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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