

# Vydyne® 41H BK03

## polyamide 66



Vydyne 41H BK03 is general-purpose, impact-modified PA66 resin. Available in black, it is heat-stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyne 41H BK03 was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated.

Vydyne 41H 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				
Material Status	• Commercial: Active			
Availability	• Asia Pacific	• Europe	• North America	
Additive	• Heat Stabilizer	• Impact Modifier		
Features	• Abrasion Resistant • Chemical Resistant • Gasoline Resistant • Good Processability	• Heat Stabilized • High Impact Resistance • Impact Modified • Low Temperature Impact Resistance	• Oil Resistant • Solvent Resistant	
Uses	• Automotive Applications • Connectors • Consumer Applications	• Electrical/Electronic Applications • Fasteners • Gears	• Industrial Applications	
Agency Ratings	• ASTM D4066 PA0181	• ASTM D6779 PA0181		
Automotive Specifications	• CHRYSLER MS-DB-41 CPN 2565 • DELPHI SD-2-384 Sec. 4.2	• FORD WSK-M4D666-A • FORD WSS-M4D666-B1	• GM GMP,PA66.062 • GM GMW16447P-PA66-T3	
Appearance	• Black			
Forms	• Pellets			
Processing Method	• Injection Molding			

Physical	Dry	Conditioned	Unit	Test Method
Density	1.08	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 2.00 mm	1.6	--	%	
Flow : 2.00 mm	1.8	--	%	
Water Absorption				ISO 62
24 hr, 23°C	1.0	--	%	
Equilibrium, 23°C, 50% RH	2.1	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2200	1390	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	50.0	35.0	MPa	
Break, 23°C	43.0	39.0	MPa	
Tensile Strain (Break, 23°C)	50	180	%	ISO 527-2
Flexural Modulus (23°C)	1750	545	MPa	ISO 178
Flexural Stress (23°C)	53.0	17.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	20	25	kJ/m <sup>2</sup>	
-30°C	35	25	kJ/m <sup>2</sup>	
23°C	76	110	kJ/m <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179
-30°C	No Break	No Break		
23°C	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-40°C	22	25	kJ/m <sup>2</sup>	
-30°C	40	29	kJ/m <sup>2</sup>	
23°C	78	88	kJ/m <sup>2</sup>	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	145	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	58.0	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.7E-4	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.5E-4	--	cm/cm/°C	
RTI Elec				UL 746
0.75 mm	130	--	°C	
1.5 mm	130	--	°C	
3.0 mm	130	--	°C	
RTI Imp				UL 746
0.75 mm	75.0	--	°C	
1.5 mm	75.0	--	°C	
3.0 mm	75.0	--	°C	
RTI Str				UL 746
0.75 mm	115	--	°C	
1.5 mm	120	--	°C	
3.0 mm	125	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+10	--	ohms-cm	IEC 60093
Dielectric Strength (1.00 mm)	14	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	600	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.75 mm	PLC 4	--		
1.5 mm	PLC 4	--		
3.0 mm	PLC 3	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.75 mm	HB	--		
1.5 mm	HB	--		
3.0 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.75 mm	725	--	°C	
1.5 mm	725	--	°C	
3.0 mm	675	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	750	--	°C	
1.5 mm	750	--	°C	
3.0 mm	700	--	°C	
Additional Information	Dry	Conditioned	Unit	Test Method
Automotive Materials - (thickness d = 1 mm)	+	--		FMVSS 302
Injection		Dry	Unit	
Drying Temperature		80	°C	
Drying Time		4.0	hr	
Suggested Max Regrind		25	%	
Rear Temperature		280 to 310	°C	
Middle Temperature		280 to 310	°C	
Front Temperature		280 to 310	°C	
Nozzle Temperature		280 to 310	°C	
Processing (Melt) Temp		285 to 305	°C	
Mold Temperature		65 to 95	°C	

Notes

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

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