Vydyne® 47H BK03

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

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			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Heat Stabilizer	• Impact Modifier	
Features	• Abrasion Resistant • Chemical Resistant • Gasoline Resistant • General Purpose • Good Processability	• Good Toughness • Heat Stabilized • High Impact Resistance • Impact Modified • Low Temperature Impact Resistance	• Low Temperature Toughness • Oil Resistant • Solvent Resistant
Agency Ratings	• ASTM D4066 PA0161	• ASTM D6779 PA0161	• SAE J1639 PA0171
Automotive Specifications	• BMW GS 93016 • CHERRY Q/SQR.S1-33-2012 CMP.PA66.A2 • FORD WSS-M4D706-B1	• GM GMW16447P-PA66-T2 • HYUNDAI MS941-03 Type A-1 • MERCEDES BENZ DBL 1224 [1]	• MERCEDES BENZ DBL 1232 [1] • STELLANTIS MS-DB-41 CPN1826
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66-I		

Properties [2]

Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.6	--	%	
Flow : 73°F, 0.0787 in	1.8	--	%	
Water Absorption (24 hr, 73°F)	1.2	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	2.3	--	%	ISO 62
Mechanical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Tensile Modulus (73°F)	406000	247000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	8700	6530	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7540	5800	psi	ISO 527-2
Tensile Strain (Break, 73°F)	22	60	%	ISO 527-2
Flexural Modulus (73°F)	348000	145000	psi	ISO 178
Flexural Stress (73°F)	10900	3770	psi	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	5.2	8.1	ft·lb/in²	
-22°F	5.2	8.1	ft·lb/in²	
73°F	7.6	26	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-22°F	No Break	No Break		

73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180/1A
-40°F	5.2	8.6	ft·lb/in²	
-22°F	5.7	8.6	ft·lb/in²	
73°F	7.1	21	ft·lb/in²	
Thermal	**Dry**	**Conditioned**	**Unit**	**Test Method**
Deflection Temperature Under Load (66 psi, Unannealed)	365	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	147	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	6.2E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	7.6E-5	--	in/in/°F	ISO 11359-2
RTI Elec				UL 746B
0.030 in	266	--	°F	
0.06 in	266	--	°F	
0.12 in	266	--	°F	
RTI Imp				UL 746B
0.030 in	167	--	°F	
0.06 in	167	--	°F	
0.12 in	167	--	°F	
RTI Str				UL 746B
0.030 in	239	--	°F	
0.06 in	239	--	°F	
0.12 in	239	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0394 in)	1.0E+11	--	ohms·cm	IEC 60093
Electric Strength (0.0394 in)	300	--	V/mil	IEC 60243-1
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	525	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
0.030 in	PLC 0	--		
0.06 in	PLC 0	--		
0.12 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR) (0.118 in)	PLC 2	--		UL 746A
Hot-wire Ignition (HWI)				UL 746A
0.030 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 3	--		
Flammability	**Dry**	**Conditioned**	**Unit**	**Test Method**
Flame Rating				UL 94
0.030 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.016 in	1290	--	°F	
0.030 in	1430	--	°F	
0.06 in	1290	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.016 in	1340	--	°F	
0.030 in	1470	--	°F	
0.06 in	1340	--	°F	

Processing Information

Injection	**Dry**	**Unit**
Drying Temperature	176	°F
Drying Time	4.0	hr
Rear Temperature	536 to 590	°F
Middle Temperature	536 to 590	°F
Front Temperature	536 to 590	°F
erature	536 to 590	°F
Melt) Temp	545 to 581	°F
ature	149 to 203	°F