

Vydyne® 47H BK0644

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne 47H BK0644 is a high performance, medium impact modified, heat stabilized PA66 with excellent UV stability and outstanding processing characteristics. This product currently has an UL746C f1" rating making it suitable for a variety of outdoor applications."

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 • Good Weather Resistance • 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	• CHERRY Q/SQR.S1-33-2012 CMP.PA66.A2 • FORD WSK-M4D706-A	• GM GMW16447P-PA66-T2 • VOLKSWAGEN 50180	
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		
Resin ID	• PA66-I		

Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm ³	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
Outdoor Suitability	f1	--		UL 746C
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	392000	145000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	8850	5510	psi	ISO 527-2
Tensile Stress (Break, 73°F)	8270	5510	psi	ISO 527-2
Tensile Strain (Yield, 73°F)	5.6	41	%	ISO 527-2
Tensile Strain (Break, 73°F)	22	110	%	ISO 527-2
Flexural Modulus (73°F)	334000	116000	psi	ISO 178
Flexural Stress (73°F)	10200	3480	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-22°F	5.2	11	ft·lb/in ²	
73°F	7.6	30	ft·lb/in ²	
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
-22°F	7.6	11	ft·lb/in ²	



73°F	8.6	21	ft·lb/in ²	
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)	145	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	6.1E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	7.8E-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
Nozzle Temperature	536 to 590 °F
Processing (Melt) Temp	545 to 581 °F
Mold Temperature	149 to 203 °F

