

Vydyne® 41H BK0677

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne 41H BK0677 is general-purpose, high impact-modified, heat stabilized PA66 resin. The product offers improved resistance to thermal degradation. 41H BK0677 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	• High Melt Strength	• Impact Modified
	• Heat Stabilized	• High Viscosity	• Ultra High Impact Resistance
Agency Ratings	• ASTM D4066 PA0181	• ASTM D6779 PA0181	
Automotive Specifications	• GM GMW17192P-PA66		
UL File Number	• E70062		
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Extrusion		
Resin ID	• PA66-I		

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.07	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	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (73°F)	260000	psi	ISO 527-1
Tensile Stress (Yield, 73°F)	7110	psi	ISO 527-2
Tensile Stress (Break, 73°F)	7110	psi	ISO 527-2
Tensile Strain (Break, 73°F)	53	%	ISO 527-2
Flexural Modulus (73°F)	261000	psi	ISO 178
Flexural Stress (73°F)	7980	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F	39	ft·lb/in ²	
73°F	49	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179/1eU
-22°F	No Break		
73°F	No Break		
Notched Izod Impact Strength			ISO 180/1A
-22°F	20	ft·lb/in ²	
73°F	40	ft·lb/in ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (264 psi, Unannealed)	133	°F	ISO 75-2/A
Melting Temperature	504	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	8.3E-5	in/in/°F	ISO 11359-2



CLTE - Transverse (73 to 131°F, 0.0787 in)	6.6E-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	248 °F	
0.12 in	257 °F	

Electrical	Nominal Value	Unit	Test Method
Volume Resistivity (0.0394 in)	1.0E+10	ohms·cm	IEC 60093
Electric Strength (0.0394 in)	360	V/mil	IEC 60243-1
Arc Resistance (0.118 in)	PLC 2		ASTM D495
Comparative Tracking Index (0.118 in)	600	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	Nominal Value	Unit	Test Method
Burning Rate (0.0787 in)	0.47	in/min	ISO 3795
Flame Rating			UL 94
0.030 in	HB		
0.06 in	HB		
0.12 in	HB		
Glow Wire Flammability Index			IEC 60695-2-12
0.030 in	1340	°F	
0.06 in	1340	°F	
0.12 in	1250	°F	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.030 in	1380	°F	
0.06 in	1380	°F	
0.12 in	1290	°F	

Processing Information

Injection	Nominal Value	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
Extrusion	Nominal Value	Unit
Cylinder Zone 1 Temp.	536 to 590	°F
Cylinder Zone 2 Temp.	536 to 590	°F
Cylinder Zone 3 Temp.	536 to 590	°F
Melt Temperature	545 to 581	°F
Die Temperature	536 to 590	°F

