Vydyne® 47H NT
polyamide 66

Vydyne 47H NT is general-purpose, impact-modified PA66 resin. Available in natural, it is heat-stabilized for improved resistance to elevated temperatures. The heat stabilization package for Vydyne 47H NT was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated.

Vydyne 47H NT 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. Vydyne 47H NT is designed to meet the critical low-temperature impact requirements called out in many automotive specifications.

Typical Applications/End Uses:
Vydyne 47H NT may be used in most market segments, including industrial, consumer, automotive and electrical applications. Typical end uses include clips, fasteners, gears, cable ties, electrical connectors and many other parts that require additional toughness at room and low temperatures.

General			
Material Status	• Commercial: Active		
Availability	• Asia Pacific	• Europe	• North America
Additive	• Impact Modifier		
Features	• Gasoline Resistance • General Purpose • Good Abrasion Resistance • Good Chemical Resistance	• Good Processability • Good Toughness • High Impact Resistance • Impact Modified	• Low Temperature Impact Resistance • Low Temperature Toughness • Oil Resistant • Solvent Resistant
Uses	• Automotive Applications • Connectors • Consumer Applications	• Electrical/Electronic Applications • Fasteners • Gears	• Industrial Applications
Agency Ratings	• ASTM D 4066 PA0161	• ASTM D 6779 PA0161	
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Dry	Conditioned	Unit	Test Method
Density	1.10	--	g/cm³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 0.0787 in	1.6	--	%	
Flow : 0.0787 in	1.8	--	%	
Water Absorption (73°F, 24 hr)	1.2	--	%	ISO 62
Water Absorption (Equilibrium, 50% RH)	2.3	--	%	ISO 62

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	403000	252000	psi	ISO 527-2
Tensile Stress (Yield)	8700	6530	psi	ISO 527-2
Tensile Stress (Break)	7540	5800	psi	ISO 527-2
Tensile Strain (Break)	22	60	%	ISO 527-2
Flexural Modulus	334000	113000	psi	ISO 178
Flexural Stress	10200	3480	psi	ISO 178
Impact	**Dry**	**Conditioned**	**Unit**	**Test Method**
Charpy Notched Impact Strength				ISO 179
-40°F	5.2	8.6	ft·lb/in²	
-22°F	8.1	11	ft·lb/in²	
73°F	9.0	30	ft·lb/in²	
Charpy Unnotched Impact Strength				ISO 179
-22°F	No Break	No Break		
73°F	No Break	No Break		
Notched Izod Impact Strength				ISO 180
-40°F	5.7	8.6	ft·lb/in²	
-22°F	7.6	11	ft·lb/in²	
73°F	8.6	21	ft·lb/in²	

Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				ISO 75-2/B
66 psi, Unannealed	365	--	°F	
Heat Deflection Temperature				ISO 75-2/A
264 psi, Unannealed	145	--	°F	
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 746
0.0295 in	266	--	°F	
0.0591 in	266	--	°F	
0.118 in	266	--	°F	
RTI Imp				UL 746
0.0295 in	167	--	°F	
0.0591 in	167	--	°F	
0.118 in	167	--	°F	
RTI Str				UL 746
0.0295 in	239	--	°F	
0.0591 in	239	--	°F	
0.118 in	239	--	°F	
Electrical	**Dry**	**Conditioned**	**Unit**	**Test Method**
Volume Resistivity (0.0295 in)	1.0E+11	--	ohm·cm	IEC 60093
Dielectric Strength (0.0394 in)	300	--	V/mil	IEC 60243
Arc Resistance	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	525	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.0295 in	PLC 0	--		
0.0591 in	PLC 0	--		
0.118 in	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.0295 in	PLC 4	--		
0.0591 in	PLC 4	--		
0.118 in	PLC 3	--		

Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.0295 in	HB	--		
0.0591 in	HB	--		
0.118 in	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.0295 in	1290	--	°F	
0.0591 in	1430	--	°F	
0.118 in	1290	--	°F	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.0295 in	1340	--	°F	
0.0591 in	1470	--	°F	
0.118 in	1340	--	°F	

Injection	Dry	Unit
Drying Temperature	176	°F
Drying Time	4.0	hr
Suggested Max Regrind	25	%
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

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

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

North America
+1 888 927 2363

Europe
+32 10 608 600

Asia
+86 21 6340 3300

Disclaimer of Warranty and Liability

NOTICE: Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Ascend Performance Materials Operations LLC makes no representations or warranties as to the completeness or accuracy thereof.

Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Ascend Performance Materials Operations LLC be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information or the products to which information refers. Nothing contained herein is to be construed as a recommendation to use any product, equipment or formulation in conflict with any patent, and Ascend Performance Materials Operations LLC makes no representation or warranty, express or implied, that use thereof will not infringe any patent. No representations or warranties, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers.