

Vydyne® 47H

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 47H 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 was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated.

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

General Information	
UL YellowCard	E70062-100757498
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/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	1.6	--	%	
Flow : 23°C, 2.00 mm	1.8	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.2	--	%	
Equilibrium, 23°C, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	2780	1740	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield, 23°C	60.0	45.0	MPa	
Break, 23°C	52.0	40.0	MPa	
Tensile Strain (Break, 23°C)	22	60	%	ISO 527-2
Flexural Modulus (23°C)	2300	780	MPa	ISO 178
Flexural Stress (23°C)	70.0	24.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	11	18	kJ/m ²	
-30°C	17	24	kJ/m ²	
23°C	19	62	kJ/m ²	
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	12	18	kJ/m ²	
-30°C	16	24	kJ/m ²	
23°C	18	44	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	185	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	63.0	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.1E-4	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.4E-4	--	cm/cm/°C	
RTI Elec				UL 746

0.750 mm	130	--	°C	
1.50 mm	130	--	°C	
3.00 mm	130	--	°C	
RTI Imp				UL 746
0.750 mm	75.0	--	°C	
1.50 mm	75.0	--	°C	
3.00 mm	75.0	--	°C	
RTI Str				UL 746
0.750 mm	115	--	°C	
1.50 mm	115	--	°C	
3.00 mm	115	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+11	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	12	--	kV/mm	IEC 60243
Arc Resistance	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	525	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.750 mm	PLC 0	--		
1.50 mm	PLC 0	--		
3.00 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 2	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.750 mm	PLC 4	--		
1.50 mm	PLC 4	--		
3.00 mm	PLC 3	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.750 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.750 mm	700	--	°C	
1.50 mm	775	--	°C	
3.00 mm	700	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	725	--	°C	
1.50 mm	800	--	°C	

3.00 mm	725	--	°C
Additional Information	Dry	Conditioned	Test Method
Automotive Materials - (thickness d = 1 mm)	+	--	FMVSS 302
Injection	Dry	Unit	
Drying Temperature	80.0		°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	65.0 to 95.0		°C

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

