

Vydyne® 49H

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne 49H 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 49H was formulated to provide thermal endurance when used in applications in which continuous or extended high-temperature exposure is anticipated.

Vydyne 49H 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 Information				
UL YellowCard		E70062-100757499		
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 Toughness		
		Oil Resistant		
Uses		Solvent Resistant		
		Automotive Applications		
		Connectors		
		Consumer Applications		
		Electrical/Electronic Applications		
		Fasteners		
		Gears		
		General Purpose		
Agency Ratings		Industrial Applications		
		ASTM D 4066 PA0161		
		ASTM D 6779 PA0161		
Appearance		Natural Color		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method

Density	1.11	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 2.00 mm	1.6	--	%	
Flow : 2.00 mm	1.8	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.3	--	%	
Equilibrium, 50% RH	2.3	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus	3040	2130	MPa	ISO 527-2
Tensile Stress				ISO 527-2
Yield	70.0	50.0	MPa	
Break	46.0	42.0	MPa	
Tensile Strain (Break)	17	40	%	ISO 527-2
Flexural Modulus	2600	890	MPa	ISO 178
Flexural Stress	81.0	27.0	MPa	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	8.0	6.0	kJ/m ²	
-30°C	11	10	kJ/m ²	
23°C	13	43	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	8.0	10	kJ/m ²	
-30°C	9.0	15	kJ/m ²	
23°C	10	37	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	202	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	69.0	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	8.6E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	1.2E-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	110	--	°C	
1.50 mm	110	--	°C	
3.00 mm	110	--	°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+11	--	ohms·cm	IEC 60093
Dielectric Strength (1.00 mm)	14	--	kV/mm	ASTM D149
Arc Resistance (3.00 mm)	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	725	--	°C	
1.50 mm	750	--	°C	
3.00 mm	700	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.750 mm	750	--	°C	
1.50 mm	775	--	°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

