

Vydyne® R413H NT

Polyamide 66

Ascend Performance Materials Operations LLC

Message:

Vydyne R413H NT is general-purpose, heat-stabilized, impact-modified, 13% glass-fiber reinforced PA66 resin. Available in natural, It is specifically designed to maximize toughness, while retaining physical properties. This product is also lubricated for improved flow and offers superior surface appearance.

Glass-fiber reinforced Vydyne resins provide higher heat distortion temperature, resistance to creep and better dimensional stability when compared with unreinforced PA66. These products have good chemical resistance to a broad range of chemicals including gasoline, hydraulic fluids and most solvents.

Typical Applications/End Uses:

Vydyne R413H NT is successfully used in a wide range of injection-molding engineering applications, including automotive clips, fasteners, brackets and carbon canisters; electrical connectors, housings, bobbins, etc.; and industrial gears, bearing shells, covers, housings, etc.

General Information	
UL YellowCard	E70062-101337332
Filler / Reinforcement	Glass Fiber,13% Filler by Weight
Additive	Lubricant
Features	Gasoline Resistance
	Good Chemical Resistance
	Good Creep Resistance
	Good Dimensional Stability
	Good Flow
	Good Impact Resistance
	Good Mold Release
	Grease Resistant
	High Rigidity
	High Strength
	High Tensile Strength
	Lubricated
	Oil Resistant
	Solvent Resistant
Uses	Automotive Under the Hood
	Gears
	Housings
	Lawn and Garden Equipment
	Power/Other Tools
Agency Ratings	ASTM D 4066 PA0161G15
	ASTM D 6779 PA0161G15
UL File Number	E70062

Appearance		Natural Color		
Forms		Pellets		
Processing Method		Injection Molding		
Physical	Dry	Conditioned	Unit	Test Method
Density	1.21	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 23°C, 2.00 mm	0.80	--	%	
Flow : 23°C, 2.00 mm	0.70	--	%	
Water Absorption				ISO 62
23°C, 24 hr	1.0	--	%	
Equilibrium, 23°C, 50% RH	1.9	--	%	
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	5500	4100	MPa	ISO 527-2
Tensile Stress (Break, 23°C)	110	80.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	5.0	13	%	ISO 527-2
Flexural Modulus (23°C)	4800	2800	MPa	ISO 178
Flexural Stress (23°C)	140	73.0	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179
-40°C	5.0	5.0	kJ/m ²	
-30°C	6.0	10	kJ/m ²	
23°C	12	18	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179
-30°C	80	70	kJ/m ²	
23°C	75	76	kJ/m ²	
Notched Izod Impact Strength				ISO 180
-40°C	9.0	9.0	kJ/m ²	
-30°C	10	10	kJ/m ²	
23°C	12	21	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	258	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	235	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	3.0E-5	--	cm/cm/°C	

Transverse : 23 to 55°C, 2.00 mm				
	1.1E-4	--	cm/cm/°C	
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+9	--	ohms · cm	IEC 60093
Dielectric Strength (1.00 mm)	3.0	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 6	--		ASTM D495
Comparative Tracking Index (3.00 mm)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746
0.400 mm	PLC 1	--		
0.750 mm	PLC 1	--		
1.50 mm	PLC 1	--		
3.00 mm	PLC 1	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 3	--		UL 746
Hot-wire Ignition (HWI)				UL 746
0.400 mm	PLC 4	--		
0.750 mm	PLC 4	--		
1.50 mm	PLC 4	--		
3.00 mm	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.750 mm	HB	--		
1.50 mm	HB	--		
3.00 mm	HB	--		
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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