

Vydyne® R413H NT

Ascend Performance Materials Operations LLC - *Polyamide 66*

General Information

Product Description

Vydyne R413H NT is general-purpose, heat-stabilized, impact-modified, 15% glass-fiber reinforced PA66 resin. It is specifically designed to maximize toughness, while retaining physical properties. This product is also lubricated for improved flow and offers superior surface appearance.

General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 15% Filler by Weight
Additive	• Heat Stabilizer • Impact Modifier • Lubricant
Features	• Chemical Resistant • Good Mold Release • Impact Modified • Creep Resistant • Grease Resistant • Lubricated • Gasoline Resistant • Heat Stabilized • Oil Resistant • Good Dimensional Stability • High Rigidity • Solvent Resistant • Good Flow • High Strength • Good Impact Resistance • High Tensile Strength
Agency Ratings	• ASTM D4066 PA016G15 • ASTM D6779 PA016G15
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• APTIV M2279V • TESLA TM-1006 V3 102110 • STELLANTIS MS-DB-41 CPN3155 • TESLA TM-1006 V3 202110
UL File Number	• E70062
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• PA66-I-GF15

Properties ¹

Physical	Dry	Conditioned	Unit	Test Method
Density	1.21	--	g/cm ³	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	0.80	--	%	
Flow : 73°F, 0.0787 in	0.70	--	%	
Water Absorption (24 hr, 73°F)	1.0	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.9	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	798000	595000	psi	ISO 527-1
Tensile Stress (Break, 73°F)	16000	11600	psi	ISO 527-2
Tensile Strain (Break, 73°F)	5.0	13	%	ISO 527-2
Flexural Modulus (73°F)	696000	406000	psi	ISO 178
Flexural Stress (73°F)	20300	10600	psi	ISO 178
Poisson's Ratio (73°F)	0.40	--		ISO 527-2
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	2.4	2.4	ft·lb/in ²	
-22°F	2.9	4.8	ft·lb/in ²	
73°F	5.7	8.6	ft·lb/in ²	
Charpy Unnotched Impact Strength				ISO 179/1eU



-22°F	36	33	ft·lb/in ²	
73°F	38	36	ft·lb/in ²	
Notched Izod Impact Strength				ISO 180/1A
-40°F	4.3	4.3	ft·lb/in ²	
-22°F	4.8	4.8	ft·lb/in ²	
73°F	5.7	10	ft·lb/in ²	
Thermal	Dry	Conditioned	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	496	--	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	455	--	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
CLTE - Flow (73 to 131°F, 0.0787 in)	1.7E-5	--	in/in/°F	ISO 11359-2
CLTE - Transverse (73 to 131°F, 0.0787 in)	6.2E-5	--	in/in/°F	ISO 11359-2
Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.0394 in)	1.0E+9	--	ohms·cm	IEC 60093
Electric Strength (0.0394 in)	76	--	V/mil	IEC 60243-1
Arc Resistance (0.118 in)	PLC 6	--		ASTM D495
Comparative Tracking Index (0.118 in)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
0.016 in	PLC 1	--		
0.030 in	PLC 1	--		
0.06 in	PLC 1	--		
0.12 in	PLC 1	--		
High Voltage Arc Tracking Rate (HVTR) (0.118 in)	PLC 3	--		UL 746A
Hot-wire Ignition (HWI)				UL 746A
0.016 in	PLC 4	--		
0.030 in	PLC 4	--		
0.06 in	PLC 4	--		
0.12 in	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Flame Rating				UL 94
0.030 in	HB	--		
0.06 in	HB	--		
0.12 in	HB	--		

Processing Information

Injection	Dry 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

Notes

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

