

Vydyne® R550H NT0687

polyamide 66



Vydyne R550H NT0687 is a general purpose, 50% glass-filled, heat-stabilized PA66 based resin designed for injection molding applications. R550H NT0687 offers standard flow with a natural

surface finish and maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline.

General	
Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 50% Filler by Weight
Additive	• Heat Stabilizer • Lubricant
Features	• Creep Resistant • Heat Stabilized • High Strength • Good Mold Release • High Flow • Lubricated • Good Thermal Stability • High Rigidity
Uses	• Automotive Applications • Electrical/Electronic Applications • General Purpose • Automotive Under the Hood • Gears
Agency Ratings	• ASTM D6779 PA012G50 • EU 10/2011 • FDA 21 CFR 177.1500 • EC 1935/2004 • EU 2023/2006
Automotive Specifications	• GM GMW3038P-PA66-GF50H • GM GMW3038P-PA66-GF50J
UL File Number	• E70062
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Dry	Conditioned	Unit	Test Method
Density	1.58	--	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	0.30	--	%	
Water Absorption				ISO 62
24 hr, 23°C	0.50	--	%	
Equilibrium, 23°C, 50% RH	1.2	--	%	

Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (23°C)	16800	12600	MPa	ISO 527-1
Tensile Stress (Break, 23°C)	240	180	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	2.5	3.5	%	ISO 527-2
Flexural Modulus (23°C)	16000	11200	MPa	ISO 178
Flexural Strength (23°C)	350	270	MPa	ISO 178
Poisson's Ratio	0.40	--		ISO 527-2

Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-30°C	14	15	kJ/m ²	
23°C	15	21	kJ/m ²	
Charpy Unnotched Impact Strength				ISO 179/1eU
-30°C	91	95	kJ/m ²	
23°C	95	110	kJ/m ²	
Notched Izod Impact Strength				ISO 180
-30°C	16	18	kJ/m ²	
23°C	17	21	kJ/m ²	
Thermal	Dry	Conditioned	Unit	Test Method
Heat Deflection Temperature				
0.45 MPa, Unannealed	260	--	°C	ISO 75-2/B
1.8 MPa, Unannealed	255	--	°C	ISO 75-2/A
Melting Temperature	260	--	°C	ISO 11357-3
CLTE				ISO 11359-2
Flow : 23 to 55°C, 2.00 mm	1.7E-5	--	cm/cm/°C	
Transverse : 23 to 55°C, 2.00 mm	7.2E-5	--	cm/cm/°C	
RTI Elec				UL 746B
0.75 mm	140	--	°C	
1.5 mm	140	--	°C	
3.0 mm	140	--	°C	
RTI Imp				UL 746B
0.75 mm	130	--	°C	
1.5 mm	130	--	°C	
3.0 mm	130	--	°C	
RTI Str				UL 746B
0.75 mm	140	--	°C	
1.5 mm	140	--	°C	
3.0 mm	140	--	°C	

Electrical	Dry	Conditioned	Unit	Test Method
Volume Resistivity (0.750 mm)	1.0E+12	--	ohms-cm	IEC 60093
Dielectric Strength (1.00 mm)	20	--	kV/mm	IEC 60243
Arc Resistance (3.00 mm)	PLC 5	--		ASTM D495
Comparative Tracking Index (3.00 mm)	400 to 599	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
0.75 mm	PLC 0	--		
1.5 mm	PLC 0	--		
3.0 mm	PLC 0	--		
High Voltage Arc Tracking Rate (HVTR)	PLC 1	--		UL 746A
Hot-wire Ignition (HWI)				UL 746A
0.75 mm	PLC 4	--		
1.5 mm	PLC 3	--		
3.0 mm	PLC 4	--		
Flammability	Dry	Conditioned	Unit	Test Method
Burning Rate (2.00 mm, Self-Extinguishing)	0.0	--	mm/min	ISO 3795
Flame Rating				UL 94
0.75 mm	HB	--		
1.5 mm	HB	--		
3.0 mm	HB	--		
Glow Wire Flammability Index				IEC 60695-2-12
0.75 mm	675	--	°C	
1.5 mm	675	--	°C	
3.0 mm	960	--	°C	
Glow Wire Ignition Temperature				IEC 60695-2-13
0.75 mm	700	--	°C	
1.5 mm	700	--	°C	
3.0 mm	750	--	°C	
Injection	Dry		Unit	
Drying Temperature	80		°C	
Drying Time	4.0		hr	
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 to 95		°C	

Notes

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

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