

**Vydyne® R435H NT0774**

Ascend Performance Materials Operations LLC - Polyamide 66

**General Information**
**Product Description**

Vydyne R435H NT0774, is designed to reinforce downgauged steel and aluminum used in vehicle body-in-white (BIW) structures, helping reduce weight without sacrificing safety or comfort. R435H NT0774 has improved energy absorption over traditional glass-filled PA66, helping reduce noise, vibration and harshness (NVH) and absorbing impact energy from crashes. Using the new grade in the BIW structure reinforces sheet metal, helping manufacturers shave substantial weight and improve efficiency. Trends in lightweight and NVH are becoming even more paramount with the growth of Electric Vehicles. R435H NT0774 has excellent properties to support applications where this will be of prime importance such as battery frames and housings.

**General**

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Filler / Reinforcement	• Glass Fiber, 35% Filler by Weight
Additive	• Heat Stabilizer • Impact Modifier • Lubricant
Features	• Balanced Stiffness/Toughness • Good Rigidity • Lubricated • Chemical Resistant • Good Tensile Strength • Oil Resistant • Gasoline Resistant • Good Toughness • Solvent Resistant • Good Dimensional Stability • Heat Stabilized • Good Heat Resistance • Impact Modified
Agency Ratings	• ASTM D4066 • ASTM D6779
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding
Resin ID	• PA66-I-GF35

**Properties <sup>1</sup>**

Physical	Dry	Conditioned	Unit	Test Method
Density	1.40	--	g/cm <sup>3</sup>	ISO 1183
Molding Shrinkage				ISO 294-4
Across Flow : 73°F, 0.0787 in	1.0	--	%	
Flow : 73°F, 0.0787 in	0.30	--	%	
Water Absorption (24 hr, 73°F)	1.0	--	%	ISO 62
Water Absorption (Equilibrium, 73°F, 50% RH)	1.4	--	%	ISO 62
Mechanical	Dry	Conditioned	Unit	Test Method
Tensile Modulus (73°F)	1.62E+6	1.22E+6	psi	ISO 527-1
Tensile Stress (Break, 73°F)	26800	19600	psi	ISO 527-2
Tensile Strain (Break, 73°F)	3.5	4.5	%	ISO 527-2
Flexural Modulus (73°F)	1.46E+6	1.02E+6	psi	ISO 178
Flexural Stress (73°F)	38700	23600	psi	ISO 178
Impact	Dry	Conditioned	Unit	Test Method
Charpy Notched Impact Strength				ISO 179/1eA
-40°F	6.7	6.7	ft·lb/in <sup>2</sup>	
-22°F	7.1	7.6	ft·lb/in <sup>2</sup>	
73°F	9.0	11	ft·lb/in <sup>2</sup>	
Charpy Unnotched Impact Strength				ISO 179/1eU
-40°F	52	48	ft·lb/in <sup>2</sup>	
-22°F	52	48	ft·lb/in <sup>2</sup>	
73°F	48	52	ft·lb/in <sup>2</sup>	
Notched Izod Impact Strength				ISO 180/1A
-40°F	7.1	7.6	ft·lb/in <sup>2</sup>	



-22°F	7.6	8.1	ft·lb/in <sup>2</sup>	
73°F	8.6	11	ft·lb/in <sup>2</sup>	
<b>Thermal</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Deflection Temperature Under Load (66 psi, Unannealed)	502	498	°F	ISO 75-2/B
Deflection Temperature Under Load (264 psi, Unannealed)	482	477	°F	ISO 75-2/A
Melting Temperature	500	--	°F	ISO 11357-3
<b>Electrical</b>	<b>Dry</b>	<b>Conditioned</b>	<b>Unit</b>	<b>Test Method</b>
Electric Strength (0.0394 in)	1000	910	V/mil	IEC 60243-1

### Processing Information

<b>Injection</b>	<b>Dry</b>	<b>Unit</b>
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

<sup>1</sup> Typical properties: these are not to be construed as specifications.

