

Vydyne® R550H NT662

polyamide 66



Vydyne R550H NT662 is general-purpose, heat-stabilized, hydrolysis-resistant, 50% glass-fiber reinforced PA66 resin. Available in natural, it is specifically designed to maximize the retention of physical properties when exposed to anti-freeze solutions at elevated temperatures. This product is also lubricated for improved flow and offers superior surface appearance.

Glass-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.

Vydyne R550H NT662 is heat-stabilized to minimize oxidative degradation of the polymer when exposed to elevated

temperatures in service. This product provides improved retention of physical properties under exposure to long term heat. Also, Vydyne R550H NT662 has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions.

Typical Applications/End Uses:

Vydyne R550H NT662 is successfully used in a wide range of injection-molding engineering applications. Typical parts include automotive clips, radiator endtanks and parts of the air-conditioning and fuel distribution systems; electrical connectors, housings and bobbins; and industrial applications such as gears, bearing shells, covers and housings.

| General | | | |
|---------------------------|--|---|--|
| Material Status | • Commercial: Active | | |
| Availability | • Asia Pacific | • Europe | • North America |
| Filler / Reinforcement | • Glass Fiber, 50% Filler by Weight | | |
| Additive | • Heat Stabilizer | • Lubricant | |
| Features | • Good Flow • Good Mold Release | • Heat Stabilized • High Rigidity | • High Strength • Lubricated |
| Uses | • Automotive Under the Hood • Gears | • Housings • Power/Other Tools | |
| Agency Ratings | • ASTM D 4066 PA012G50 | • ASTM D 6779 PA012G50 | |
| Automotive Specifications | <ul style="list-style-type: none"> • 3M 11-0003-5762-1 • CHRYSLER MS-DB-41 CPN1900 Color: Black • CHRYSLER MS-DB-41 CPN2043 Color: Natural • CHRYSLER MS-DB-41 CPN2727 Color: Black • CHRYSLER MS-DB-41 CPN4014 Color: 100% Color Match • DAEWOO EDS-M-5165-02 | <ul style="list-style-type: none"> • FORD ESE-M4D287-A Color: Black • FORD ESE-M4D287-B • FORD ESE-M4D287-B Color: Black • FORD WSK-M4D663-A • FORD WSK-M4D663-A Color: Black • GM GMP.PA66.013 | <ul style="list-style-type: none"> • GM GMP.PA66.013 Color: Black • GM GMP.PA66.054 • GM GMP.PA66.054 Color: Black • SAE J1639 PA1116 • SAE J1639 PA1116 Color: Black • TagAZ TAMS-8729-01 |
| 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 : 73°F, 0.0787 in | 0.90 | -- | % | |
| Flow : 73°F, 0.0787 in | 0.40 | -- | % | |
| Water Absorption (73°F, 24 hr) | 0.50 | -- | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 1.2 | -- | % | ISO 62 |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus (73°F) | 2.44E+6 | 2.21E+6 | psi | ISO 527-2 |
| Tensile Stress (Break, 73°F) | 34800 | 27600 | psi | ISO 527-2 |
| Tensile Strain (Break, 73°F) | 2.5 | 2.8 | % | ISO 527-2 |
| Flexural Modulus (73°F) | 2.32E+6 | 1.63E+6 | psi | ISO 178 |
| Flexural Strength (73°F) | 50800 | 39200 | psi | ISO 178 |
| Poisson's Ratio | 0.40 | -- | | ISO 527-2 |
| Impact | Dry | Conditioned | Unit | Test Method |
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -22°F | 6.7 | 7.1 | ft·lb/in ² | |
| 73°F | 7.1 | 10 | ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -22°F | 43 | 45 | ft·lb/in ² | |
| 73°F | 45 | 52 | ft·lb/in ² | |
| Notched Izod Impact Strength | | | | ISO 180 |
| -22°F | 7.6 | 8.6 | ft·lb/in ² | |
| 73°F | 8.1 | 10 | ft·lb/in ² | |

| Thermal | Dry | Conditioned | Unit | Test Method |
|--|------------|-------------|----------|-------------|
| Heat Deflection Temperature 66 psi, Unannealed | 500 | -- | °F | ISO 75-2/B |
| Heat Deflection Temperature 264 psi, Unannealed | 491 | -- | °F | ISO 75-2/A |
| Melting Temperature | 500 | -- | °F | ISO 11357-3 |
| CLTE - Flow (73 to 131°F, 0.0787 in) | 6.7E-6 | -- | in/in/°F | ISO 11359-2 |
| CLTE - Transverse (73 to 131°F, 0.0787 in) | 5.6E-5 | -- | in/in/°F | ISO 11359-2 |
| RTI Elec | | | | UL 746 |
| 0.0295 in | 284 | -- | °F | |
| 0.0591 in | 284 | -- | °F | |
| 0.118 in | 284 | -- | °F | |
| RTI Imp | | | | UL 746 |
| 0.0295 in | 266 | -- | °F | |
| 0.0591 in | 266 | -- | °F | |
| 0.118 in | 266 | -- | °F | |
| RTI Str | | | | UL 746 |
| 0.0295 in | 284 | -- | °F | |
| 0.0591 in | 284 | -- | °F | |
| 0.118 in | 284 | -- | °F | |
| Electrical | Dry | Conditioned | Unit | Test Method |
| Volume Resistivity (0.0295 in) | 1.0E+12 | -- | ohm-cm | IEC 60093 |
| Dielectric Strength (0.0394 in) | 510 | -- | V/mil | IEC 60243 |
| Arc Resistance (0.118 in) | PLC 5 | -- | | ASTM D495 |
| Comparative Tracking Index (0.118 in) | 400 to 599 | -- | V | IEC 60112 |
| High Amp Arc Ignition (HAI) | | | | UL 746 |
| 0.0295 in | PLC 0 | -- | | |
| 0.0591 in | PLC 0 | -- | | |
| 0.118 in | PLC 0 | -- | | |
| High Voltage Arc Tracking Rate (HVTR) | PLC 1 | -- | | UL 746 |
| Hot-wire Ignition (HWI) | | | | UL 746 |
| 0.0295 in | PLC 4 | -- | | |
| 0.0591 in | PLC 3 | -- | | |
| 0.118 in | PLC 4 | -- | | |

| Flammability | Dry | Conditioned | Unit | Test Method |
|---|------|-------------|------|----------------|
| Flame Rating | | | | UL 94 |
| 0.0295 in | HB | -- | | |
| 0.0591 in | HB | -- | | |
| 0.118 in | HB | -- | | |
| Glow Wire Flammability Index | | | | IEC 60695-2-12 |
| 0.0295 in | 1250 | -- | °F | |
| 0.0591 in | 1250 | -- | °F | |
| 0.118 in | 1760 | -- | °F | |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| 0.0295 in | 1290 | -- | °F | |
| 0.0591 in | 1290 | -- | °F | |
| 0.118 in | 1380 | -- | °F | |
| Additional Information | Dry | Conditioned | Unit | Test Method |
| Automotive Materials - (thickness d = 1 mm) | + | -- | | FMVSS 302 |
| Injection | | Dry | Unit | |
| Drying Temperature | | 176 | °F | |
| Drying Time | | 4.0 | hr | |
| Suggested Max Regrind | | 25 | % | |
| 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

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North America

+1 888 927 2363

Europe

+32 10 608 600

Asia

+86 21 6340 3300

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