

Vydyne® R530H BK0202 polyamide 66



Vydyne R530H BK0202 is general-purpose, recycled, heat-stabilized, hydrolysis-resistant, 30% glass-fiber reinforced PA66 resin. Available in black, 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 machine feed and flow.

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 R530H BK0202 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 R530H BK0202 has excellent knit-line strength and fatigue resistance, which is essential for cycle testing with anti-freeze solutions.

Typical Applications/End Uses:

Vydyne R530H BK0202 has been used for several under-the-hood automotive applications. The hydrolysis-resistant properties make it an excellent candidate for radiator end tank and heater core applications.

| General | |
|---------------------------|--|
| Material Status | • Commercial: Active |
| Availability | • Asia Pacific • Europe • North America |
| Filler / Reinforcement | • Glass Fiber, 30% Filler by Weight |
| Additive | • Heat Stabilizer • Lubricant |
| Recycled Content | • Yes |
| Features | • Antifreeze Resistant • Good Chemical Resistance • Hydrolysis Resistant • Fatigue Resistant • Good Flow • Lubricated • Gasoline Resistance • Heat Stabilized • Solvent Resistant |
| Uses | • Automotive Under the Hood |
| Agency Ratings | • ASTM D 4066 PA0121G30 • ASTM D 6779 PA0121G30 |
| Automotive Specifications | • CHRYSLER MS-DB-41 • FORD WSK-M4D752-A CPN4018 • GM GMP.PA66.040 • OPEL QK 003013 HW • DAEWOO EDS-M-5164-11 • GM • TagAZ TAMS-8723-01 • FORD WSK-M4D642-A • GMW3038P-PA66-GF30H • FORD WSK-M4D642-A2 • OPEL QK 003013 H |
| UL File Number | • E70062 |
| Appearance | • Black |
| Forms | • Pellets |
| Processing Method | • Injection Molding |

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| Physical | Dry | Conditioned | Unit | Test Method |
|--|---------|-------------|-----------------------|-------------|
| Density | 1.37 | -- | 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) | 0.90 | -- | % | ISO 62 |
| Water Absorption (Equilibrium, 50% RH) | 1.9 | -- | % | ISO 62 |
| Mechanical | Dry | Conditioned | Unit | Test Method |
| Tensile Modulus (73°F) | 1.45E+6 | 1.07E+6 | psi | ISO 527-2 |
| Tensile Stress (Break, 73°F) | 28300 | 19600 | psi | ISO 527-2 |
| Tensile Strain (Break, 73°F) | 3.0 | 5.0 | % | ISO 527-2 |
| Flexural Modulus (73°F) | 1.39E+6 | 870000 | psi | ISO 178 |
| Flexural Stress (73°F) | 39200 | 27600 | psi | ISO 178 |
| Poisson's Ratio (73°F) | 0.40 | -- | | ISO 527 |
| Impact | Dry | Conditioned | Unit | Test Method |
| Charpy Notched Impact Strength | | | | ISO 179 |
| -22°F | 4.9 | 5.2 | ft·lb/in ² | |
| 73°F | 5.3 | 6.2 | ft·lb/in ² | |
| Charpy Unnotched Impact Strength | | | | ISO 179 |
| -22°F | 31 | 38 | ft·lb/in ² | |
| 73°F | 36 | 40 | ft·lb/in ² | |
| Notched Izod Impact Strength | | | | ISO 180 |
| -22°F | 4.8 | 5.2 | ft·lb/in ² | |
| 73°F | 5.7 | 6.2 | 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 | 482 | -- | °F | ISO 75-2/A |
| Melting Temperature | 500 | -- | °F | ISO 11357-3 |
| CLTE - Flow (73 to 131°F, 0.0787 in) | 1.2E-5 | -- | in/in/°F | ISO 11359-2 |
| CLTE - Transverse (73 to 131°F, 0.0787 in) | 5.9E-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 | 248 | -- | °F | |
| 0.0591 in | 248 | -- | °F | |
| 0.118 in | 248 | -- | °F | |
| RTI Str | | | | UL 746 |
| 0.0295 in | 257 | -- | °F | |
| 0.0591 in | 284 | -- | °F | |
| 0.118 in | 284 | -- | °F | |
| Electrical | Dry | Conditioned | Unit | Test Method |
| Volume Resistivity (0.118 in) | 1.0E+13 | -- | ohm-cm | IEC 60093 |
| Dielectric Strength (0.0394 in) | 510 | -- | V/mil | IEC 60243 |
| Arc Resistance (0.118 in) | PLC 6 | -- | | ASTM D495 |
| Comparative Tracking Index (0.118 in) | 250 to 399 | -- | 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 | 1250 | -- | °F | |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| 0.0295 in | 1290 | -- | °F | |
| 0.0591 in | 1290 | -- | °F | |
| 0.118 in | 1290 | -- | °F | |
| 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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