# Vydyne® R535HT BK653
## polyamide 66

Vydyne R535HT BK653 is a 35% glass-filled, heat-stabilized PA66 based resin. Available in black, this product is also lubricated for improved flow and offers superior surface appearance. Specifically designed for high-temperature applications, Vydyne R535HT BK653 can withstand elevated temperatures up to 190°C for an extended period of time.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Asia Pacific | • Europe | • North America |
| Filler / Reinforcement | • Glass Fiber, 35% Filler by Weight | | |
| Additive | • Heat Stabilizer | • Lubricant | |
| Features | • Antifreeze Resistant<br>• Chemical Resistant<br>• Fatigue Resistant | • Gasoline Resistant<br>• Heat Stabilized<br>• High Flow | • Lubricated<br>• Solvent Resistant |
| Uses | • Automotive Under the Hood | • Charge Air Systems | • High Temperature Applications |
| Agency Ratings | • ASTM D4066 PA114G35 | • ASTM D6779 PA084G35 | |
| Automotive Specifications | • RENAULT AS23a | | |
| UL File Number | • E70062 | | |
| Appearance | • Black | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

| Physical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Density | 1.42 | -- | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow : 2.00 mm | 0.90 | -- | % | |
| Flow : 2.00 mm | 0.40 | -- | % | |
| Water Absorption | | | | ISO 62 |
| 24 hr, 23°C | 0.80 | -- | % | |
| Equilibrium, 23°C, 50% RH | 1.6 | -- | % | |

| Mechanical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Tensile Modulus (23°C) | 11200 | 7800 | MPa | ISO 527-2 |
| Tensile Stress (Break, 23°C) | 200 | 130 | MPa | ISO 527-2 |
| Tensile Strain (Break, 23°C) | 3.2 | 3.0 | % | ISO 527-2 |
| Flexural Modulus (23°C) | 10200 | 6300 | MPa | ISO 178 |
| Flexural Stress (23°C) | 280 | 145 | MPa | ISO 178 |
| Poisson's Ratio | 0.40 | -- | | ISO 527 |

| Impact | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Charpy Notched Impact Strength | | | | ISO 179/1eA |
| -30°C | 11 | 12 | kJ/m² | |
| 23°C | 12 | 18 | kJ/m² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -30°C | 65 | 75 | kJ/m² | |
| 23°C | 75 | 85 | kJ/m² | |
| Notched Izod Impact Strength | | | | ISO 180 |
| -30°C | 13 | 13 | kJ/m² | |
| 23°C | 14 | 18 | kJ/m² | |
| **Thermal** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Heat Deflection Temperature | | | | |
| 0.45 MPa, Unannealed | 256 | -- | °C | ISO 75-2/B |
| 1.8 MPa, Unannealed | 240 | -- | °C | ISO 75-2/A |
| Melting Temperature | 260 | -- | °C | ISO 11357-3 |
| CLTE | | | | ISO 11359-2 |
| Flow : 23 to 55°C | 1.9E-5 | -- | cm/cm/°C | |
| Transverse : 23 to 55°C | 8.1E-5 | -- | cm/cm/°C | |
| **Flammability** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Burning Rate (2.00 mm, Self-Extinguishing) | 0.0 | -- | mm/min | ISO 3795 |

| Injection | Dry | Unit |
|---|---|---|
| Drying Temperature | 80 | °C |
| Drying Time | 4.0 | hr |
| Suggested Max Regrind | 25 | % |
| 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 |
| --- |
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