# Vydyne® B 50 GF NT

**Ascend Performance Materials Operations LLC - *Polyamide 6***

## General Information

**Product Description**

Vydyne B 50 GF NT is standard flow, 50% glass-fiber reinforced PA6 resin. Available in natural, this product is also lubricated for improved machine feed and flow.

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Asia Pacific | • Europe | • North America |
| Filler / Reinforcement | • Glass Fiber, 50% Filler by Weight | | |
| Additive | • Lubricant | | |
| Features | • Chemical Resistant<br>• Gasoline Resistant | • General Purpose<br>• Good Flow | • Good Heat Resistance<br>• Lubricated |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |
| Resin ID | • PA6-GF50 | | |

## Properties [1]

| Physical | Nominal Value | Unit | Test Method |
|---|---|---|---|
| Density | 1.57 | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | ISO 294-4 |
| Across Flow : 73°F, 0.0787 in | 0.50 | % | |
| Flow : 73°F, 0.0787 in | 0.20 | % | |
| Water Absorption (24 hr, 73°F) | 0.80 | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 1.6 | % | ISO 62 |
| **Mechanical** | **Nominal Value** | **Unit** | **Test Method** |
| Tensile Modulus (73°F) | 2.32E+6 | psi | ISO 527-1 |
| Tensile Stress (Break, 73°F) | 32600 | psi | ISO 527-2 |
| Tensile Strain (Break, 73°F) | 2.5 | % | ISO 527-2 |
| Flexural Modulus (73°F) | 1.89E+6 | psi | ISO 178 |
| Flexural Stress (73°F) | 47900 | psi | ISO 178 |
| Poisson's Ratio (73°F) | 0.34 | | ISO 527-2 |
| **Impact** | **Nominal Value** | **Unit** | **Test Method** |
| Charpy Notched Impact Strength | | | ISO 179/1eA |
| -40°F | 7.1 | ft·lb/in² | |
| -22°F | 7.6 | ft·lb/in² | |
| 73°F | 9.5 | ft·lb/in² | |
| Charpy Unnotched Impact Strength | | | ISO 179/1eU |
| -40°F | 38 | ft·lb/in² | |
| -22°F | 45 | ft·lb/in² | |
| 73°F | 50 | ft·lb/in² | |
| Notched Izod Impact Strength | | | ISO 180/1A |
| -40°F | 5.7 | ft·lb/in² | |
| -22°F | 6.9 | ft·lb/in² | |
| 73°F | 8.6 | ft·lb/in² | |
| **Thermal** | **Nominal Value** | **Unit** | **Test Method** |
| Deflection Temperature Under Load (66 psi, Unannealed) | 428 | °F | ISO 75-2/B |
| Deflection Temperature Under Load (264 psi, Unannealed) | 419 | °F | ISO 75-2/A |
| Melting Temperature | 428 | °F | ISO 11357-3 |

| | | | |
|---|---|---|---|
| CLTE - Flow (73 to 131°F, 0.0787 in) | 8.3E-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 |
| **Electrical** | **Nominal Value** | **Unit** | **Test Method** |
| Electric Strength (0.0394 in) | 640 | V/mil | IEC 60243-1 |
| Comparative Tracking Index (0.118 in) | 575 | V | IEC 60112 |
| **Flammability** | **Nominal Value** | **Unit** | **Test Method** |
| Burning Rate (0.0787 in) | 4.0 | in/min | ISO 3795 |
| Glow Wire Flammability Index (0.08 in) | 1200 | °F | IEC 60695-2-12 |

## Processing Information

| **Injection** | **Nominal Value** | **Unit** |
|---|---|---|
| Drying Temperature | 176 to 194 | °F |
| Drying Time | > 3.0 | hr |
| Processing (Melt) Temp | 446 to 500 | °F |
| Mold Temperature | 176 to 194 | °F |

## Notes

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