# Vydyne® 20NSP1
## polyamide 66

Vydyne 20NSP1 product description to come.

To come

Typical Applications/End Uses:

| General | | | |
|---|---|---|---|
| Material Status | • Commercial: Active | | |
| Availability | • Asia Pacific | • Europe | • North America |
| Additive | • Lubricant | • Nucleating Agent | |
| Features | • Fast Molding Cycle<br>• General Purpose<br>• Good Mold Release | • Good Stiffness<br>• High Rigidity<br>• Lubricated | • Nucleated |
| Uses | • Bearings<br>• Cams<br>• Connectors | • Fasteners<br>• General Purpose<br>• Housings | • Industrial Applications |
| Agency Ratings | • ASTM D 4066 PA0131 | • ASTM D 6779 PA0131 | • FED L-P-410A |
| RoHS Compliance | • RoHS Compliant | | |
| Automotive Specifications | • ASTM D4000 PA131 | • ASTM D4066 PA0131 | • FEDERAL LP410A |
| UL File Number | • E70062 | | |
| Appearance | • Natural Color | | |
| Forms | • Pellets | | |
| Processing Method | • Injection Molding | | |

| Physical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Density | 1.14 | -- | g/cm³ | ISO 1183 |
| Molding Shrinkage | | | | ISO 294-4 |
| Across Flow : 73°F, 0.0787 in | 1.6 | -- | % | |
| Flow : 73°F, 0.0787 in | 1.4 | -- | % | |
| Water Absorption (73°F, 24 hr) | 1.2 | -- | % | ISO 62 |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 2.4 | -- | % | ISO 62 |

| Mechanical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Tensile Modulus (73°F) | 551000 | 363000 | psi | ISO 527-2 |
| Tensile Stress (Yield, 73°F) | 13800 | 8700 | psi | ISO 527-2 |
| Tensile Stress (Break, 73°F) | 10900 | 7250 | psi | ISO 527-2 |
| Tensile Strain (Yield, 73°F) | 5.0 | 15 | % | ISO 527-2 |
| Nominal Tensile Strain at Break (73°F) | 13 | 20 | % | ISO 527-2 |
| Flexural Modulus (73°F) | 464000 | 189000 | psi | ISO 178 |
| Flexural Strength (73°F) | 14500 | 5080 | 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 | 2.4 | 2.4 | ft·lb/in² | |
| 73°F | 2.9 | 7.1 | ft·lb/in² | |
| Charpy Unnotched Impact Strength | | | | ISO 179/1eU |
| -22°F | No Break | No Break | | |
| 73°F | No Break | No Break | | |
| Notched Izod Impact Strength | | | | ISO 180 |
| -22°F | 2.4 | 2.4 | ft·lb/in² | |
| 73°F | 2.9 | 7.1 | ft·lb/in² | |
| **Thermal** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Heat Deflection Temperature | | | | ISO 75-2/B |
| 66 psi, Unannealed | 446 | -- | °F | |
| Heat Deflection Temperature | | | | ISO 75-2/A |
| 264 psi, Unannealed | 194 | -- | °F | |
| Melting Temperature | 500 | -- | °F | ISO 11357-3 |
| CLTE - Flow (73 to 131°F, 0.0787 in) | 5.6E-5 | -- | 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 |
| 0.0280 in | 266 | -- | °F | |
| 0.0591 in | 266 | -- | °F | |
| 0.118 in | 266 | -- | °F | |
| RTI Imp | | | | UL 746 |
| 0.0280 in | 167 | -- | °F | |
| 0.0591 in | 167 | -- | °F | |
| 0.118 in | 167 | -- | °F | |
| RTI Str | | | | UL 746 |
| 0.0280 in | 185 | -- | °F | |
| 0.0591 in | 185 | -- | °F | |
| 0.118 in | 185 | -- | °F | |

| Electrical | Dry | Conditioned | Unit | Test Method |
|---|---|---|---|---|
| Dielectric Strength (0.0394 in) | 660 | -- | V/mil | IEC 60243 |
| Arc Resistance (0.118 in) | PLC 5 | -- | | ASTM D495 |
| Comparative Tracking Index (0.118 in) | 600 | -- | V | IEC 60112 |
| High Amp Arc Ignition (HAI) | | | | UL 746 |
| 0.0280 in | PLC 0 | -- | | |
| 0.0591 in | PLC 0 | -- | | |
| 0.118 in | PLC 0 | -- | | |
| High Voltage Arc Tracking Rate (HVTR) | PLC 0 | -- | | UL 746 |
| Hot-wire Ignition (HWI) | | | | UL 746 |
| 0.0280 in | PLC 4 | -- | | |
| 0.0591 in | PLC 3 | -- | | |
| 0.118 in | PLC 3 | -- | | |
| **Flammability** | **Dry** | **Conditioned** | **Unit** | **Test Method** |
| Flame Rating | | | | UL 94 |
| 0.0280 in | V-2 | -- | | |
| 0.0591 in | V-2 | -- | | |
| 0.118 in | V-2 | -- | | |
| Glow Wire Flammability Index | | | | IEC 60695-2-12 |
| 0.0280 in | 1470 | -- | °F | |
| 0.0591 in | 1470 | -- | °F | |
| 0.118 in | 1710 | -- | °F | |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| 0.0280 in | 1290 | -- | °F | |
| 0.0591 in | 1290 | -- | °F | |
| 0.118 in | 1290 | -- | °F | |
| Oxygen Index | 26 | -- | % | ISO 4589-2 |

| Injection | Dry | Unit |
|---|---|---|
| Drying Temperature | < 158 | °F |
| Drying Time | 1.0 to 3.0 | hr |
| Suggested Max Regrind | 50 | % |
| Rear Temperature | 500 to 536 | °F |
| Middle Temperature | 518 to 545 | °F |
| Front Temperature | 536 to 554 | °F |
| Nozzle Temperature | 536 to 572 | °F |
| Processing (Melt) Temp | 545 to 572 | °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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