

# Vydyne® 65A

## polyamide 66



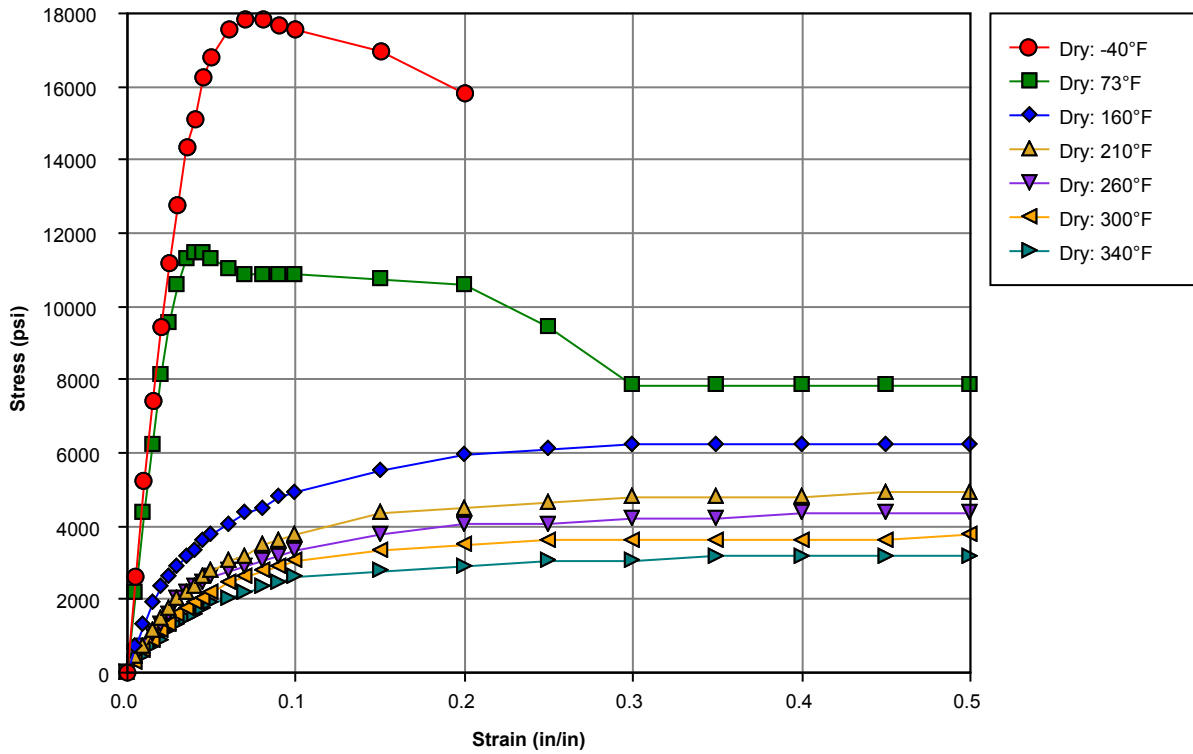
Vydyne 65A is a medium-viscosity, heat-stabilized PA66 resin suitable for injection-molding, extrusion and compounding applications. It is available in natural color only. Vydyne 65A resin offers high strength, rigidity and toughness over a broad range of demanding applications, and good fluid resistance to a wide variety of chemicals, solvents and oils.

Typical Applications/End Uses:  
Typical uses include packaging films, monofilaments, bristles, rods, tubing and sheet.

| General                                      |                                                                     |                                                         |                                                              |             |
|----------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------|-------------|
| Material Status                              | • Commercial: Active                                                |                                                         |                                                              |             |
| Availability                                 | • Asia Pacific                                                      | • Europe                                                | • North America                                              |             |
| Features                                     | • General Purpose<br>• Good Chemical Resistance<br>• Good Toughness | • Heat Stabilized<br>• High Rigidity<br>• High Strength | • Medium Viscosity<br>• Oil Resistant<br>• Solvent Resistant |             |
| Uses                                         | • Industrial Applications<br>• Monofilaments                        | • Profiles<br>• Rods                                    | • Sheet<br>• Tubing                                          |             |
| Agency Ratings                               | • ASTM D 4066 PA0123<br>• ASTM D 6779 PA0123                        | • FDA 21 CFR 177.1500<br>• FED L-P-410A                 | • MIL M-20693B                                               |             |
| RoHS Compliance                              | • RoHS Compliant                                                    |                                                         |                                                              |             |
| Appearance                                   | • Natural Color                                                     |                                                         |                                                              |             |
| Forms                                        | • Pellets                                                           |                                                         |                                                              |             |
| Processing Method                            | • Extrusion                                                         | • Injection Molding                                     |                                                              |             |
| Multi-Point Data                             | • Isothermal Stress vs. Strain (ISO 11403-1)                        |                                                         |                                                              |             |
| Physical                                     | Dry                                                                 | Conditioned                                             | Unit                                                         | Test Method |
| Density                                      | 1.14                                                                | --                                                      | g/cm <sup>3</sup>                                            | ISO 1183    |
| Molding Shrinkage                            |                                                                     |                                                         |                                                              | ISO 294-4   |
| Across Flow : 73°F, 0.0787 in                | 1.8                                                                 | --                                                      | %                                                            |             |
| Flow : 73°F, 0.0787 in                       | 2.0                                                                 | --                                                      | %                                                            |             |
| Water Absorption (Saturation, 73°F)          | 8.5                                                                 | --                                                      | %                                                            | ISO 62      |
| Water Absorption (Equilibrium, 73°F, 50% RH) | 2.5                                                                 | --                                                      | %                                                            | ISO 62      |
| Mechanical                                   | Dry                                                                 | Conditioned                                             | Unit                                                         | Test Method |
| Tensile Modulus (73°F)                       | 450000                                                              | 261000                                                  | psi                                                          | ISO 527-2   |
| Tensile Stress (Yield, 73°F)                 | 12300                                                               | 7250                                                    | psi                                                          | ISO 527-2   |
| Tensile Stress (Break, 73°F)                 | 7980                                                                | 7250                                                    | psi                                                          | ISO 527-2   |
| Tensile Strain (Yield, 73°F)                 | 5.5                                                                 | 21                                                      | %                                                            | ISO 527-2   |
| Nominal Tensile Strain at Break (73°F)       | > 25                                                                | > 200                                                   | %                                                            | ISO 527-2   |
| Flexural Modulus (73°F)                      | 406000                                                              | 102000                                                  | psi                                                          | ISO 178     |
| Flexural Stress (73°F)                       | 10900                                                               | 2900                                                    | 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                                      | 2.9      | 3.3         | ft·lb/in <sup>2</sup> |             |
| 73°F                                       | 2.4      | 17          | ft·lb/in <sup>2</sup> |             |
| 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      | 3.3         | ft·lb/in <sup>2</sup> |             |
| 73°F                                       | 2.9      | 17          | ft·lb/in <sup>2</sup> |             |
| Thermal                                    | Dry      | Conditioned | Unit                  | Test Method |
| Heat Deflection Temperature                |          |             |                       | ISO 75-2/B  |
| 66 psi, Unannealed                         | 392      | --          | °F                    |             |
| Heat Deflection Temperature                |          |             |                       | ISO 75-2/A  |
| 264 psi, Unannealed                        | 149      | --          | °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 |

Isothermal Stress vs. Strain (ISO 11403-1)



| Extrusion             | Dry Unit      |
|-----------------------|---------------|
| Cylinder Zone 1 Temp. | 482 to 563 °F |
| Cylinder Zone 2 Temp. | 482 to 563 °F |
| Cylinder Zone 3 Temp. | 482 to 563 °F |
| Cylinder Zone 4 Temp. | 482 to 563 °F |
| Cylinder Zone 5 Temp. | 482 to 563 °F |
| Melt Temperature      | 518 to 563 °F |
| Die Temperature       | 518 to 563 °F |

Extrusion Notes

Recommended Extrusion Conditions:

- Melt Point: 260°C
- Melt Pressure: 3 to 17 MPa
- Blow Film Bath Temperature: 20°C to 80°C
- Chill Roll Temperature (Cast Film): 20°C to 80°C
- Screw Design: General Purpose or Barrier

## Notes

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

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