# Amodel® A-4122 LS WH 678
## polyphthalamide

Amodel® A-4122 LS is a 22% glass fiber reinforced, light-stabilized, high-reflectivity white grade of Amodel polyphthalamide (PPA). It is designed to provide high crystallinity when molded in water-cooled molds. This resin exhibits high heat resistance, high strength and stiffness over a broad temperature range, low moisture absorption, excellent chemical resistance and excellent electrical properties.

Its rapid crystallization rate and high flow can result in short cycles and therefore high molding productivity and lower part cost.

- White: A-4122 LS WH 678

| General | | |
|---|---|---|
| Material Status | • Commercial: Active | |
| Availability | • Africa & Middle East<br>• Asia Pacific<br>• Europe | • Latin America<br>• North America |
| Filler / Reinforcement | • Glass Fiber, 22% Filler by Weight | |
| Additive | • UV Stabilizer | |
| Features | • Chemical Resistant<br>• Fast Molding Cycle<br>• Good Color Stability<br>• High Reflectivity | • High Stiffness<br>• Light Stabilized<br>• Low Moisture Absorption |
| Uses | • Automotive Applications | • Automotive Electronics |
| RoHS Compliance | • RoHS Compliant | |
| Appearance | • White | |
| Forms | • Pellets | |
| Processing Method | • Water-Heated Mold Injection Molding | |

| Physical | Typical Value | Unit | Test method |
|---|---|---|---|
| Density | 1.59 | g/cm³ | ISO 1183/A |
| Molding Shrinkage | | | ASTM D955 |
| Flow | 0.40 | % | |
| Across Flow | 0.60 | % | |
| Water Absorption (24 hr) | 0.19 | % | ASTM D570 |

| Mechanical | Typical Value | Unit | Test method |
|---|---|---|---|
| Tensile Modulus | 9100 | MPa | ASTM D638 |
| Tensile Strength | 104 | MPa | ASTM D638 |
| Tensile Elongation (Break) | 1.2 | % | ASTM D638 |
| Flexural Modulus | 8100 | MPa | ASTM D790 |
| Flexural Strength | 165 | MPa | ASTM D790 |

| Impact | Typical Value | Unit | Test method |
|---|---|---|---|
| Notched Izod Impact | 18 | J/m | ASTM D256 |

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| Hardness | Typical Value | Unit | Test method |
|---|---|---|---|
| Rockwell Hardness (R-Scale) | 124 | | ASTM D785 |

| Thermal | Typical Value | Unit | Test method |
|---|---|---|---|
| Deflection Temperature Under Load | | | ASTM D648 |
| 0.45 MPa, Unannealed | 290 | °C | |
| Peak Melting Temperature | 323 | °C | ASTM D3418 |
| CLTE | | | |
| Flow : 0 to 100°C | 2.5E-4 | cm/cm/°C | ASTM E831 |
| Flow : 150 to 250°C | 1.9E-4 | cm/cm/°C | ASTM E831 |
| Transverse : 0 to 100°C | 9.6E-4 | cm/cm/°C | ASTM E228 |
| Transverse : 150 to 250°C | 1.5E-3 | cm/cm/°C | ASTM E228 |

| Additional Information | Typical Value | Unit | Test method |
|---|---|---|---|
| Optical Reflectivity | | | ASTM E1331 |
| 460 nm | > 90 | % | |
| 540 nm | > 90 | % | |
| 615 nm | > 90 | % | |

| Injection | Typical Value | Unit |
|---|---|---|
| Drying Temperature | 120 | °C |
| Drying Time | 4.0 | hr |
| Suggested Max Moisture | 0.030 to 0.060 | % |
| Rear Temperature | 318 to 324 | °C |
| Middle Temperature | 318 to 324 | °C |
| Front Temperature | 327 to 332 | °C |
| Processing (Melt) Temp | 329 to 343 | °C |
| Mold Temperature | 65 to 93 | °C |

### Injection Notes
Injection Rate: 3 to 4 in/sec
Holding Pressure: 50% of injection pressure

Storage:

- Amodel® compounds are shipped in moisture-resistant packages at moisture levels according to specifications. Sealed, undamaged bags should be preferably stored in a dry room at a maximum temperature of 50°C (122°F) and should be protected from possible damage. If only a portion of a package is used, the remaining material should be transferred into a sealable container. It is recommended that Amodel® resins be dried prior to molding following the recommendations found in this datasheet and/or in the Amodel® processing guide.

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

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## www.syensqo.com

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

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