

## Solvay Specialty Polymers Amodel® A-4122 NL WH 905 Polyphthalamide (PPA) (Unverified Data\*\*)

Category : Polymer , Thermoplastic , Polyphthalamide (PPA) , Polyphthalamide (PPA), 20% Glass Fiber Reinforced

### Material Notes:

Amodel A-4122 NL resin is a 22% glass reinforced, high-reflectivity white grade of polyphthalamide (PPA), designed to provide high crystallinity when molded in water-cooled molds. This material exhibits high heat resistance, high strength and stiffness over a broad temperature range. It also offers 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 NL WH 905  
 Injection Notes: A general purpose screw is recommended, with minimum back pressure. Injection Pressure: 3 to 4 in/sec  
 Information provided by Solvay Specialty Polymers.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Specialty-Polymers-Amodel-A-4122-NL-WH-905-Polyphthalamide-PPA-nbspUnverified-Data.php](http://www.lookpolymers.com/polymer_Solvay-Specialty-Polymers-Amodel-A-4122-NL-WH-905-Polyphthalamide-PPA-nbspUnverified-Data.php)

| Physical Properties               | Metric                    | English                   | Comments                  |
|-----------------------------------|---------------------------|---------------------------|---------------------------|
| Density                           | 1.48 g/cc                 | 0.0535 lb/in <sup>3</sup> | ISO 1183/A                |
| Filler Content                    | 22 %                      | 22 %                      | Glass Fiber Reinforcement |
| Water Absorption                  | 0.24 %<br>@Time 86400 sec | 0.24 %<br>@Time 24.0 hour | ASTM D570                 |
| Linear Mold Shrinkage, Flow       | 0.0040 cm/cm              | 0.0040 in/in              | ASTM D955                 |
| Linear Mold Shrinkage, Transverse | 0.0060 cm/cm              | 0.0060 in/in              | ASTM D955                 |

| Mechanical Properties     | Metric     | English        | Comments           |
|---------------------------|------------|----------------|--------------------|
| Hardness, Rockwell R      | 124        | 124            | R-Scale; ASTM D785 |
| Tensile Strength at Break | 123 MPa    | 17800 psi      | ASTM D638          |
| Elongation at Break       | 1.6 %      | 1.6 %          | ASTM D638          |
| Tensile Modulus           | 9.17 GPa   | 1330 ksi       | ASTM D638          |
| Flexural Yield Strength   | 171 MPa    | 24800 psi      | ASTM D790          |
| Flexural Modulus          | 8.00 GPa   | 1160 ksi       | ASTM D790          |
| Izod Impact, Notched      | 0.270 J/cm | 0.506 ft-lb/in | ASTM D256          |

| Thermal Properties            | Metric                             | English                              | Comments       |
|-------------------------------|------------------------------------|--------------------------------------|----------------|
| CTE, linear, Parallel to Flow | 11.0 µm/m-°C<br>@Temperature 150 - | 6.11 µin/in-°F<br>@Temperature 302 - | TMA; ASTM E831 |

| Thermal Properties                          | 250 °C<br>Metric            | 482 °F<br>English          | Comments              |
|---------------------------------------------|-----------------------------|----------------------------|-----------------------|
|                                             | 23.0 µm/m-°C                | 12.8 µin/in-°F             | TMA; ASTM E831        |
|                                             | @Temperature 0.000 - 100 °C | @Temperature 32.0 - 212 °F |                       |
| CTE, linear, Transverse to Flow             | 86.0 µm/m-°C                | 47.8 µin/in-°F             | ASTM E831             |
|                                             | @Temperature 0.000 - 100 °C | @Temperature 32.0 - 212 °F |                       |
|                                             | 130 µm/m-°C                 | 72.2 µin/in-°F             | ASTM E831             |
|                                             | @Temperature 150 - 250 °C   | @Temperature 302 - 482 °F  |                       |
| Melting Point                               | 324 °C                      | 615 °F                     | Peak; ASTM D3418      |
| Deflection Temperature at 0.46 MPa (66 psi) | 313 °C                      | 595 °F                     | Unannealed; ASTM D648 |

| Optical Properties                    | Metric | English | Comments   |
|---------------------------------------|--------|---------|------------|
| Reflection Coefficient, Visible (0-1) | 0.90   | 0.90    | ASTM E1331 |

| Processing Properties    | Metric         | English      | Comments |
|--------------------------|----------------|--------------|----------|
| Rear Barrel Temperature  | 318 - 324 °C   | 604 - 615 °F |          |
| Front Barrel Temperature | 327 - 332 °C   | 621 - 630 °F |          |
| Melt Temperature         | 329 - 343 °C   | 624 - 649 °F |          |
| Mold Temperature         | 65.6 - 93.3 °C | 150 - 200 °F |          |
| Drying Temperature       | 120 °C         | 248 °F       |          |
| Dry Time                 | 4.00 hour      | 4.00 hour    |          |
| Moisture Content         | 0.045 %        | 0.045 %      |          |

| Descriptive Properties    | Value                | Comments |
|---------------------------|----------------------|----------|
| Appearance                | White                |          |
| Automotive Specifications | ASTM D6779 PA1061    |          |
| Availability              | Africa & Middle East |          |
|                           | Asia Pacific         |          |
|                           | Europe               |          |
|                           | North America        |          |

| Descriptive Properties | Value                              | Comments |
|------------------------|------------------------------------|----------|
| Features               | Fast Molding Cycle                 |          |
|                        | Good Chemical Resistance           |          |
|                        | Good Color Stability               |          |
|                        | High Reflectivity                  |          |
|                        | High Stiffness                     |          |
|                        | Low Moisture Absorption            |          |
| Forms                  | Pellets                            |          |
| Generic                | PPA                                |          |
| Processing Method      | Injection Molding                  |          |
| RoHS Compliance        | RoHS Compliant                     |          |
| Uses                   | Automotive Applications            |          |
|                        | Automotive Electronics             |          |
|                        | Automotive Under the Hood          |          |
|                        | Electrical/Electronic Applications |          |

## Contact Songhan Plastic Technology Co.,Ltd.

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