# Amodel® A-4122 NL WH 905

### Polyphthalamide

Solvay Specialty Polymers

### Message:

A- 4122 NL AMODEL resin is a 22% glass fiber reinforced high reflective white grade polyphthalamide (PPA), mainly to obtain high crystallinity during water-cooled mold molding. This material has high heat resistance, high strength and rigidity over a wide temperature range. At the same time, it has low hygroscopicity, excellent chemical resistance and excellent electrical properties. Rapid crystallization and high fluidity may shorten the production cycle, thereby improving molding efficiency and reducing component costs. -white: A- 4122 NL WH 905

| General Information         |   |                   |             |  |  |
|-----------------------------|---|-------------------|-------------|--|--|
| UL YellowCard               | E95746-253223   | E161096-100795700 |             |  |  |
| Filler / Reinforcement      | Glass fiber reinforced material, 22% filler by weight |                   |             |  |  |
| Features                    | Low hygroscopicity                                    |                   |             |  |  |
|                             | High reflectivity                                     |                   |             |  |  |
|                             | Rigidity, high  |                   |             |  |  |
|                             | Fast molding cycle                                    |                   |             |  |  |
|                             | Good color stability                                  |                   |             |  |  |
|                             | Good chemical resistance                              |                   |             |  |  |
| Uses                        | Electrical/Electronic Applications                    |                   |             |  |  |
|                             | Parts under the hood of a car                         |                   |             |  |  |
|                             | Automotive Electronics                                |                   |             |  |  |
|                             | Application in Automobile Field                       |                   |             |  |  |
| RoHS Compliance             | RoHS compliance                                       |                   |             |  |  |
| Appearance                  | White   |                   |             |  |  |
| Forms                       | Particle  |                   |             |  |  |
| Processing Method           | Injection molding                                     |                   |             |  |  |
| Physical                    | Nominal Value   | Unit              | Test Method |  |  |
| Density                     | 1.48  | g/cm³             | ISO 1183/A  |  |  |
| Molding Shrinkage           |   |                   | ASTM D955   |  |  |
| Flow                        | 0.40  | %                 | ASTM D955   |  |  |
| Transverse flow             | 0.60  | %                 | ASTM D955   |  |  |
| Water Absorption (24 hr)    | 0.24  | %                 | ASTM D570   |  |  |
| Hardness                    | Nominal Value   | Unit              | Test Method |  |  |
| Rockwell Hardness (R-Scale) | 124   |                   | ASTM D785   |  |  |
| Mechanical                  | Nominal Value   | Unit              | Test Method |  |  |
| Tensile Modulus             | 9170  | МРа               | ASTM D638   |  |  |
| Tensile Strength (Break)    | 123   | MPa               | ASTM D638   |  |  |
| Tensile Elongation (Break)  | 1.6   | %                 | ASTM D638   |  |  |
| Flexural Modulus            | 8000  | MPa               | ASTM D790   |  |  |

| Flexural Strength (Yield)               | 171           | MPa      | ASTM D790   |
|---|---------------|----------|-------------|
| Impact                                  | Nominal Value | Unit     | Test Method |
| Notched Izod Impact                     | 27            | J/m      | ASTM D256   |
| Thermal                                 | Nominal Value | Unit     | Test Method |
| Deflection Temperature Under Load (0.45 |               |          |             |
| MPa, Unannealed)                        | 313           | °C       | ASTM D648   |
| Peak Melting Temperature                | 324           | °C       | ASTM D3418  |
| Linear thermal expansion coefficient    |               |          | ASTM E831   |
| Flow: 0 to 100°C                        | 2.3E-5        | cm/cm/°C | ASTM E831   |
| Flow: 150 to 250°C                      | 1.1E-5        | cm/cm/°C | ASTM E831   |
| Lateral: 0 to 100°C                     | 8.6E-5        | cm/cm/°C | ASTM E831   |
| Lateral: 150 to 250°C                   | 1.3E-4        | cm/cm/°C | ASTM E831   |
| Additional Information                  | Nominal Value | Unit     | Test Method |
| Light reflectivity                      | 90            | %        | ASTM E1331  |
| Injection                               | Nominal Value | Unit     |             |
| Drying Temperature                      | 120           | °C       |             |
| Drying Time                             | 4.0           | hr       |             |
| Suggested Max Moisture                  | 0.045         | %        |             |
| Rear Temperature                        | 318 - 324     | °C       |             |
| Front Temperature                       | 327 - 332     | °C       |             |
| Processing (Melt) Temp                  | 329 - 343     | °C       |             |
| Mold Temperature                        | 65.6 - 93.3   | °C       |             |
| Injection instructions                  |               |          |             |

建议采用通用螺杆,取最小背压 射出压力:3~4英寸/秒

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## Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533 Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

