

# Amodel® A-4122 NL WH 905

## polyphthalamide

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

### General

Material Status	• Commercial: Active
Availability	<ul style="list-style-type: none"> <li>• Africa &amp; Middle East</li> <li>• Asia Pacific</li> <li>• Europe</li> <li>• Latin America</li> <li>• North America</li> </ul>
Filler / Reinforcement	• Glass Fiber, 22% Filler by Weight
Features	<ul style="list-style-type: none"> <li>• Chemical Resistant</li> <li>• Fast Molding Cycle</li> <li>• Good Color Stability</li> <li>• High Reflectivity</li> <li>• High Stiffness</li> <li>• Low Moisture Absorption</li> </ul>
Uses	<ul style="list-style-type: none"> <li>• Automotive Applications</li> <li>• Automotive Electronics</li> <li>• Automotive Under the Hood</li> <li>• Electrical/Electronic Applications</li> </ul>
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• ASTM D6779 PA1061
Appearance	• White
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Typical Value Unit	Test method
Density	1.48 g/cm <sup>3</sup>	ISO 1183/A
Molding Shrinkage		ASTM D955
Flow	0.40 %	
Across Flow	0.60 %	
Water Absorption (24 hr)	0.24 %	ASTM D570

Mechanical	Typical Value Unit	Test method
Tensile Modulus	9170 MPa	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

# Amodel® A-4122 NL WH 905

## polyphthalamide

Impact	Typical Value	Unit	Test method
Notched Izod Impact	27	J/m	ASTM D256

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

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 0.45 MPa, Unannealed	313	°C	ASTM D648
Peak Melting Temperature	324	°C	ASTM D3418
CLTE			ASTM E831
Flow : 0 to 100°C	2.3E-5	cm/cm/°C	
Flow : 150 to 250°C	1.1E-5	cm/cm/°C	
Transverse : 0 to 100°C	8.6E-5	cm/cm/°C	
Transverse : 150 to 250°C	1.3E-4	cm/cm/°C	

Additional Information	Typical Value	Unit	Test method
Optical Reflectivity	90	%	ASTM E1331

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
Front Temperature	327 to 332	°C
Processing (Melt) Temp	329 to 343	°C
Mold Temperature	66 to 93	°C

### Injection Notes

A general purpose screw is recommended, with minimum back pressure.

Injection Pressure: 3 to 4 in/sec

### 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.

# Amodel® A-4122 NL WH 905

## polyphthalamide

---



---

**[www.syensqo.com](http://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.

Neither Syensqo nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Syensqo's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Syensqo's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Syensqo or their respective owners.

© 2024 2023 Syensqo. All rights reserved.