

# Nylene® 5105

## TECHNICAL DATASHEET

TDS Ref # 834 Reviewed: 12/8/2014

### DESCRIPTION

- Nylene 5105 HS is a 5% glass fiber-reinforced nylon 6/6 featuring high tensile strength and stiffness.

| PROPERTIES                   | TEST METHOD | UNIT              | VALUE       |
|------------------------------|-------------|-------------------|-------------|
| <b>PHYSICAL PROPERTIES</b>   |             |                   |             |
| Density                      | ISO 1183    | g/cm <sup>3</sup> | 1.142       |
| Mold Shrinkage               | D955        | mm/mm             | .07         |
| <b>MECHANICAL PROPERTIES</b> |             |                   |             |
| Charpy Impact                | ISO 179     | kJ/m <sup>2</sup> | 27 at 23° C |
| Flexural Modulus             | ISO 178     | MPa               | 2,850       |
| Tensile Strength             | ISO 527     | MPa               | 74          |
| <b>THERMAL PROPERTIES</b>    |             |                   |             |
| DTUL @ 1800 kPa              | ISO 75      | °C                | 221         |
| Melt Point                   | ISO 11357   | °C (°F)           | 255         |

### NOTES

- Testing conducted on dry-as-molded specimens at 73°F

### PROCESSING CONSIDERATIONS: PA 6/6 GLASS REINFORCED < 15%

|          |             |                      |   |
|----------|-------------|----------------------|---|
| °F (°C)  | Rear Zone   | 500-560<br>(260-293) | <b>Melt Temperature:</b> Nylene PA6/6 melts at 490 °F (254°C), actual melt temperatures of 540-600 (282-316°C) are permissible, depending on residence time and shot size.  |
|          | Center Zone | 530-570<br>(277-299) | <b>Mold Temperature:</b> 120-200 °F (49-93°C), highly filled grades require 180-200 °F (82-93°C) to obtain the best overall surface appearance, higher temperatures will increase crystallinity.  |
|          | Front Zone  | 540-590<br>(282-310) | <b>Residence Time:</b> should not exceed 6 minutes if possible, less with higher melt temperatures.   |
|          | Nozzel      | 535-585<br>(279-307) | <b>Shot Size:</b> should be between 25-75% of barrel capacity.  |
|          | Melt Temp.  | 550-600<br>(287-316) | <b>Fill Rate:</b> fast fill rates are suggested for best surface appearance.  |
| PRESSURE | Injection   | 5-15,000             | <b>Regrind Level:</b> typically no more than 25% is recommended, with higher levels possible for unfilled grades depending on the end use requirements. Make certain regrind is properly dried to virgin moisture levels.   |
|          | Hold        | 4-12,000             | <b>Drying Temperature:</b> 150-180 °F (65-182°C) (for 2-4 hours, Nylene PA6/6 should be dried to less than 0.20% moisture for optimum performance. Drying longer than 4 hours or at higher temperatures may cause oxidation of the polymer or remove essential volatiles. |
|          | Back        | 0-50                 |   |

### CHARACTERISTICS

Resin Type: Nylon 6/6  
 Product Characteristics:  
 Glass Reinforced, Internally Lubricated

### INJECTION MOLDING PROCESSING

Prime Grade

### FEATURES

- Chemical Resistance
- High Stiffness
- High Strength
- High Temperature Capability

### MARKETS USED

- Automotive Applications
- General Applications
- Electrical Applications
- Industrial Applications
- Furniture & Household

### APPLICATIONS

- Appliance Footing
- Bracket
- Coil Bobbins
- Electrical Connector
- Intake Manifold
- Light Reflector
- Oil Fitting
- Pulley

### DISCLAIMER

The data set forth herein has been carefully compiled by Nylene in our laboratories. Values shown are typical properties and not specifications. Since processing variables will affect properties, the reproducibility of our data in a customer's testing facility is not guaranteed. There is no warranty of any kind, either expressed or implied, applicable to the use of this information, and the user assumes all risk and liability in connection therewith.



#### Headquarters and Facility:

55 Haul Road, Wayne, NJ 07470  
 P: 973-694-4141 | F: 973-694-3549

#### North American Sales Office:

31700 Telegraph Rd. Suite 235, MI 48025  
 P: 248-377-6769 | F: 248-377-3845

#### Nylene Custom Resins Facility:

1421 Hwy 136 W. Henderson, KY 42420  
 P: 270-826-7641 | TF: 800-626-7050

#### Nylene Canada Facility

200 McNab Street, Arnprior ON, K7S 3P2  
 P: 613-623-3191 | TF: 800-267-7394

For a complete listing of our global offices, visit:

[www.nylene.com/contactus](http://www.nylene.com/contactus)

[www.nylene.com](http://www.nylene.com) | [info@nylene.com](mailto:info@nylene.com)

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