

# Nylene® 4114

## TECHNICAL DATASHEET

TDS Ref # 101 Reviewed: 11/29/2017

### DESCRIPTION

- Impact-modified nylon 6,6 compounded copolymer, high melt point and increased flexibility.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Mold Shrinkage	n/a	in/in	0.014
Specific Gravity	D792	n/a	1.08
<b>MECHANICAL PROPERTIES</b>			
Elongation @ Break	D638	[%]	60
Flexural Modulus	D790	psi (MPa)	253,000 [1,740]
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	16.1 [860]
Notched Izod @ -40°C	D256	ft-lb/in (J/m)	3.4 [180]
Tensile Modulus	D638	psi (MPa)	270,000 [1860]
Tensile Strength	D638	psi (MPa)	7,200 [50]
<b>THERMAL PROPERTIES</b>			
DTUL @ 1820 kPa	D648	°F (°C)	140 [60]
Melt Point	D3418	°F (°C)	497 [258]

### NOTES

- Testing conducted on dry-as-molded specimens at 73°F (22.8°C)

### PROCESSING CONSIDERATIONS: PA 6/6 IMPACT MODIFIED

°F (°C)	Rear Zone	500-540 (260-282)
	Center Zone	520-560 (271-293)
	Front Zone	540-580 (282-304)
	Nozzle	535-575 (279-301)
	Melt Temp.	540-580 (282-304)
PRESSURE	Injection	7-15,000
	Hold	5-12,000
	Back	0-50

**Melt Temperature:** 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.

**Mold Temperature:** 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.

**Residence Time:** should not exceed 6 minutes if possible, less with higher melt temperatures.

**Shot Size:** should be between 25-75% of barrel capacity.

**Fill Rate:** fast fill rates are suggested for best surface appearance.

**Regrind Level:** 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.

**Drying Temperature :** 150-180 °F (65-82°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.

### CHARACTERISTICS

**Resin Type:** Nylon 6/6

**Product Characteristics:**

Impact Modified, Copolymer, Compounded, High Melt Point

### INJECTION MOLDING PROCESSING

Prime Grade

### FEATURES

- Most flexible
- High impact resistant
- Wear resistant

### MARKETS USED

- Automotive Applications
- General Applications
- Industrial Applications

### APPLICATIONS

- Clips
- Conveyor Lever
- Engine Cover
- Fasteners
- Headrest Guide
- Seat Adjuster Levers
- Seat Belt Components
- Seat Pan

### APPROVALS

- UL 94: HB
- FMVSS 302: 0.56 in/min (14.3 mm/min)

### AUTOMOTIVE SPECIFICATION

- ESA-M4D379-A
- MS-DB41 CPN 3466

### 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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