

# Nylene® 4114 HS BK

## TECHNICAL DATASHEET

TDS Ref # 878 Reviewed: 5/30/2017

### DESCRIPTION

• Nylene 4114 HS BK is a heat-stabilized, impact-modified nylon 6/6 molding resin with high impact strength and increased flexibility.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Specific Gravity	D792	n/a	1.09
<b>MECHANICAL PROPERTIES</b>			
Flexural Modulus	D790	psi (MPa)	241,000 (1662)
Notched Izod @ 23°C	D256	ft. lb./in. (J/m)	No Breaks
Notched Izod @ -40°C	D256	ft-lb/in (J/m)	3.3 (175)
Tensile Strength	D638	psi (MPa)	6990 (48)
<b>THERMAL PROPERTIES</b>			
DTUL @ 1820 kPa	D648	°F (°C)	131 (56)
Melt Point	D3418	°F (°C)	500 (260)

### NOTES

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

### 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)
	Nozzel	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, Heat Stabilized

### INJECTION MOLDING PROCESSING

Prime Grade

### MARKETS USED

- Automotive Applications
- General Applications
- Industrial Applications

### APPLICATIONS

- Clips
- Engine Cover
- Fasteners

### AUTOMOTIVE SPECIFICATION

- ESA-M4D379-B

### 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.



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