

# Nylene® 404HSL UV BK

## TECHNICAL DATASHEET

TDS Ref # 95 Reviewed: 5/4/2017

### DESCRIPTION

- General purpose un-reinforced, heat stabilized nylon 6 injection molding resin with Carbon Black added for UV stabilization.
- Suitable for applications in both thin and heavy sections that require typical nylon characteristics and easy molding.
- High flow characteristics at minimal processing temperatures.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Mold Shrinkage	n/a	in/in	0.012
Specific Gravity	D792	n/a	1.14
<b>MECHANICAL PROPERTIES</b>			
Elongation @ Break	(%)	psi (MPa)	25
Flexural Modulus	D790	psi (MPa)	410,000 (2,828)
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	0.7 (37)
Tensile Strength	D638	psi (MPa)	12,000 (83)
<b>THERMAL PROPERTIES</b>			
DTUL @ 1820 kPa	D648	°F (°C)	140 (60)
DTUL @ 455 KPa	D648	°F (°C)	360 (182)
Melt Point	D3418	°F (°C)	428 (220)

### NOTES

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

### PROCESSING CONSIDERATIONS: PA 6 UNREINFORCED

°F (°C)	Rear Zone	430-475 (221-249)
	Center Zone	440-500 (227-260)
	Front Zone	460-520 (238-271)
	Nozzel	460-520 (238-271)
	Melt Temp.	460-520 (238-271)
PRESSURE	Injection	4-12,000
	Hold	3-9,000
	Back	0-50

**Melt Temperature:** Melt Temperature: Nylene® PA6 melts at 428°F, (220°C) actual melt temperatures of 440-560°F (227-293°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 (66-82°C) for 2-4 hours, Nylene® PA6 should be dried to less than 0.20% moisture for optimum performance. Drying longer than 4 hours or at higher temperatures may cause discoloration of the polymer or adversely affect important physical properties.

### CHARACTERISTICS

Resin Type: Nylon 6

Product Characteristics:

Unreinforced, General Purpose, Heat Stabilized, UV Stabilized

### INJECTION MOLDING PROCESSING

Specialty Grade

### FEATURES

- Good Appearance
- Pleasing Finish
- Low viscosity

### MARKETS USED

- Automotive Applications
- General Applications
- Industrial Applications
- Tool & Appliance
- Consumer Goods

### APPLICATIONS

- Clips
- Engineered Parts
- Fasteners
- Fittings
- Gears
- Spacers

### AUTOMOTIVE SPECIFICATION

- ESF-M4D101-A
- ASTM D4066 PA0222

### 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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