

# Nylene® NX4797

## TECHNICAL DATASHEET

TDS Ref # 200 Reviewed: 5/7/2017

### DESCRIPTION

- Nylene NX4797 is a nylon 6 polymer designed for use in extrusion of cast and blown film.
- Like most PA6, it has excellent grease resistance, toughness, and resistance to abrasion.
- Films made from Nylene NX4797 have barrier properties against oxygen and aroma typical of nylon 6.
- Nylene NX4797 meets the requirements of 21 CFR 177.1500 for food contact.
- Nylene NX4797 has good melt strength for film stability.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Oxygen Permeably	cc-mil / 24 hr-atm		3.1
Relative Viscosity	D789	Formic Acid	85
Specific Gravity	D792	n/a	1.13
<b>MECHANICAL PROPERTIES</b>			
Elmendorf Tear	D1922	gm / mil	54
Elongation	D638	%	275
Secant Modulus	D882	psi (MPa)	94,000 (648)
Ultimate Tensile Strength	D882	psi (MPa)	8,600 (59)
<b>THERMAL PROPERTIES</b>			
Melt Point	D3418	°F (°C)	428 (220)

### NOTES

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

### 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, High RV

### EXTRUSION PROCESSING

Film

### MARKETS USED

- Packaging Industry

### APPLICATIONS

- Cast Film (in general)
- Film
- Food Packaging
- Juices
- Paper Laminates

### APPROVALS

- Direct Food Contact: FDA 21 CFR 177.1500

### 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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