

# Nylene® 615I

## TECHNICAL DATASHEET

TDS Ref # 143 Reviewed: 7/23/2013

### DESCRIPTION

- Meets the requirements of FDA regulation for direct food contact
- Extrusion grade resin suitable for film co-extrusion applications and blown film
- Nylene 615I does not absorb food odors

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Specific Gravity	D792	n/a	1.13
<b>MECHANICAL PROPERTIES</b>			
Elmendorf Tear	D1922	gm / mil	56
Elongation	D638	%	290
Secant Modulus	D882	psi (MPa)	94,600 (652)
Ultimate Tensile Strength	D882	psi (MPa)	8650 (60)
Yield Tensile Strength	D882	psi (MPa)	5480 (38)
<b>THERMAL PROPERTIES</b>			
Melt Point	D3418	°F (°C)	428 (220)

### NOTES

- Values are for dry specimens

### PROCESSING CONSIDERATIONS: EXTRUSION HIGH VISCOSITY

Zone °F (°C)	Feed	500-530 (260-277)	<b>Residence Time:</b> Screw should not be left idle for more than 3-4 minutes with melt in the barrel. Excess residence will be visible as black carbon specs in the melt.
	Transition	520-560 (271-293)	<b>Regrind Level:</b> Typically, up to 25% is recommended but higher levels are possible with little or no effect on flow and finish.
	Metering	550-575 (288-302)	<b>Drying Temperature:</b> Although Nylene resins are packaged and delivered in a low moisture state, it is good material handling practice to use a hopper dryer to maintain dryness. Should pre-drying be necessary, use settings of 180 °F (82.2°C) air at dew point of -40 at a rate of 1 cu. ft. / hour per pound of resin and a residence time of 2-4 hours.
	Die	550-575 (288-302)	
	Melt Temp.	550-575 (288-302)	<b>Cooling and Sizing:</b> While both air and water can be used as the cooling medium, air is preferred. The use of air allows additional time for sizing and reduces residual stress. This aids in reducing warpage, especially in profiles with varying wall sections. If water is used, heat the first section to above 100 °F (38°C) to reduce quenching and residual stress.
Line Rate	2 ½" extruder	1.5 - 1.9 pph/rpm	
	3 ½" extruder	3.5 - 4.5 pph/rpm	<b>Die Design:</b> Draw down of 30% is typical for all dimensions except wall thickness.
	4 ½" extruder	6.5 - 7.5 pph/rpm	<b>Land length:</b> should be around 10x wall thickness.

### CHARACTERISTICS

Resin Type: Nylon 6  
 Product Characteristics:  
 High RV

### EXTRUSION PROCESSING

Film

### FEATURES

- Excellent melt stability and strength
- Resistance to abrasion
- Superior toughness
- Superior grease resistance

### MARKETS USED

- Packaging Industry
- Extrusion

### APPLICATIONS

- Blown Film
- Cast Film (anti-static)
- Fiber

### 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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