

Nylene® 615NP

TECHNICAL DATASHEET

TDS Ref # 142 Reviewed: 7/23/2013

DESCRIPTION

- Nylon 6 polymer designed for use in extrusion of tubing and film to be used in food packaging
- Like most PA6, Nylene 615NP has excellent grease resistance, toughness, and resistance to abrasion

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Specific Gravity	D792	n/a	1.13
Viscosity Number	ISO307	cm ³ /gm	250
MECHANICAL PROPERTIES			
Yield Stress	D638	sq. m./kg	34.8
	D638	sq.in./lb	24,500
THERMAL PROPERTIES			
Melt Point	D3418	°F (°C)	428 (220)
FILM PROPERTIES			
Elmendorf Tear	D1922	gms./mil.	10,000 (69)
	D1922	gms./mil.	3.1
Elongation	D882	%	300
Secant Modulus	D882	psi	94,000
Ultimate Tensile Strength		cc-mil/24 hr-atm	3.1

NOTES

- Film Properties = Film Conditioned, and Tested in Transverse direction
- Testing conducted on dry-as-molded specimens at 73°F

PROCESSING CONSIDERATIONS: EXTRUSION HIGH VISCOSITY

Zone °F (°C)	Feed	500-530 (260-277)	Residence Time: 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)	Regrind Level: 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)	Drying Temperature: 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)	Cooling and Sizing: 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	Die Design: Draw down of 30% is typical for all dimensions except wall thickness.
	4 ½" extruder	6.5 - 7.5 pph/rpm	Land length: should be around 10x wall thickness.

CHARACTERISTICS

Resin Type: Nylon 6
Product Characteristics:
High RV

EXTRUSION PROCESSING

Film
Tubing & Profile

FEATURES

- High melt strength for shape retention

MARKETS USED

- Packaging Industry
- Extrusion

APPLICATIONS

- Film
- Tubing

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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