

Nylene® 615SA

TECHNICAL DATASHEET

TDS Ref # 144 Reviewed: 7/23/2013

DESCRIPTION

- High viscosity nylon 6 designed for the extrusion of blown film (both mono-layer and multi-layer film structures).
- Suitable for profile extrusion such as tubing, shapes, etc.
- Nylene 615SA has superior grease resistance, toughness, resistance to abrasion, and does not absorb food odors.
- Nylene films can be drawn to provide pockets for many food shapes.
- Good oxygen and flavor barrier to increase shelf life
- Offers chemical and heat resistance for hot filling wide range of food and chemicals

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Specific Gravity	D792	n/a	1.13
Water Absorption	D590	n/a	1.9
MECHANICAL PROPERTIES			
Elongation	D638	%	200
Flexural Modulus	D790	psi (MPa)	400,000 [2759]
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	0.8 [42.7]
Tensile Strength	D638	psi (MPa)	11,000 [76]
THERMAL PROPERTIES			
Melt Point	D3418	°F (°C)	428 [220]
FILM PROPERTIES			
Elmendorf Tear	D1922	gms./mil.	56
Elongation	D882	%	290
Secant Modulus	D882	psi (MPa)	94,600 [652]
Ultimate Tensile Strength	D882	psi (MPa)	8,650 [60]

NOTES

- Testing conducted on dry-as-molded specimens at 73°F
- **FILM PROPERTIES = FILM CONDITIONED, AND TESTED IN TRANSVERSE DIRECTION.

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	Die Design: Draw down of 30% is typical for all dimensions except wall thickness. Land length: should be around 10x wall thickness.
	3 ½" extruder	3.5 - 4.5 pph/rpm	
	4 ½" extruder	6.5 - 7.5 pph/rpm	

CHARACTERISTICS

Resin Type: Nylon 6
Product Characteristics:
High RV,

EXTRUSION PROCESSING

Film
Tubing & Profile

ATTRIBUTES

- Excellent melt stability
- Excellent melt strength
- Higher viscosity

APPROVALS

- Kosher Approved: Chicago Rabbinical Council
- Direct Food Contact: FDA 21 CFR 177.1500

MARKETS USED

- Packaging Industry
- Food Packaging

APPLICATIONS

- Extrusion Coating for Paper Board
- Film
- Flexible Packaging
- Fresh & Processed Meat Packaging
- Juice Packaging/Milk Cartons
- Plastic Containers
- Protective Liner
- Single Layer/Multi Layer Film
- Stand Up Packaging for Barrier Strength

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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