

# Nylene® BS-640-A

## TECHNICAL DATASHEET

TDS Ref # 171 Reviewed: 4/4/2019

### DESCRIPTION

- Compounding, general grade, mid RV, unlubricated.

PROPERTIES	TEST METHOD	UNIT	VALUE	
<b>MECHANICAL PROPERTIES</b>				
Notched Izod	D256	ft.Lb/in.	0.865	
Flexural Modulus	D790	psi (MPa)	369,500 (2,547.61)	
Ultimate Elongation		%	150	
Tensile Strength	D638	psi (MPa)	11,400 (78.6)	
<b>THERMAL PROPERTIES</b>				
HDT (1800 Mpa)	D648	°C (°F)	56 (132.8)	
<b>MANUFACTURING SPECIFICATIONS</b>				
	<b>Unit</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Plant Test Method</b>
Relative Viscosity (1)	(96% Sulphuric Acid 68°F)	2.60	2.82	2-3
Methanol Extractables	(%)		1.2	2-2
Moisture Content	(%)		0.12	1-3

### NOTES

1. Test based on ATSM D445

### PROCESSING CONSIDERATIONS: EXTRUSION MEDIUM VISCOSITY

Zone °F (°C)	Feed	450-470 (232-243)	<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	470-490 (243-254)	<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	480-500 (249-260)	<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	480-500 (249-260)	
	Melt Temp.	480-500 (249-260)	<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:

Unreinforced, Mid RV, Medium Viscosity Compounding Resin

### COMPOUNDING PROCESSING

Mid RV - Compounding

### MARKETS USED

- Compounding
- Spinning Grade Polymer
- Carpet Fiber

### APPLICATIONS

- Commercial Carpet Fiber
- General Compounding
- Residential Carpet Fiber

### 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.



#### Headquarters and Facility:

55 Haul Road, Wayne, NJ 07470  
P: 973-694-4141 | F: 973-694-3549

#### North American Sales Office:

31700 Telegraph Rd. Suite 235, MI 48025  
P: 248-377-6769 | F: 248-377-3845

#### Nylene Custom Resins Facility:

1421 Hwy 136 W. Henderson, KY 42420  
P: 270-826-7641 | TF: 800-626-7050

#### Nylene Canada Facility

200 McNab Street, Amprior ON, K7S 3P2  
P: 613-623-3191 | TF: 800-267-7394

For a complete listing of our global offices, visit:

[www.nylene.com/contactus](http://www.nylene.com/contactus)

[www.nylene.com](http://www.nylene.com) | [info@nylene.com](mailto:info@nylene.com)

Copyright ©2019, Nylene. All rights reserved. Nylene is a designated trademark of Polymeric Resources Corporation.