

Nylene® 603

TECHNICAL DATASHEET

TDS Ref # 134 Reviewed: 6/23/2017

DESCRIPTION

- Plasticized, high residual monomer resin designed for extrusion applications
- Applications include flexible tubing, cable jacketing, as well as mono-filament extrusions
- Optimum processing conditions should permit for a melt temperature of approximately 450°F at the die.

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Specific Gravity	D792	n/a	1.12
MECHANICAL PROPERTIES			
Elongation	D638	%	250
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	3.5 (187)
Tensile Strength	D638	psi (MPa)	12,000
THERMAL PROPERTIES			
DTUL @ 264 psi/1.82 MPa	D648	°F (°C)	130 (54)
DTUL @ 66 psi/0.45 MPa	D648	°F (°C)	330 (166)

NOTES

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

PROCESSING CONSIDERATIONS: EXTRUSION PLASTICIZED

Zone °F (°C)	Feed	420-440 (216-227)	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	440-460 (227-238)	Regrind Level: Typically, up to 25% is recommended but higher levels are possible with little or no effect on flow and finish.
	Metering	450-470 (232-243)	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	450-470 (232-243)	
	Melt Temp.	450-470 (232-243)	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:
Lubricated, Plasticizer, Mid RV

EXTRUSION PROCESSING

Wire & Cable
Monofilament
Tubing & Profile

FEATURES

- High strength
- Excellent flexibility
- Good abrasion resistance

MARKETS USED

- Extrusion

APPLICATIONS

- Fishing Line
- Flexible Tubing
- Netting
- Sewing Thread
- Weaving Thread

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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