

Nylene® NX4001A

TECHNICAL DATASHEET

TDS Ref # 191 Reviewed: 3/23/2017

DESCRIPTION

- High viscosity, nucleated, nylon 6 extrusion grade resin
- Crystallization initiators provide rapid melt set-up in higher speed processing applications
- Optimum processing conditions should provide a melt temperature of 550 - 575°F at the die

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Mold Shrinkage	n/a	in/in	0.014
Specific Gravity	D792	n/a	1.13
Water Absorption	D570	%	1.8
MECHANICAL PROPERTIES			
Elongation	D638	%	100
Flexural Modulus	D790	psi (MPa)	400,000 (2,759)
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	0.8 (43)
Rockwell Hardness	R Scale		119
Tensile Strength	D638	Psi	12,000
THERMAL PROPERTIES			
DTUL @ 264 psi/1.82 MPa	D648	°F (°C)	140 (60)
DTUL @ 66 psi/0.45 MPa	D648	°F (°C)	338 (170)
Melt Point	D3418	°F (°C)	428 (220)

NOTES

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

PROCESSING CONSIDERATIONS: EXTRUSION HIGH VISCOSITY

Zone °C (°F)	Feed	215 – 230 (420 – 445)	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	225 – 240 (435 – 465)	
	Metering	230 – 245 (445 – 475)	
	Die	230 – 245 (445 – 475)	
	Melt	230 – 245 (445 – 475)	
Line Rate	2 ½" extruder	1.5 - 1.9 pph/rpm	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.
	3 ½" extruder	3.5 - 4.5 pph/rpm	
	4 ½" extruder	6.5 - 7.5 pph/rpm	
			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.
			Die Design: Draw down of 30% is typical for all dimensions except wall thickness.
			Land length: should be around 10x wall thickness.

CHARACTERISTICS

Resin Type: Nylon 6

Product Characteristics:

Unreinforced, Nucleating Agent, High RV, Fast Cycle

EXTRUSION PROCESSING

Tubing & Profile

MARKETS USED

- Extrusion

APPLICATIONS

- Large Complex Profiles
- Pipe
- Profile extrusion
- Rod Stock
- 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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