Nylene® 405 HS

TECHNICAL DATASHEET

TDS Ref # 96 Reviewed: 7/18/2013

DESCRIPTION

- Medium viscosity nylon 6 with lubrication and heat stabilization
- Made for Injection molding applications requiring good physical properties including toughness and rapid cycle times
- Optimum processing conditions could provide a melt temperature of 460°F-500°F at the nozzle

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Density	ISO 1183	g/cm³	1.13
Moisture Content	ASTM D6869	%	< 0.20
MECHANICAL PROPERTIES			
Charpy	ISO 179-1	kJ/m²	5
Flexural Modulus	ISO 178	MPa	2400
Yield Tensile Strength	ISO 527	MPa	75

NOTES

- Testing conducted on dry-as-molded specimens at 73°F (22.8°C)

PROCESSING CONSIDERATIONS: PA 6 UNREINFORCED

°F (°C)	Rear Zone	430-475 (221-249)
	Center Zone	440-500 (227-260)
	Front Zone	460-520 (238-271)
	Nozzel	460-520 (238-271)
	Melt Temp.	460-520 (238-271)
PRESSURE	Injection	4-12,000
	Hold	3-9,000
	Back	0-50

Melt Temperature: Melt Temperature: Nylene® PA6 melts at 428°F, (220°C) actual melt temperatures of 440-560°F (227-293°C) are permissible, depending on residence time and shot size.

Mold Temperature:120-200°F (49-93°C), highly filled grades require 180-200°F (82-93°C) to obtain the best overall surface appearance, higher temperatures will increase crystallinity.

Residence Time: should not exceed 6 minutes if possible, less with higher melt temperatures

Shot Size: should be between 25-75% of barrel capacity.

Fill Rate: fast fill rates are suggested for best surface appearance.

Regrind Level: typically no more than 25% is recommended, with higher levels possible for unfilled grades depending on the end use requirements. Make certain regrind is properly dried to virgin moisture levels.

Drying Temperature: 150-180°F (66-82°C) for 2-4 hours, Nylene® PA6 should be dried to less than 0.20% moisture for optimum performance. Drying longer than 4 hours or at higher temperatures may cause discoloration of the polymer or adversely affect important physical properties.

CHARACTERISTICS

Resin Type: Nylon 6

Product Characteristics:

Fast Cycle, Toughened, Lubricated, Heat Stabilized, Mid RV

INJECTION MOLDING PROCESSING

Prime Grade

FEATURES

- Fast Molding Cycle
- Good Toughness
- Medium Viscosity
- Heat-ageing Stabilized

MARKETS USED

- Automotive Applications
- Electrical Applications
- Furniture & Household
- Sports & Leisure

APPLICATIONS

- Electrical Components
- Knife Handles
- Seat Adjuster Levers
- Strap Clip
- Window Blind

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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