

Nylene® 409

TECHNICAL DATASHEET

TDS Ref # 99 Reviewed: 5/22/2013

DESCRIPTION

- Heat stabilized version of 406 which is a general purpose, fast cycling nylon 6 molding resin
- Crystallization initiators provide fast molding cycles through rapid melt set-up. In addition to protection from heat degradation
- Parts molded have better dimensional stability at moisture equilibrium than parts molded from conventional nylon
- Optimum processing conditions should provide a melt temperature of 450°F-470°F at the nozzle

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Mold Shrinkage	n/a	in/in	0.009
Specific Gravity	D792	n/a	1.13
MECHANICAL PROPERTIES			
Elongation @ Break	(%)	psi (MPa)	25
Flexural Modulus	D790	psi (MPa)	400,000 (2760)
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	0.8 (43)
Tensile Strength	D638	psi (MPa)	10,900 (75)
THERMAL PROPERTIES			
DTUL @ 1820 kPa	D648	°F (°C)	160 (71)
DTUL @ 455 KPa	D648	°F (°C)	360 (182)
Melt Point	D3418	°F (°C)	420 (215)

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)	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.
	Center Zone	440-500 (227-260)	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.
	Front Zone	460-520 (238-271)	Residence Time: should not exceed 6 minutes if possible, less with higher melt temperatures
	Nozzel	460-520 (238-271)	Shot Size: should be between 25-75% of barrel capacity.
	Melt Temp.	460-520 (238-271)	Fill Rate: fast fill rates are suggested for best surface appearance.
PRESSURE	Injection	4-12,000	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.
	Hold	3-9,000	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.
	Back	0-50	

CHARACTERISTICS

Resin Type: Nylon 6

Product Characteristics:

Heat Stabilized, General Purpose, Fast Cycle

INJECTION MOLDING PROCESSING

Prime Grade

FEATURES

- Fast Cycling
- Nucleated

MARKETS USED

- Automotive Applications
- General Applications
- Industrial Applications
- Tool & Appliance

APPLICATIONS

- Bushing
- Clips
- Fasteners
- Gears
- Spacers
- Stove Knobs

APPROVALS

- UL 94: V2: All colors @ 1.47 mm
- ANSI/NSF: NSF Approval
- Direct Food Contact: FDA 21 CFR 177.1500

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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