

Nylene® 4114-14 HSL

TECHNICAL DATASHEET

TDS Ref # 103 Reviewed: 1/2/2014

DESCRIPTION

- Nylene 4114-14 HSL is a glass fiber reinforced, impact modified, heat stabilized nylon 6/6.
- Nylene 4114-14 HSL has improved strength and stiffness over un-reinforced nylons, and improved impact resistance over typical reinforced grades, especially in dry conditions.

PROPERTIES	TEST METHOD	UNIT	VALUE
PHYSICAL PROPERTIES			
Mold Shrinkage	n/a	in/in	0.006
Specific Gravity	D792	n/a	1.19
MECHANICAL PROPERTIES			
Elongation	D638	%	12
Flexural Modulus	D790	psi (MPa)	500,000 (3450)
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	1.3 (70)
Tensile Strength	D638	psi (MPa)	11,400 (79)
THERMAL PROPERTIES			
DTUL @ 264 psi/1.82 MPa	D648	°F (°C)	405 (207)
Melt Point	D3418	°F (°C)	498 (259)

NOTES

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

PROCESSING CONSIDERATIONS: PA 6/6 GLASS REINFORCED < 15%

°F (°C)	Rear Zone	500-560 (260-293)	Melt Temperature: Nylene PA6/6 melts at 490 °F (254°C), actual melt temperatures of 540-600 (282-316°C) are permissible, depending on residence time and shot size.
	Center Zone	530-570 (277-299)	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	540-590 (282-310)	Residence Time: should not exceed 6 minutes if possible, less with higher melt temperatures.
	Nozzel	535-585 (279-307)	Shot Size: should be between 25-75% of barrel capacity.
	Melt Temp.	550-600 (287-316)	Fill Rate: fast fill rates are suggested for best surface appearance.
PRESSURE	Injection	5-15,000	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	4-12,000	Drying Temperature: 150-180 °F (65-182°C) (for 2-4 hours, Nylene PA6/6 should be dried to less than 0.20% moisture for optimum performance. Drying longer than 4 hours or at higher temperatures may cause oxidation of the polymer or remove essential volatiles.
	Back	0-50	

CHARACTERISTICS

Resin Type: Nylon 6/6

Product Characteristics:

Reinforced, Impact Modified, Heat Stabilized

EXTRUSION PROCESSING

Wire & Cable

INJECTION MOLDING PROCESSING

Prime Grade

MARKETS USED

- General Applications
- Industrial Applications
- Compounding

APPLICATIONS

- Clips
- Compounding with Glass Fiber
- Fasteners
- Handles
- Levers
- Support Brackets

APPROVALS

- FMVSS 302: DNB

AUTOMOTIVE SPECIFICATION

- ESA-M4D553-A
- WSK-M4D591-A

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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