

# Nylene® 4214-15 HS

## TECHNICAL DATASHEET

TDS Ref # 109 Reviewed: 7/19/2013

### DESCRIPTION

- Glass fiber reinforced, impact modified, heat stabilized nylon 6
- Suitable for applications which require this unique blend of properties
- Improved strength and stiffness over unreinforced nylons, and improved impact resistance over typical reinforced grades, especially in dry conditions

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Mold Shrinkage	n/a	in/in	0.006
Specific Gravity	D792	n/a	1.23
<b>MECHANICAL PROPERTIES</b>			
Elongation @ Break	(%)	psi (MPa)	5
Flexural Modulus	D790	psi (MPa)	420,000 (2895)
Notched Izod @ 23°C	D256	ftlb/in (J/m)	4.7 (251)
Tensile Strength	D638	psi (MPa)	10,200 (70)
<b>THERMAL PROPERTIES</b>			
DTUL @ 264 psi/1.82 MPa	D648	°F (°C)	392 (200)
Melt Point	D3418	°F (°C)	419 (215)

### NOTES

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

### PROCESSING CONSIDERATIONS: PA 6 GLASS REINFORCED > 15%

°F (°C)	Rear Zone	480-530 (249-277)	<b>Melt Temperature:</b> 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	500-550 (260-288)		<b>Mold Temperature:</b> 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	520-570 (271-299)			<b>Residence Time:</b> should not exceed 6 minutes if possible, less with higher melt temperatures.	
	Nozzel	520-570 (271-299)				<b>Shot Size:</b> should be between 25-75% of barrel capacity.
	Melt Temp.	550-575 288-302				
PRESSURE	Injection	8-18,000	<b>Regrind Level:</b> 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	6-15,000				
	Back	0-50				
				<b>Drying Temperature:</b> 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:  
 Impact Modified, Glass Reinforced, Heat Stabilized

### INJECTION MOLDING PROCESSING

Prime Grade

### MARKETS USED

- General Applications
- Furniture & Household

### APPLICATIONS

- Knife Handles
- Seat Adjuster Levers
- Support Brackets

### 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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