

# Nylene® 5143 MS

## TECHNICAL DATASHEET

TDS Ref # 124 Reviewed: 1/6/2015

### DESCRIPTION

- Low wear 43% glass fiber reinforced nylon 6,6.
- Provides a low friction and low wear surface while maintaining the high strength and stiffness required from a glass fiber reinforced material,
- Suitable for applications such as bushings and bearings, wear plates, caterpillar tracks, and other parts where wear may be an issue.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Mold Shrinkage	n/a	in/in	0.002
Specific Gravity	D792	n/a	1.50
<b>MECHANICAL PROPERTIES</b>			
Elongation @ Break	(%)	psi (MPa)	6
Flexural Modulus	D790	psi (MPa)	1,400,000 (9655)
Notched Izod @ 23°C	D256	ft. lb./ in. (J/m)	1.5 (80)
Tensile Strength	D638	psi (MPa)	26,500 (183)
<b>THERMAL PROPERTIES</b>			
DTUL @ 264 psi/1.82 MPa	D648	°F (°C)	460 (238)
Melt Point	D3418	°F (°C)	490 (254)

### NOTES

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

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

°F (°C)	Rear Zone	500-560 (260-293)	<p><b>Melt Temperature:</b> 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.</p> <p><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.</p> <p><b>Residence Time:</b> should not exceed 6 minutes if possible, less with higher melt temperatures.</p> <p><b>Shot Size:</b> should be between 25-75% of barrel capacity.</p> <p><b>Fill Rate:</b> fast fill rates are suggested for best surface appearance.</p> <p><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.</p> <p><b>Drying Temperature:</b> 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.</p>
	Center Zone	530-570 (277-299)	
	Front Zone	540-590 (282-310)	
	Nozzel	535-585 (279-307)	
	Melt Temp.	550-600 (287-316)	
PRESSURE	Injection	5-15,000	
	Hold	4-12,000	
	Back	0-50	

### CHARACTERISTICS

Resin Type: Nylon 6/6  
 Product Characteristics:  
 Glass Reinforced

### INJECTION MOLDING PROCESSING

Prime Grade

### MARKETS USED

- General Applications

### APPLICATIONS

- Bracket

### 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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