

# Nylene® 5133 HRL

## TECHNICAL DATASHEET

TDS Ref # 870 Reviewed: 7/2/2015

### DESCRIPTION

- Nylene 5133 HRL is 33% glass fiber-reinforced nylon 6/6 with improved hydrolysis resistance, featuring high tensile strength and stiffness.

PROPERTIES	TEST METHOD	UNIT	VALUE
<b>PHYSICAL PROPERTIES</b>			
Density	ISO 1183/A	g/cm <sup>3</sup> (lb/in <sup>3</sup> )	1.37 (85.5)
Water Absorption	ISO 62	24hrs; %	.80
<b>MECHANICAL PROPERTIES</b>			
Charpy Notched Impact Strength	ISO 179/1eA	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )	12 (5.71)
Charpy Unnotched Impact Strength	ISO 179/179/1eA	kJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )	80 (38.1)
Elongation @ Break	ISO 527 Type 1A	%	3
Flexural Modulus	ISO 178	MPa (psi)	9,300 (1.35e+6)
Izod Impact Strength	ISO 180/A	KJ/m <sup>2</sup> (ft-lb/in <sup>2</sup> )	70 (33.3)
Tensile Modulus	ISO 527 Type 1A	MPa (psi)	10,000 (1.45e+6)
Tensile Strength @ Break	ISO 527 Type 1A	MPa (psi)	190 (27,600)
<b>THERMAL PROPERTIES</b>			
Melt Point	ISO 11357	°C (°F)	263 (505)

### 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

Specialty Grade

### MARKETS USED

- Automotive Applications

### APPLICATIONS

- Coolant Pipe and Fittings
- Cooling Radiator Systems
- Header Tanks
- Heat Radiator Systems
- Inlet & Outlet Pipes
- Thermostat Components

### 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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