

# DuPont™ Zytel® RS 3061HSL BK039A

## NYLON RESIN

### Product Information

Zytel® RS3061HSL BK039A is an unreinforced, heat stabilized, lubricated, biobased polyamide 610 resin developed for injection molding applications.

	Value	Unit	Test Standard
<b>General information</b>			
Resin Identification	PA610	-	ISO 1043
Part Marking Code	>PA610<	-	ISO 11469
<b>Rheological properties</b>			
	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	1.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2 / -	%	ISO 294-4, 2577
<b>Mechanical properties</b>			
	dry / cond	Unit	Test Standard
Tensile Modulus	2400 / 1380	MPa	ISO 527-1/-2
Yield stress	68 / 55	MPa	ISO 527-1/-2
Yield strain	4.5 / 25	%	ISO 527-1/-2
Charpy impact strength, 73°F	34 / -	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 73°F	4.7 / 8.5	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 73°F	4 / 6.3	kJ/m <sup>2</sup>	ISO 180/1A
<b>Thermal properties</b>			
	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	223 / *	°C	ISO 11357-1/-3
Glass transition temperature, 18°F/min	60 / 50	°C	ISO 11357-1/-2
Temp. of deflection under load			ISO 75-1/-2
260 psi	50 / *	°C	
65 psi	140 / *	°C	
<b>Flammability</b>			
	Value	Unit	Test Standard
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
<b>Electrical properties</b>			
	dry / cond	Unit	Test Standard
Volume resistivity	>1E13 / 2E11	Ohm*m	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
<b>Other properties</b>			
	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	1.7 / *	%	Sim. to ISO 62
Water absorption, 80mil	3.8 / *	%	Sim. to ISO 62
Density	1080 / -	kg/m <sup>3</sup>	ISO 1183
<b>Injection</b>			
	Value	Unit	Test Standard
Drying Recommended	yes	-	-
Drying Temperature	≥80	°C	-
Drying Time, Dehumidified Dryer	3 - 4	h	-
Processing Moisture Content	≤0.1	%	-
Melt Temperature Optimum	270	°C	-
Min. melt temperature	260	°C	-
Max. melt temperature	280	°C	-
Mold Temperature Optimum	80	°C	-
Min. mold temperature	60	°C	-
Max. mold temperature	100	°C	-

### Characteristics

Processing	• Injection Molding	
Delivery form	• Pellets	
Additives	• Lubricants	• Release agent
Special characteristics	• Light stabilized or stable to light	• Heat stabilized or stable to heat

To find out more, visit [DuPont Performance Polymers](#) or contact nearest DuPont location.

North America

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DONGGUAN FUMEI PLASTICS CO.,LTD.

TEL: +86 0769-82339888 / 87798999

EMAIL: fumei@foomx.com

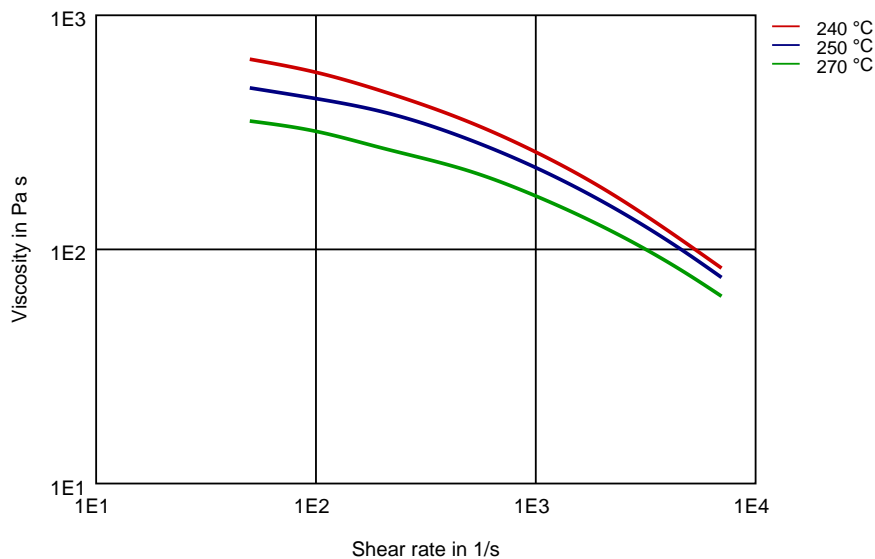


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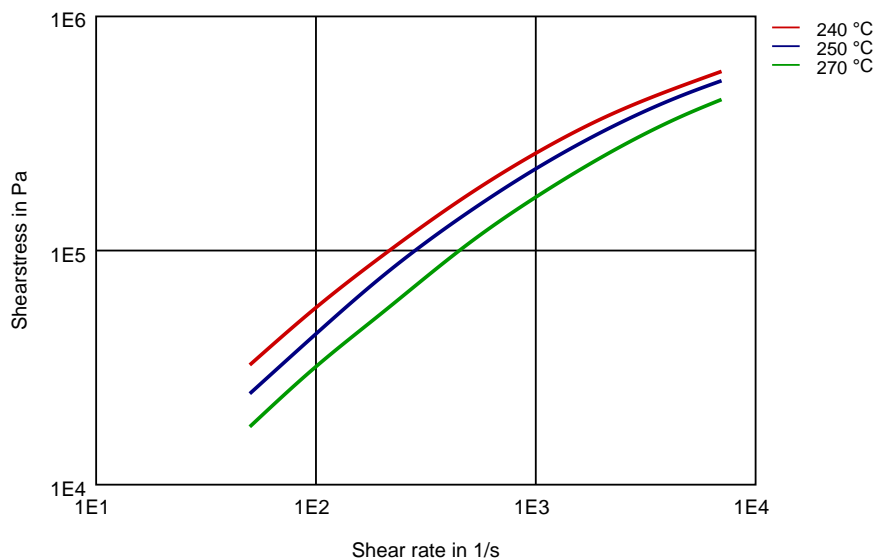
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### Diagrams

#### Viscosity-shear rate



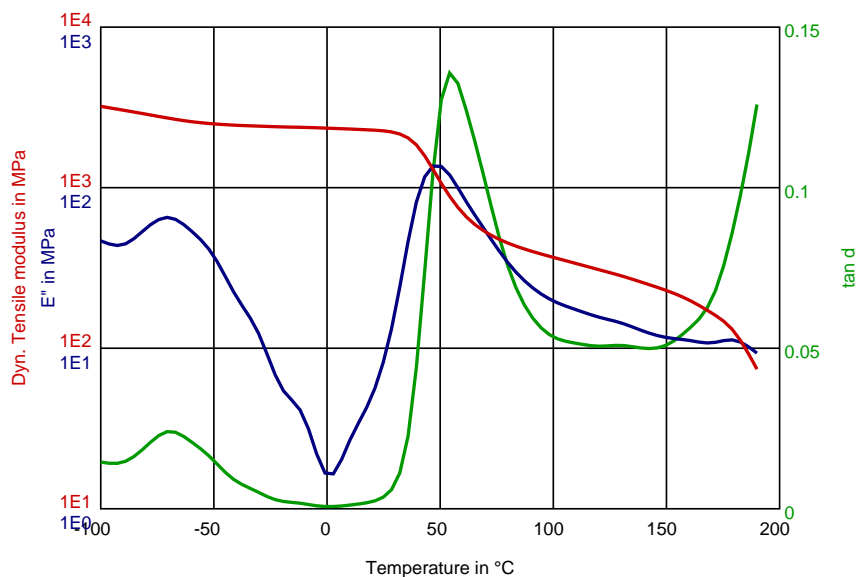
#### Shearstress-shear rate



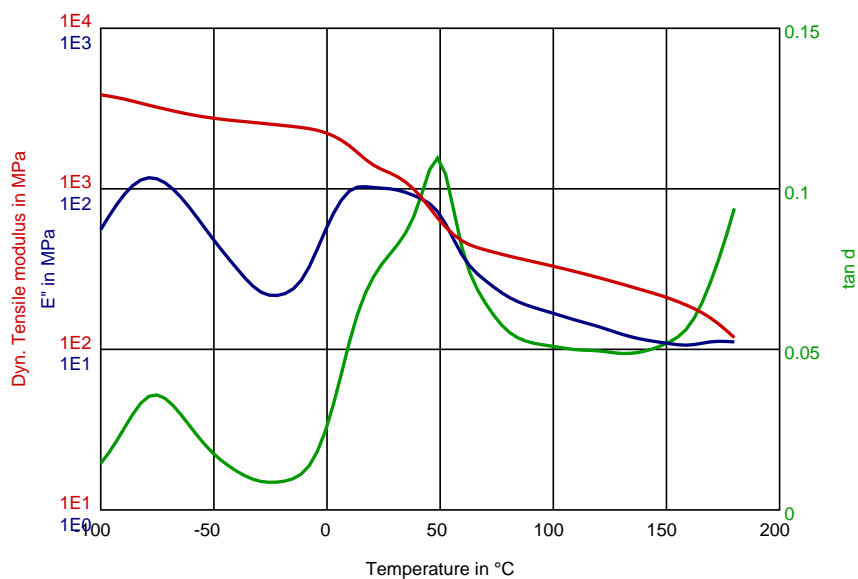
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## NYLON RESIN

Dynamic Tensile modulus-temperature (dry)

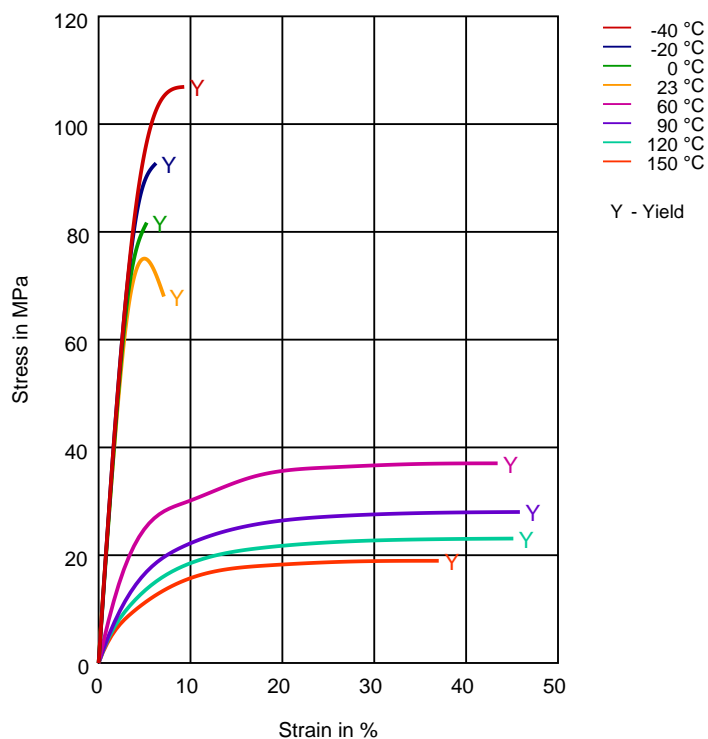


Dynamic Tensile modulus-temperature (cond.)



# DuPont™ Zytel® RS 3061HSL BK039A NYLON RESIN

Stress-strain (dry)



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EMAIL: [fumei@foomx.com](mailto:fumei@foomx.com)

Asia Pacific

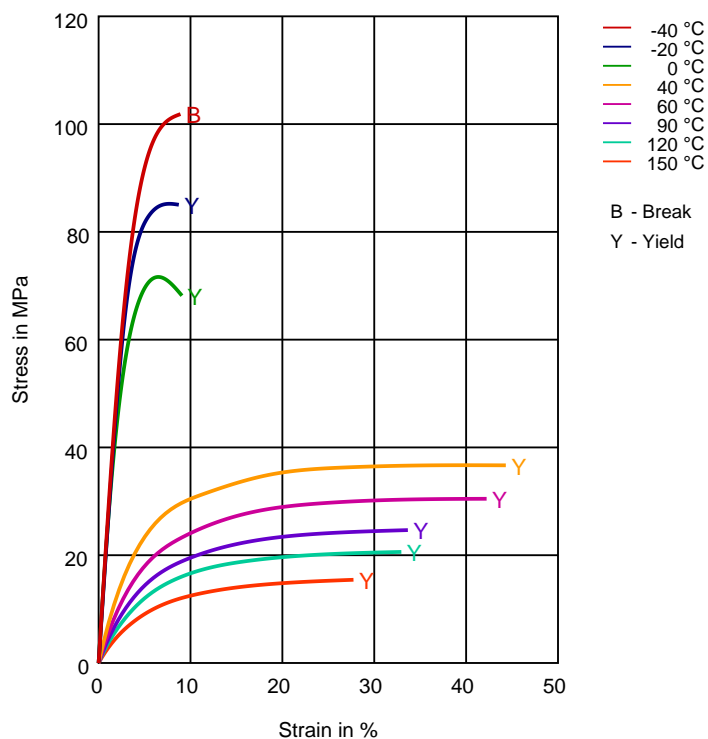
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Stress-strain (cond.)



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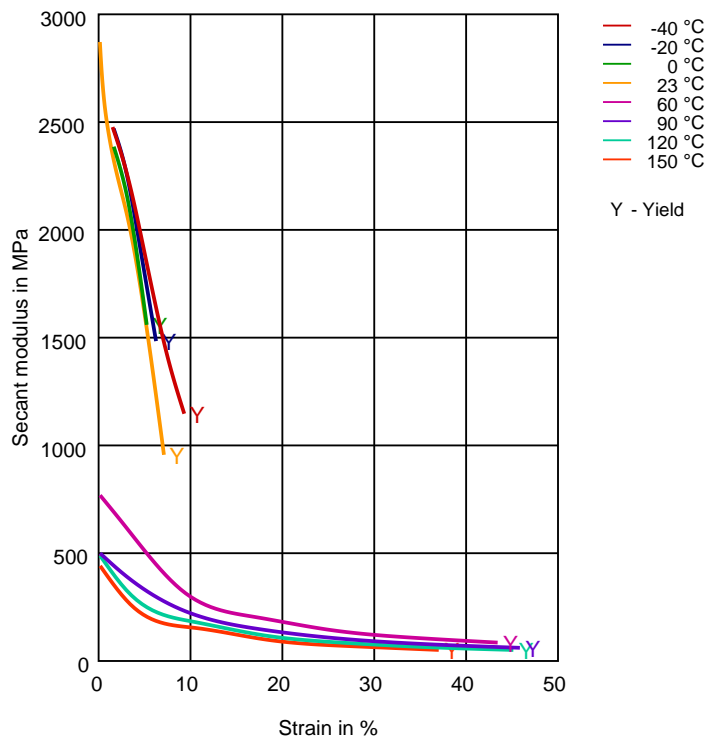
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# DuPont™ Zytel® RS 3061HSL BK039A

## NYLON RESIN

Secant modulus-strain (dry)



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Asia Pacific

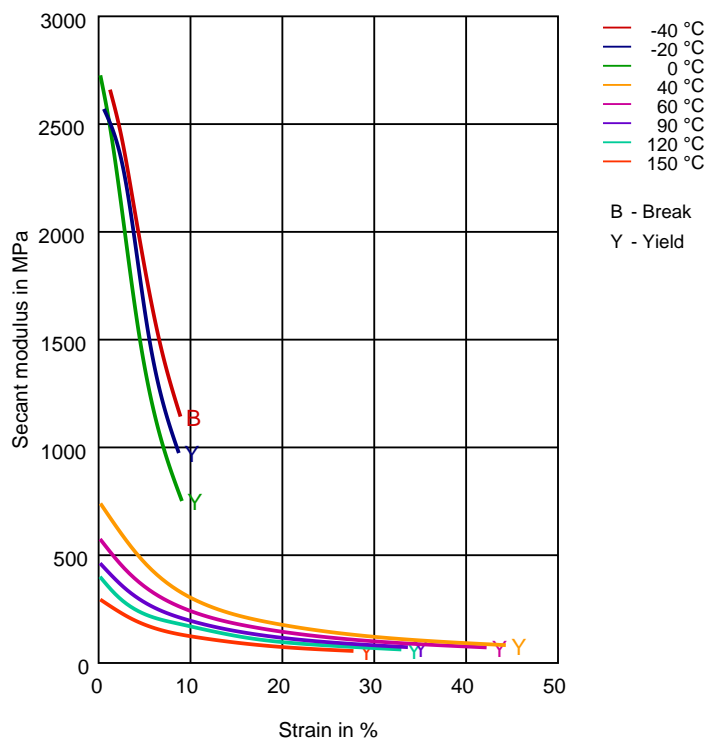
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Secant modulus-strain (cond.)



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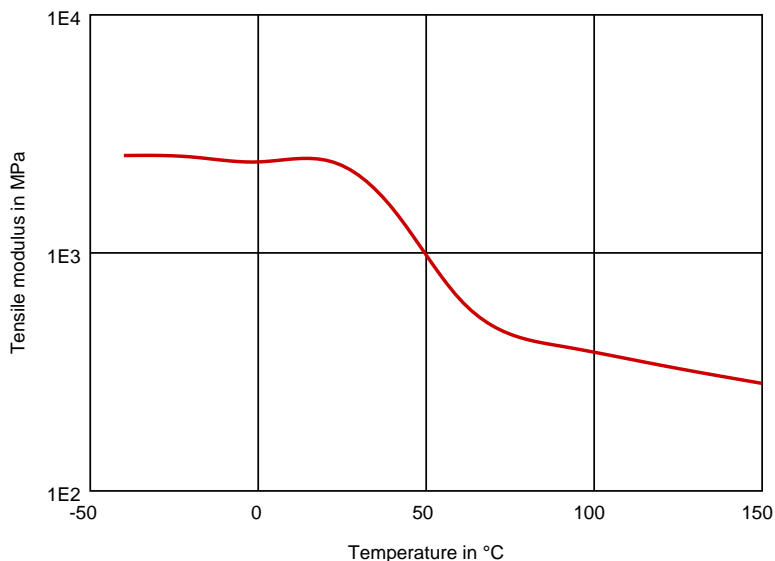
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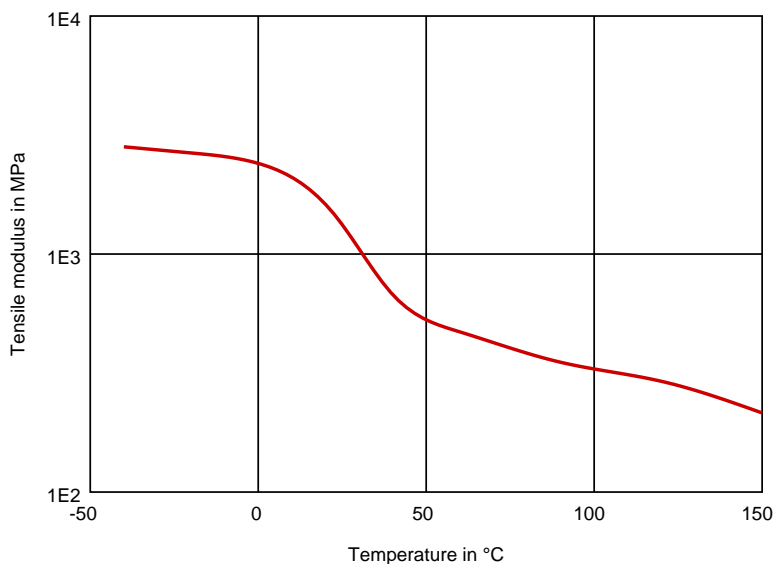
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## NYLON RESIN

Tensile modulus-temperature (dry)



Tensile modulus-temperature (cond.)



Contact DuPont for Material Safety Data Sheet, general guides and/or additional information about ventilation, handling, purging, drying, etc. ISO Mechanical properties measured at 160 mil (Hytrel® measured at 80 mil), IEC Electrical properties measured at 80 mil, all ASTM properties measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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