

DuPont™ Zytel® RS LC3090 NC010 (Preliminary Data)

NYLON RESIN

Product Information

DuPont™ Zytel® LCPA long chain polyamide resins provide an innovative and growing portfolio of flexible polymers with excellent thermal, chemical, and hydrolysis resistance. The diverse selection of Zytel® LCPA grades is targeted for a range of performance characteristics, balancing temperature resistance, flexibility and low permeation.

DuPont™ Zytel® RS LCPA resins contain between 20% and 100% renewably sourced material (by weight) derived from castor beans.

Zytel® RS LC3090 NC010 is a renewable sourced polyamide 610 containing a minimum of 60% renewably sourced ingredient by weight. It is an unreinforced, high viscosity grade, developed for extrusion applications.

General information	Value	Unit	Test Standard
Resin Identification	PA610	-	ISO 1043
Part Marking Code	PA610	-	ISO 11469
Rheological properties	dry / cond	Unit	Test Standard
Viscosity number	170 ⁽¹⁾ / *	cm ³ /g	ISO 307, 1157, 1628
Molding shrinkage, parallel	1.2 / -	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2 / -	%	ISO 294-4, 2577
1: Sulfuric acid 96%			
Mechanical properties	dry / cond	Unit	Test Standard
Tensile Modulus	2300 / 1200	MPa	ISO 527-1/-2
Flexural Modulus	1900 / -	MPa	ISO 178
Flexural Strength	86 / -	MPa	ISO 178
Charpy impact strength, 73°F	N / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 73°F	5.6 / -	kJ/m ²	ISO 179/1eA
Thermal properties	dry / cond	Unit	Test Standard
Melting temperature, 18°F/min	225 / *	°C	ISO 11357-1/-3
Temp. of deflection under load			ISO 75-1/-2
260 psi	54 / *	°C	
65 psi	151 / *	°C	
Flammability	Value	Unit	Test Standard
FMVSS Class	B	-	ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<100	mm/min	ISO 3795 (FMVSS 302)
Other properties	dry / cond	Unit	Test Standard
Humidity absorption, 80mil	1.4 / *	%	Sim. to ISO 62
Water absorption, 80mil	3.3 / *	%	Sim. to ISO 62
Density	1080 / -	kg/m ³	ISO 1183
Water Absorption, Immersion 24h	0.58 / *	%	Sim. to ISO 62
Extrusion	Value	Unit	Test Standard
Drying Temperature	75 - 80	°C	-
Drying Time, Dehumidified Dryer	3 - 4	h	-
Processing Moisture Content	≤0.06	%	-
Melt Temperature Optimum	245	°C	-
Melt Temperature Range	240 - 255	°C	-

Characteristics

Processing	• Injection Molding	• Profile Extrusion	• Other Extrusion
Delivery form	• Pellets		

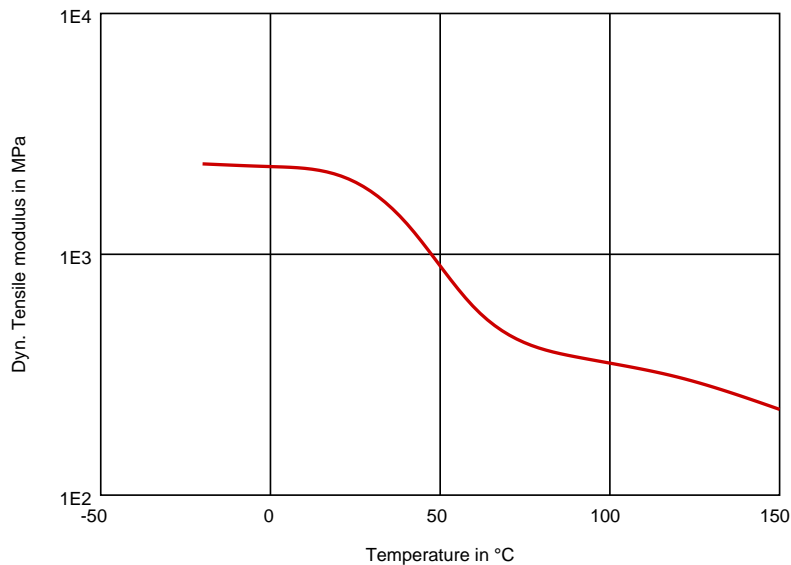


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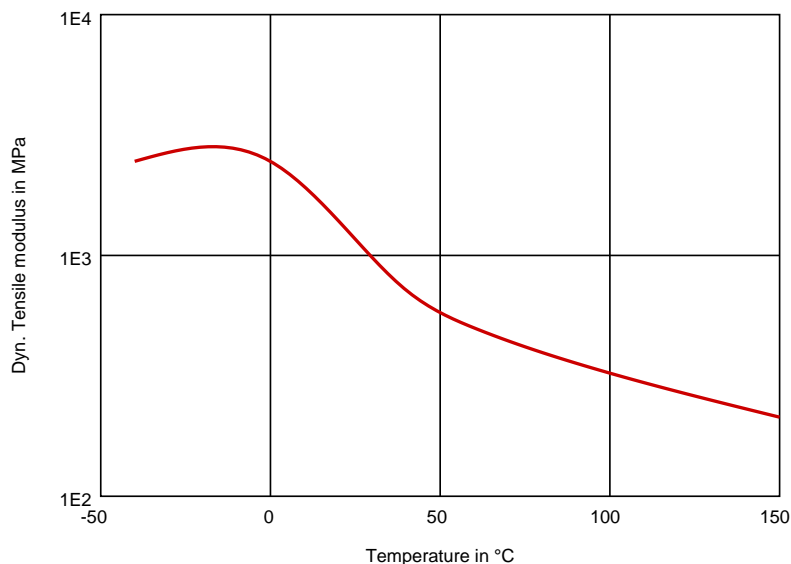
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Diagrams

Dynamic Tensile modulus-temperature (dry)



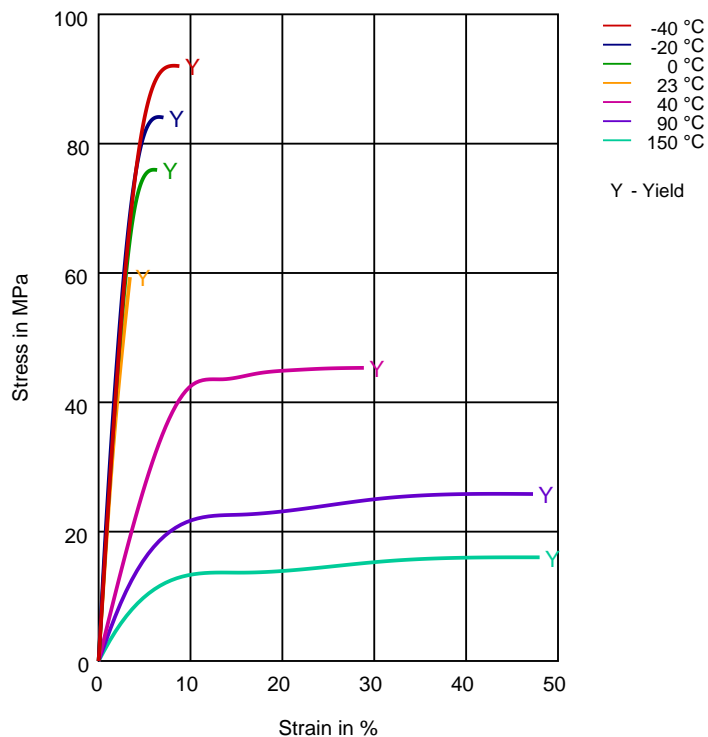
Dynamic Tensile modulus-temperature (cond.)



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Stress-strain (dry)



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

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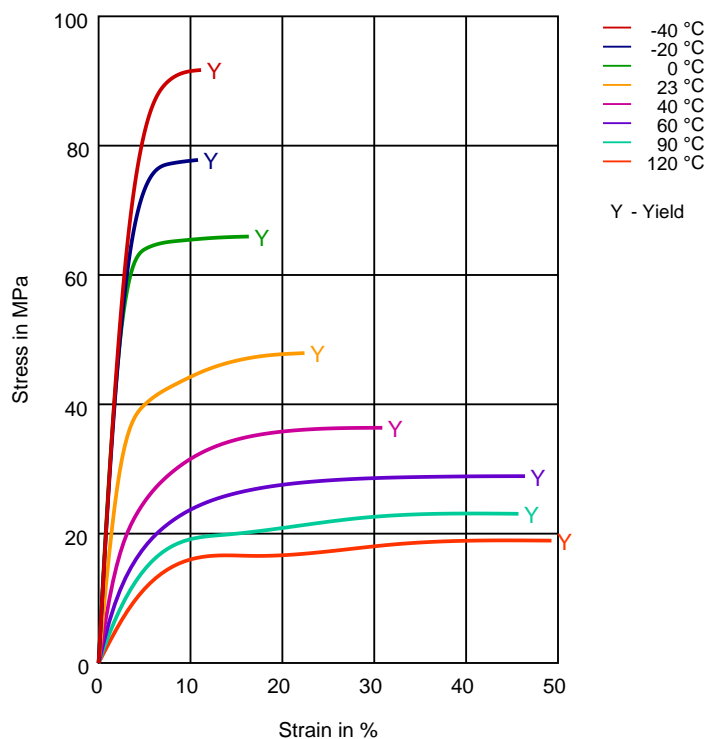
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Stress-strain (cond.)



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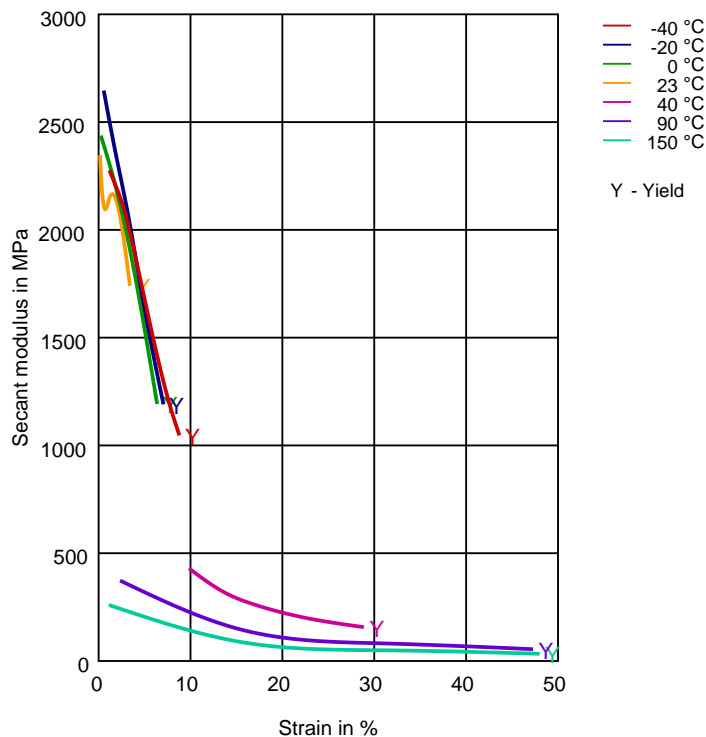
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Secant modulus-strain (dry)



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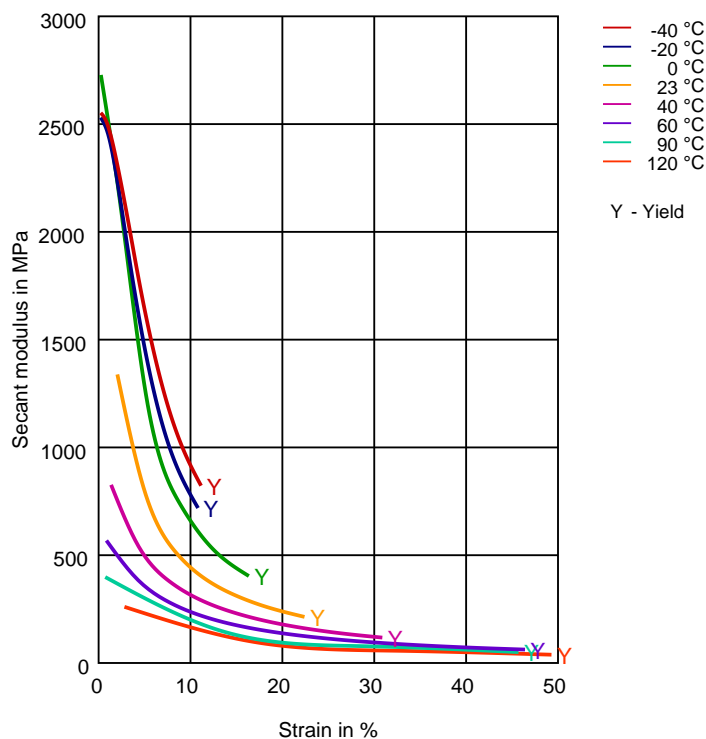
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Secant modulus-strain (cond.)



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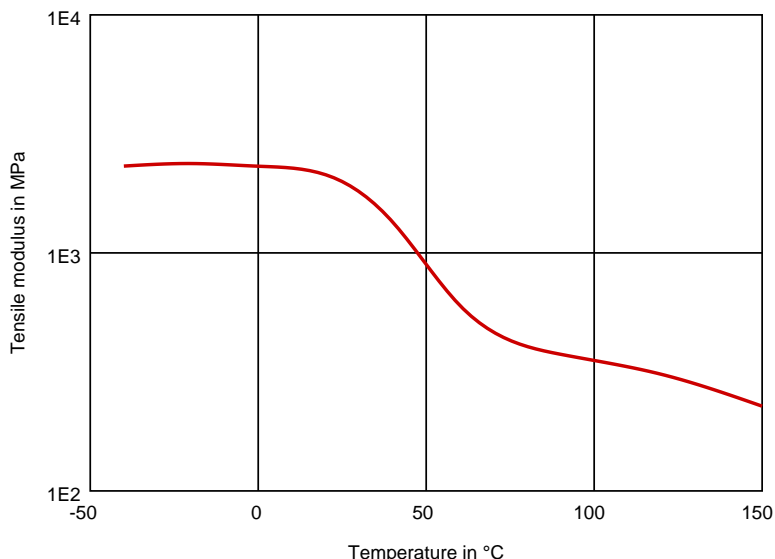
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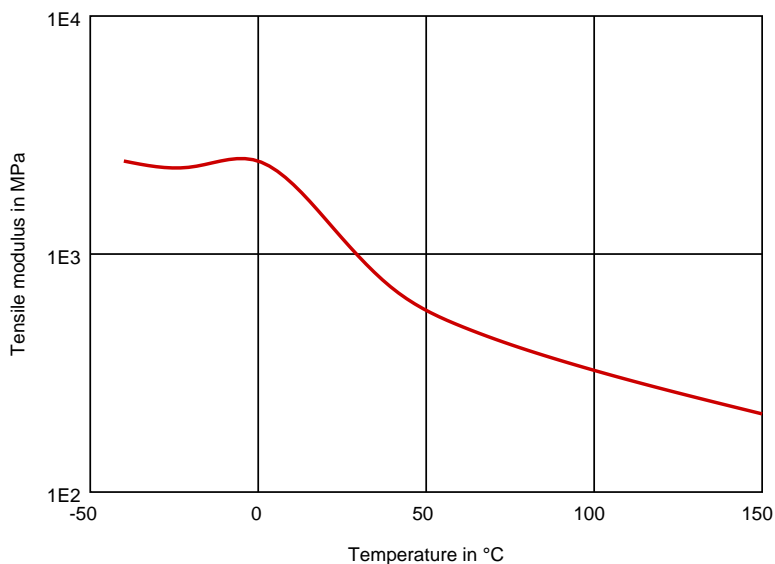
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Tensile modulus-temperature (dry)



Tensile modulus-temperature (cond.)



The above data are preliminary and are subject to change as additional data are developed on subsequent lots.

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

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measured at 120 mil, and test temperatures are 73°F unless otherwise stated.

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