Zytel® RS LC3090 NC010

LONG CHAIN POLYAMIDE RESIN

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.

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.

Product information

Resin Identification	PA610	ISO 1043
Part Marking Code	>PA610<	ISO 11469
ISO designation	ISO 16396-PA610,,M1G1N,S18-020	

Rheological properties

	dry/cond.		
Viscosity number	170[1]/*	cm³/g	ISO 307, 1628
Intrinsic viscosity	1.55		ISO 307, 1628
Moulding shrinkage, parallel	1.2 / -	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.2 / -	%	ISO 294-4, 2577

[1]: Sulfuric acid 96%

Typical mechanical properties

	dry/cond.		
Tensile modulus	2300 / 1200	MPa	ISO 527-1/-2
Flexural modulus	1900 / -	MPa	ISO 178
Flexural strength	86 / -	MPa	ISO 178
Charpy impact strength, 23 °C	N / -	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23 °C	5.6 / -	kJ/m²	ISO 179/1eA
Poisson's ratio	0.39 / 0.44		

Thermal properties

	dry/cond.		
Melting temperature, 10 °C/min	225 / *	°C	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	60 / 50	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	54 / *	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	151 / *	°C	ISO 75-1/-2

Flammability

FMVSS Class	B		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm	<80	mm/min	ISO 3795 (FMVSS 302)

Physical/Other properties

	dry/cond.		
Humidity absorption, 2mm	1.4 / *	%	Sim. to ISO 62
Water absorption, 2mm	3.3 / *	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.58 / *	%	Sim. to ISO 62
Density	1080 / -	kg/m³	ISO 1183

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Extrusion

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 Moulding, Extrusion, Other Extrusion
Delivery form	Pellets
Sustainability	Bio-Content

Dynamic Tensile modulus-temperature (dry)

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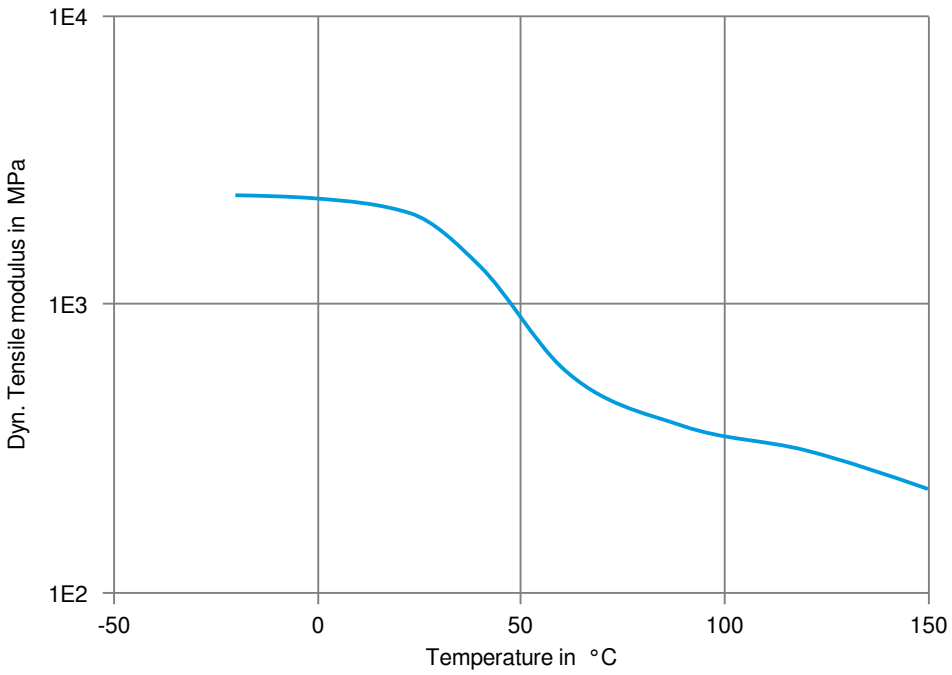

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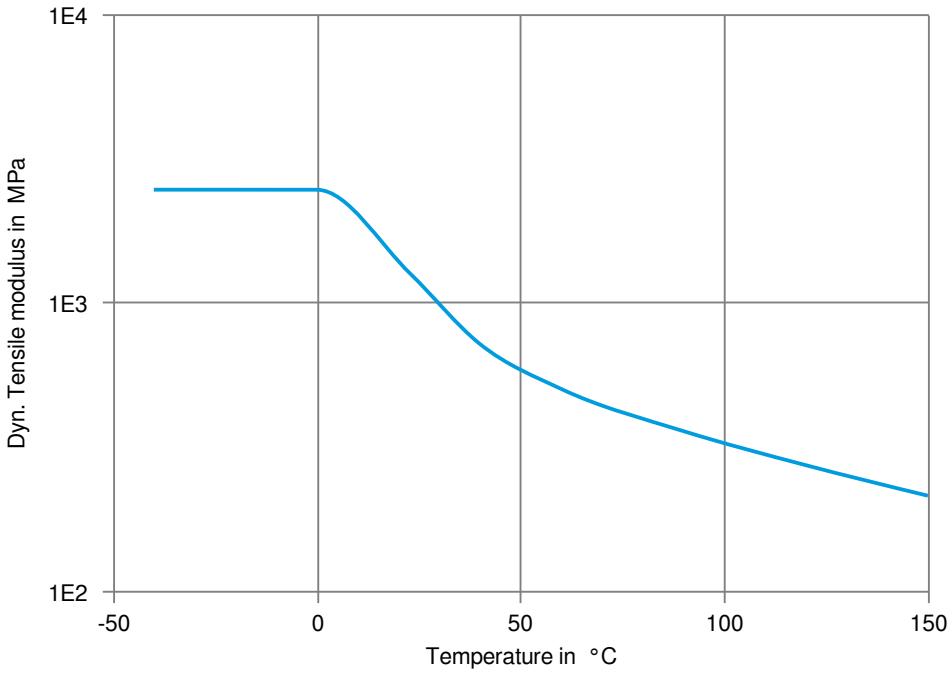
Dynamic Tensile modulus-temperature (cond.)



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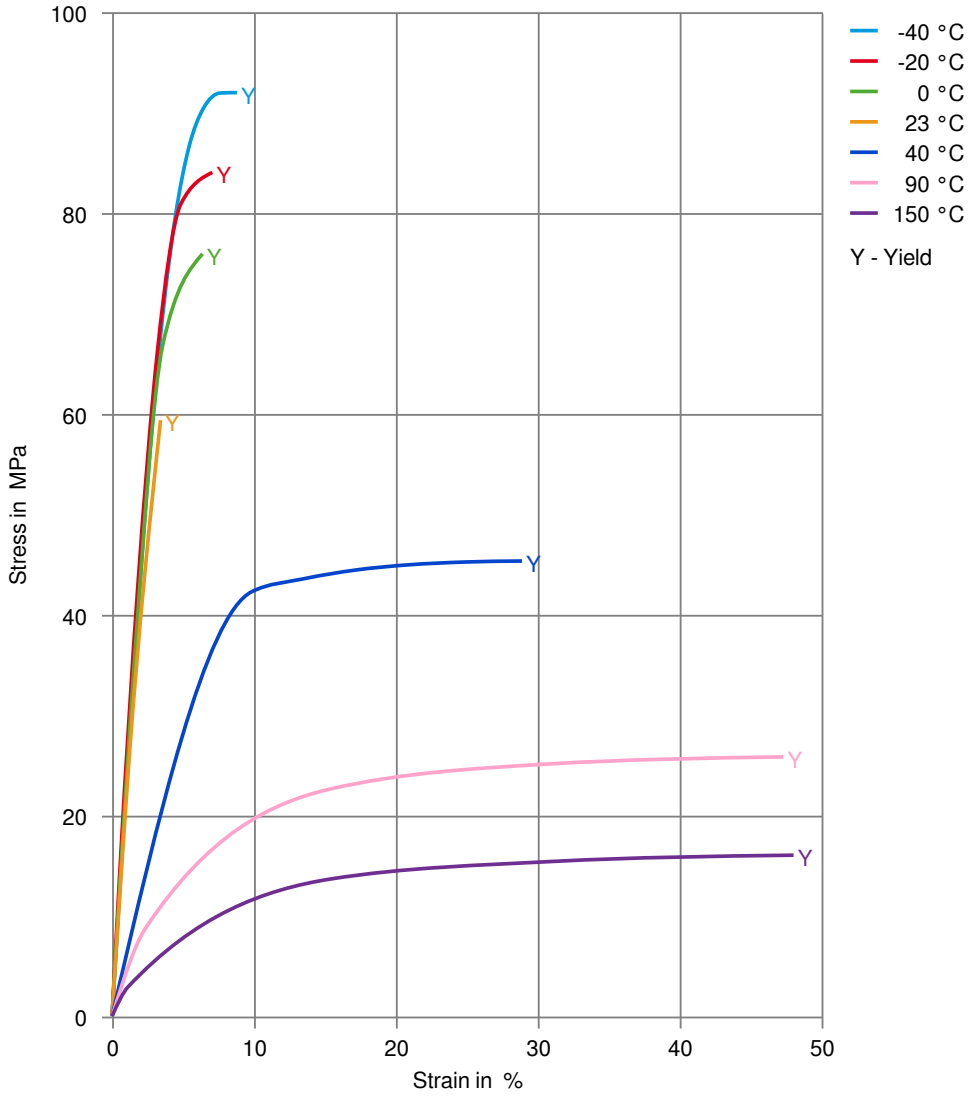
Stress-strain (dry)



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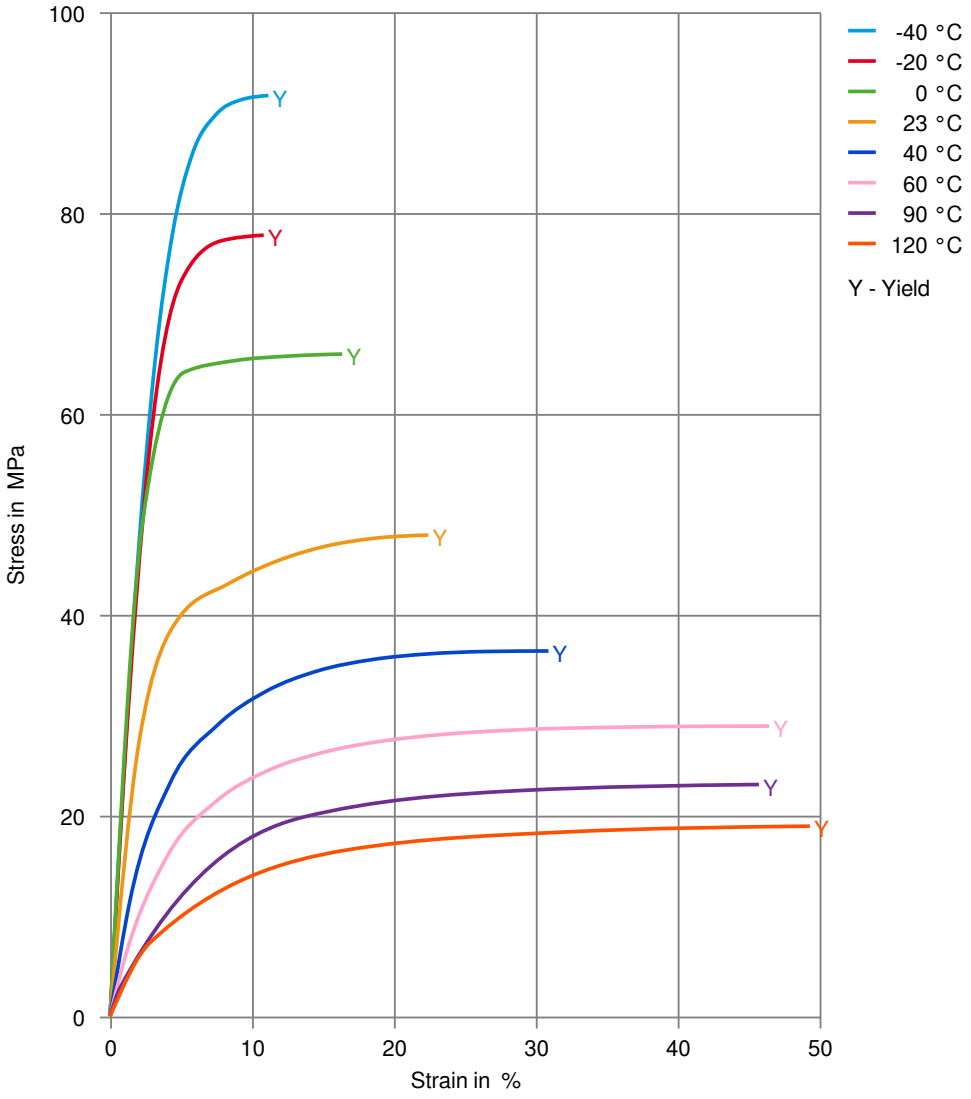
Stress-strain (cond.)



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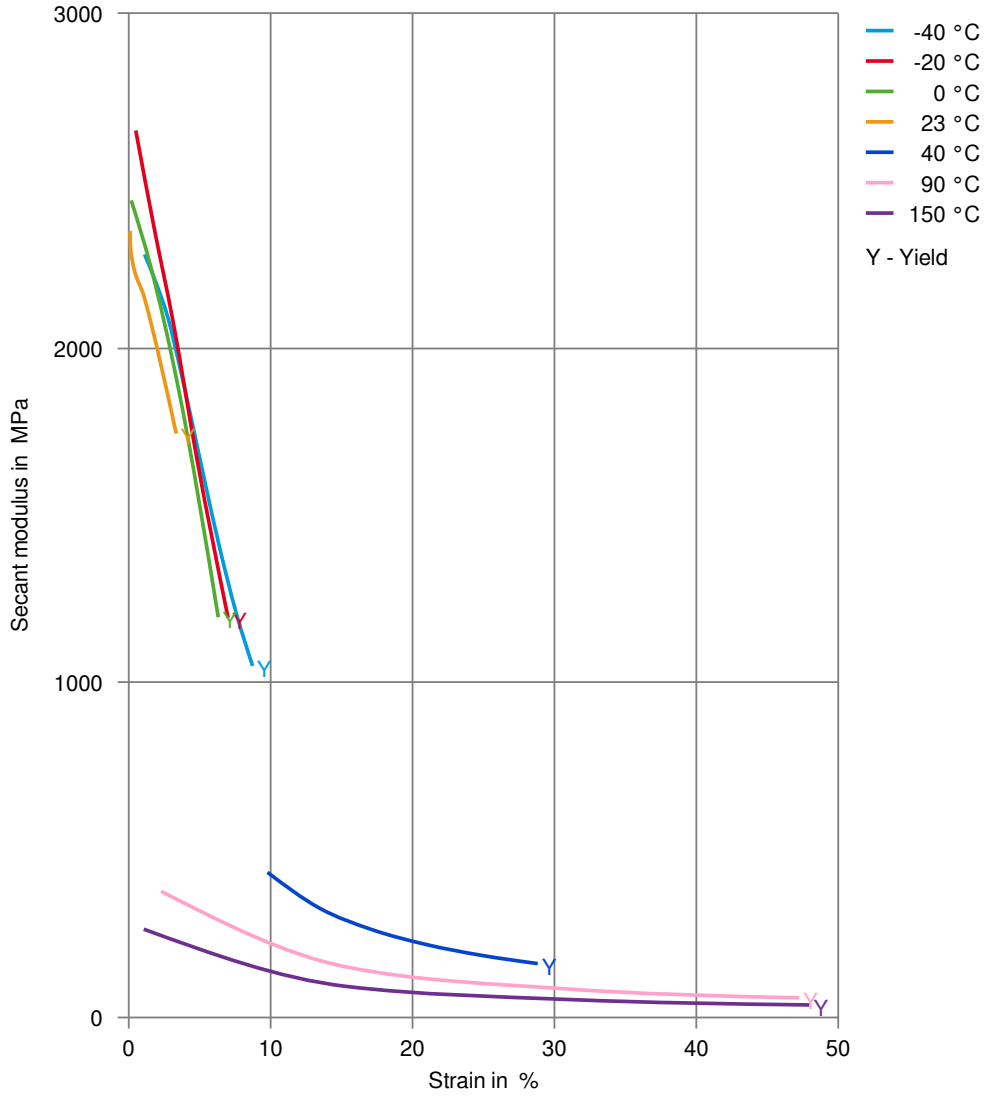
Secant modulus-strain (dry)



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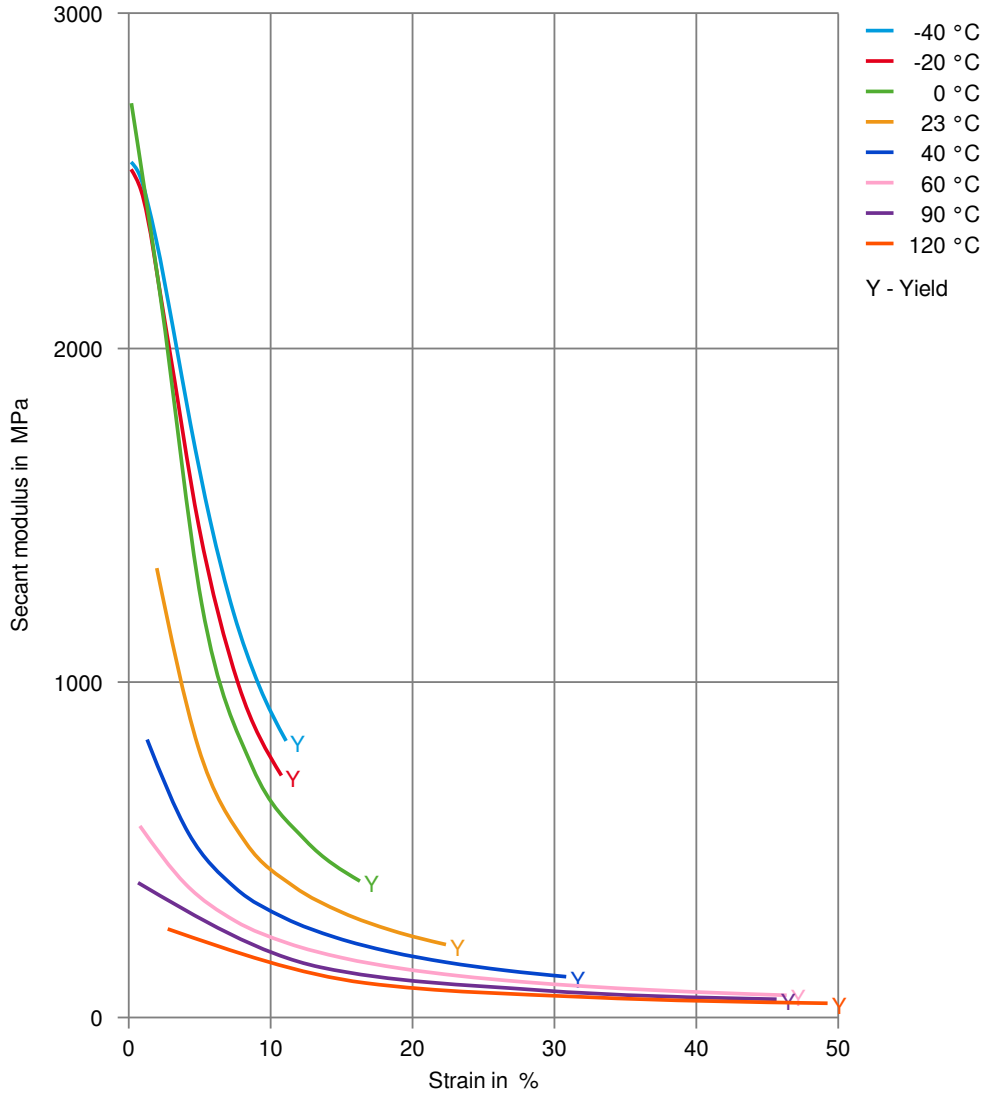
Secant modulus-strain (cond.)



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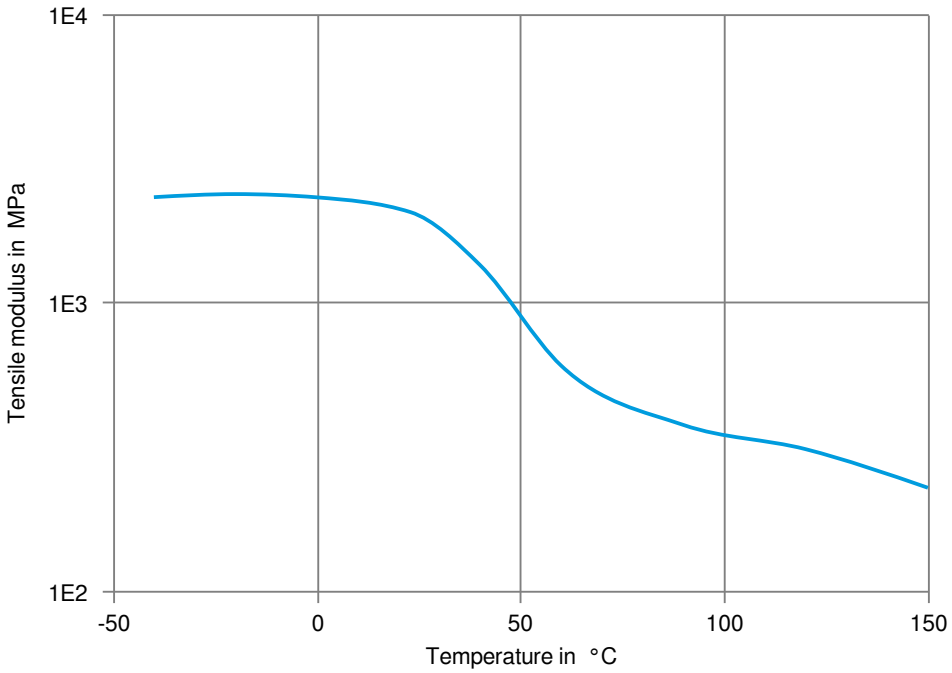
Tensile modulus-temperature (dry)



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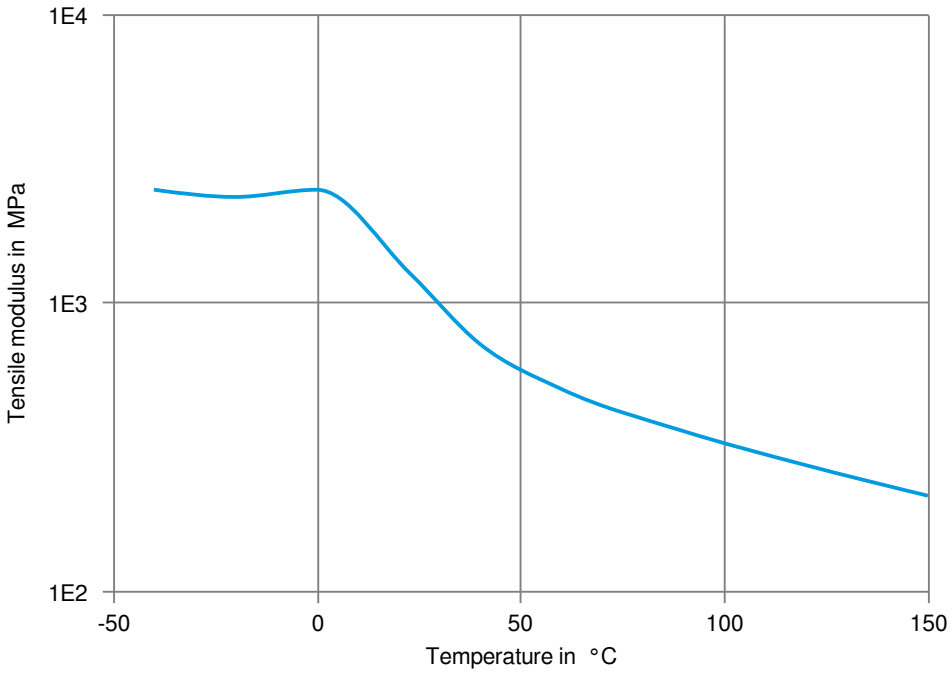
Tensile modulus-temperature (cond.)



Revised: 2024-12-09 Source: Celanese Materials Database