

Zytel® LC6200 BK385

LONG CHAIN POLYAMIDE RESIN

Zytel® LC6200 BK385 is a toughened polyamide 612 resin for extrusion applications. It provides an innovative and growing portfolio of flexible polymers with excellent thermal, chemical, and hydrolysis resistance. The diverse selection of Zytel® LC6200 BK385 grades is targeted for a range of performance characteristics, balancing temperature resistance, flexibility and low permeation.

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Product information

Resin Identification	PA612-HI	ISO 1043
Part Marking Code	>PA612-HI<	ISO 11469
ISO designation	ISO 16396-PA612-I,,M1CG1H,S18-010	

Rheological properties

	dry/cond.		
Melt mass-flow rate	12 / *	g/10min	ISO 1133
Melt mass-flow rate, Temperature	250 / *	°C	
Melt mass-flow rate, Load	10 / *	kg	
Moulding shrinkage, parallel	2.9 / 4.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6 / 0.7	%	ISO 294-4, 2577
Moulding shrinkage, parallel, annealed	4.4 / *	%	ISO 294-4
Moulding shrinkage, normal, annealed	0.85 / *	%	ISO 294-4

Typical mechanical properties

	dry/cond.		
Tensile Modulus	1100 / 720	MPa	ISO 527-1/-2
Yield stress, 50mm/min	32 / 29	MPa	ISO 527-1/-2
Yield strain, 50mm/min	13 / 22	%	ISO 527-1/-2
Strain at break, 50mm/min	100 / 100	%	ISO 527-1/-2
Charpy notched impact strength, 23°C	40 / 80	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	15 / 15	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	27 / 66	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C	13 / 13	kJ/m²	ISO 180/1A
Poisson's ratio	0.45 / 0.46		
Abrasion resistance	12 / *	mm³	ISO 4649

Thermal properties

	dry/cond.		
Melting temperature, 10°C/min	218 / *	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	46 / *	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	85 / *	°C	ISO 75-1/-2
Thermal conductivity	0.37	W/(m K)	ISO 22007-2
Thermal conductivity of melt	0.17	W/(m K)	Internal
Spec. heat capacity of melt	2690	J/(kg K)	Internal
Spec. heat capacity solid	1660	J/(kg K)	Internal
TGA curve	available		ISO 11359-1/-2



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Flammability

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

Electrical properties

	dry/cond.	
Volume resistivity	>1E13/-	Ohm.m
Surface resistivity	*/>1E15	Ohm
Electric strength	34/-	kV/mm
		IEC 62631-3-1
		IEC 62631-3-2
		IEC 60243-1

Other properties

	dry/cond.	
Humidity absorption, 2mm	0.7/*	%
Density	1000/-	kg/m³
Density of melt	820	kg/m³
		Sim. to ISO 62
		ISO 1183
		Internal

Extrusion

Drying Temperature	75 - 80 °C
Drying Time, Dehumidified Dryer	3 - 4 h
Processing Moisture Content	≤0.06 %
Melt Temperature Optimum	240 °C
Melt Temperature Range	235 - 250 °C

Additional information

Profile extrusion

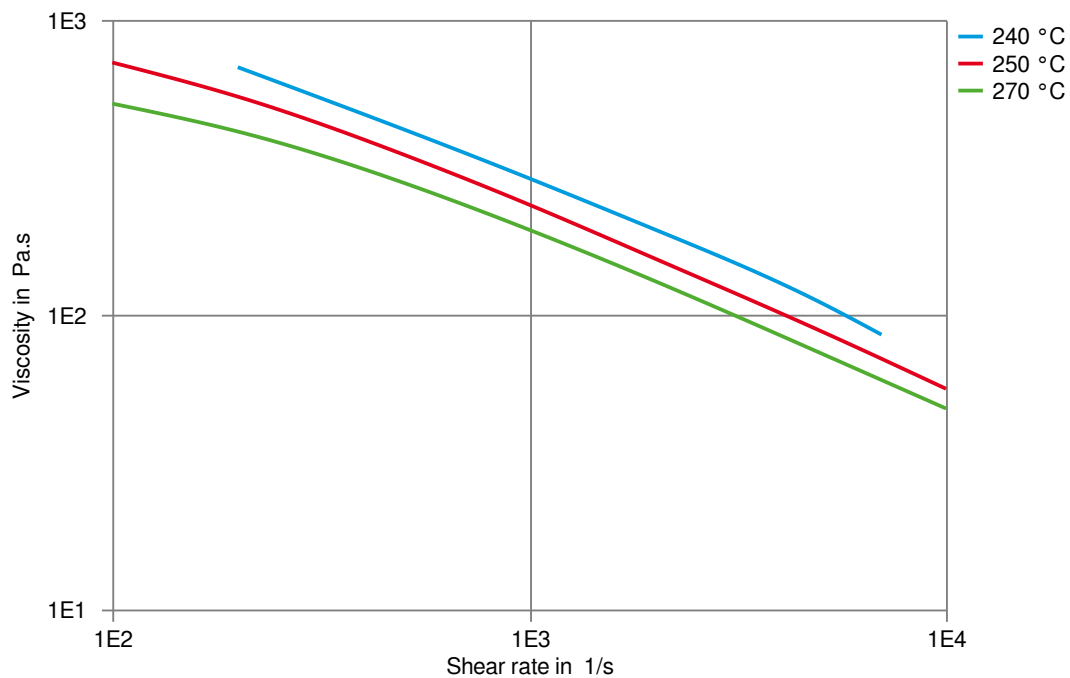
POSTPROCESSING



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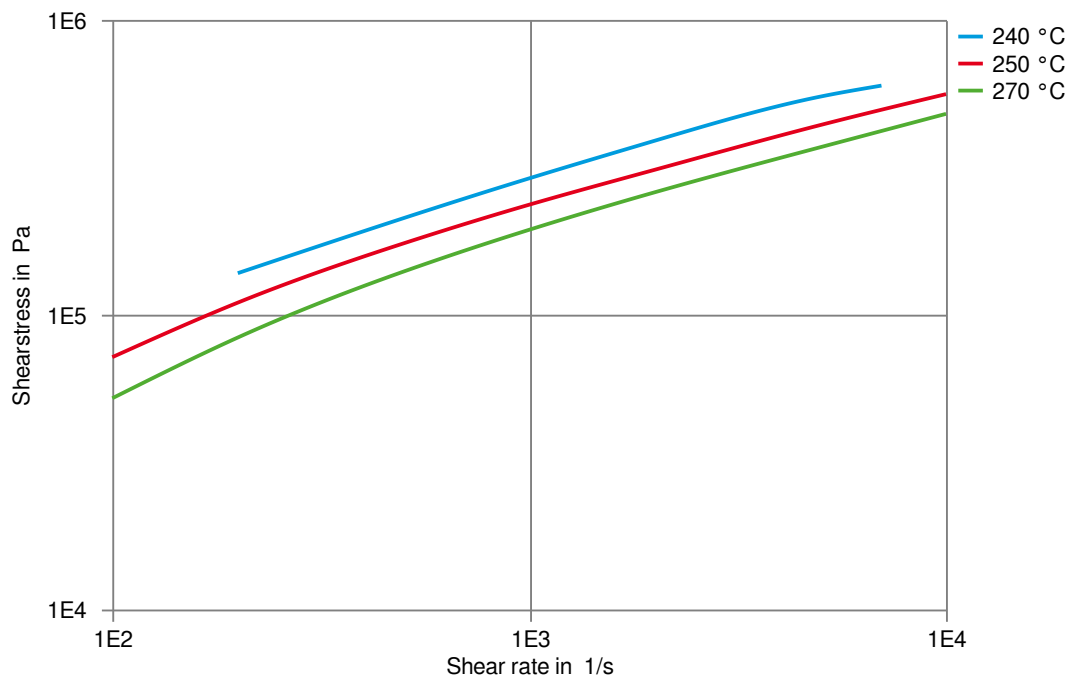
Viscosity-shear rate



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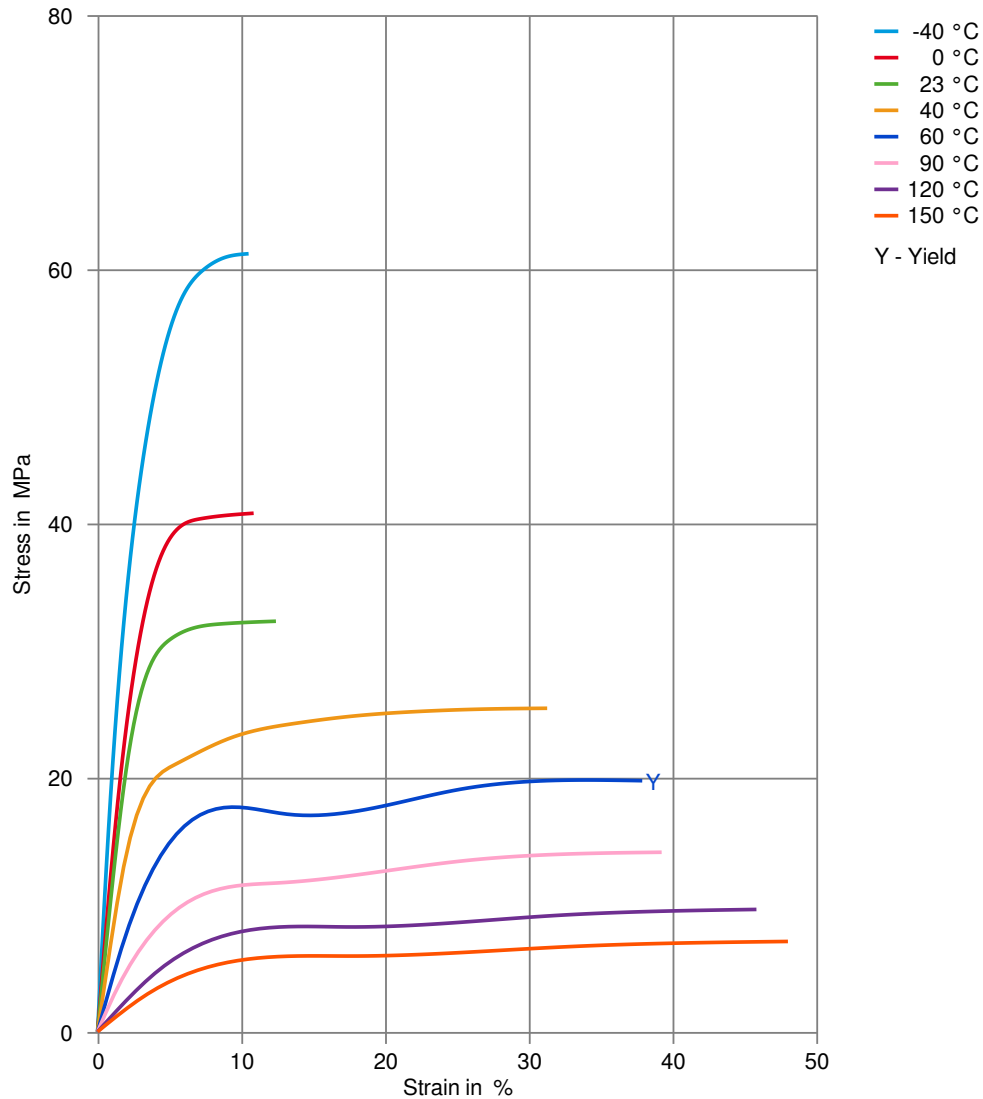
Shearstress-shear rate



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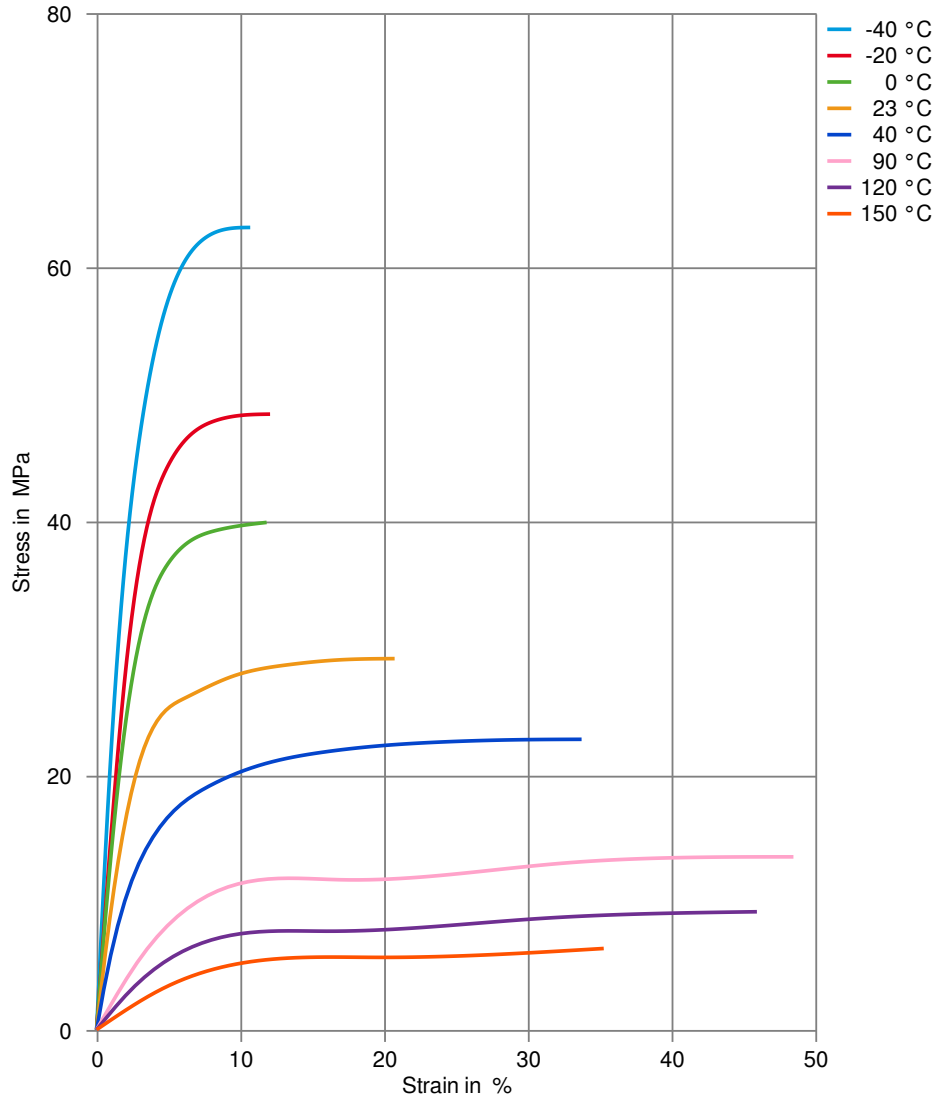
Stress-strain (dry)



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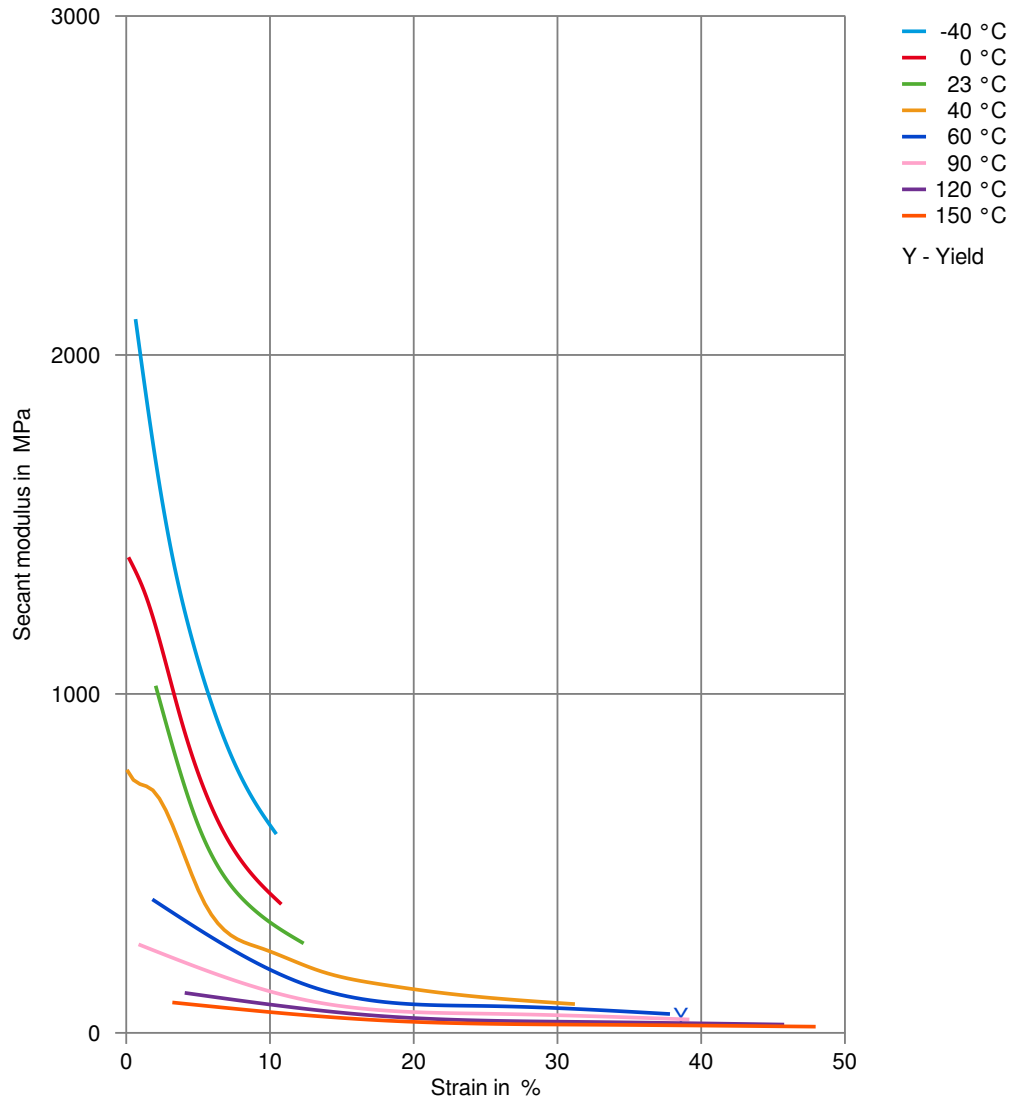
Stress-strain (cond.)



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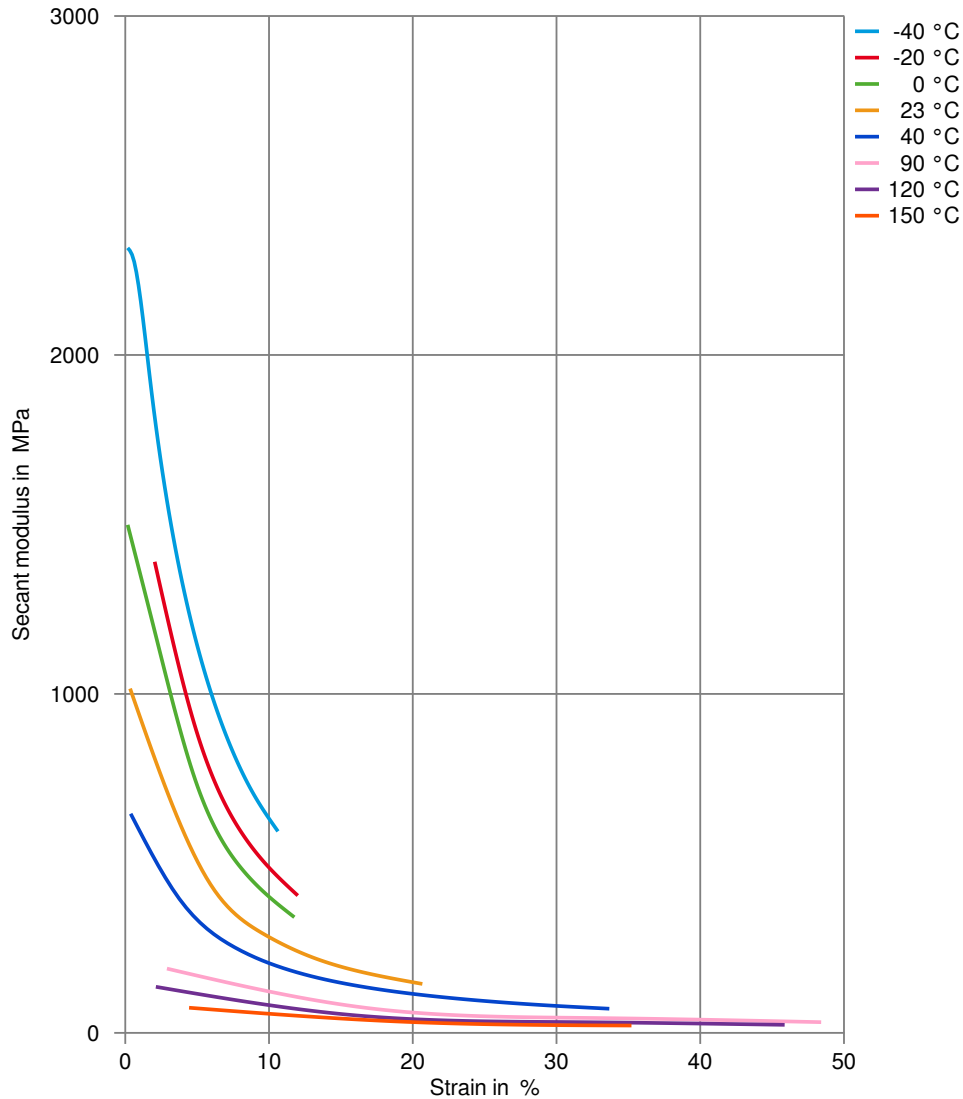
Secant modulus-strain (dry)



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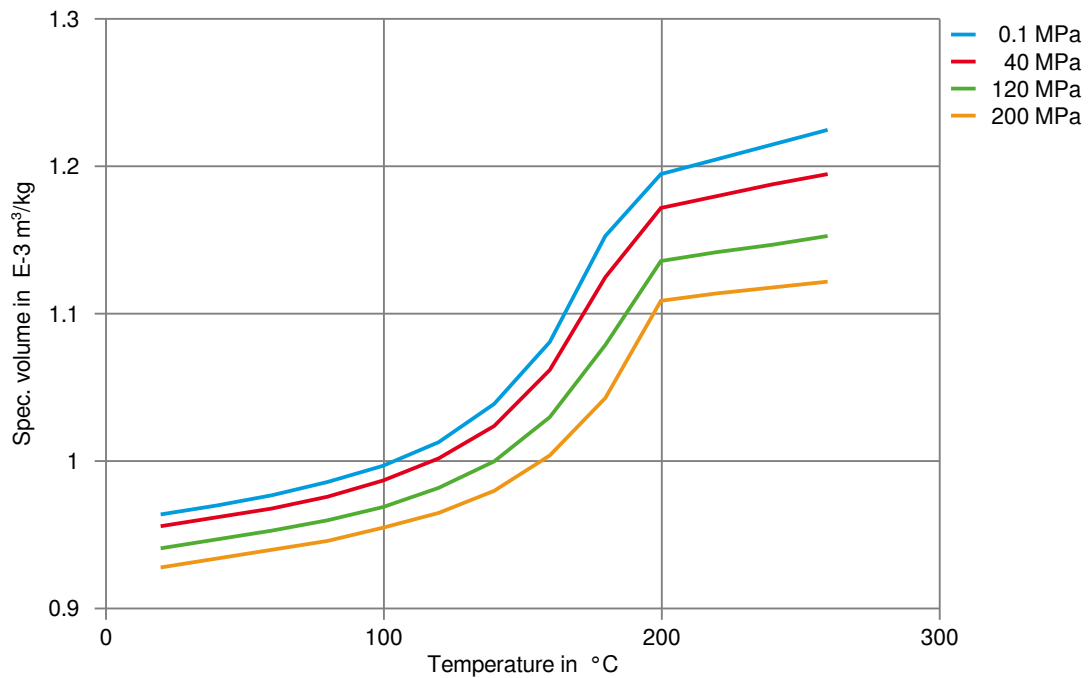
Secant modulus-strain (cond.)



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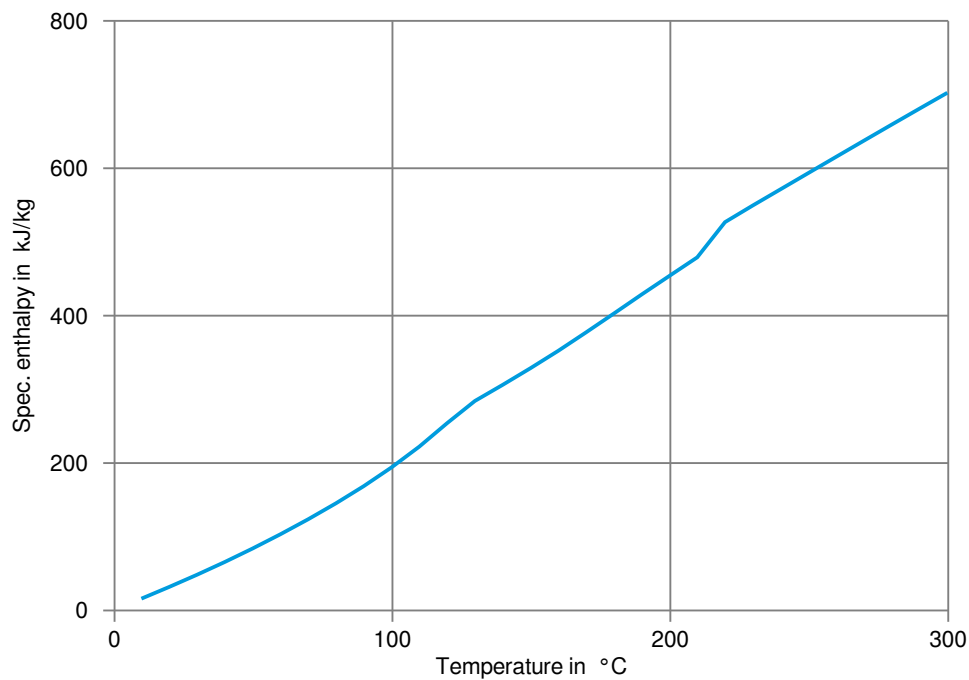
Specific volume-temperature (pvT)



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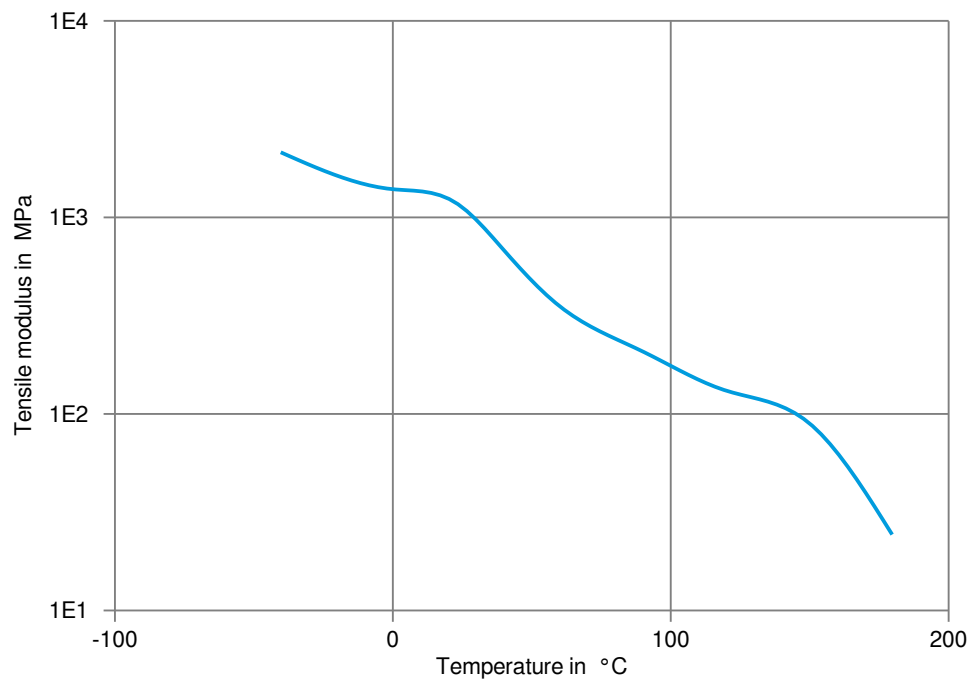
Spec. enthalpy/mass-temp. (DSC)



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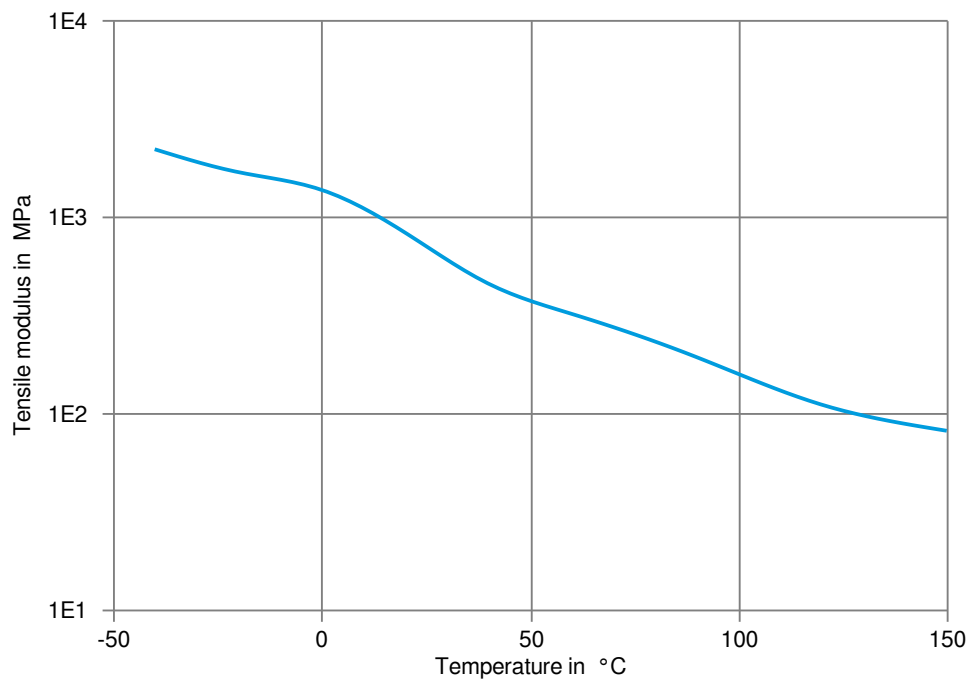
Tensile modulus-temperature (dry)



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Tensile modulus-temperature (cond.)



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Chemical Media Resistance

Other

- ✓ Urea solution (32.5% by mass), 23°C

Symbols used:

- ✓ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).
- ✗ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

