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Zytel® LC6200 BK385

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® LC6200 BK385 is a toughened polyamide 612 resin for extrusion applications.

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	1080 / 720	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	32 / 29	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	13 / 22	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	210 / -	%	ISO 527-1/-2
Charpy notched impact strength, 23°C	50 / 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	13.0 / 13.0	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
Temperature of deflection under load, 1.8 MPa	46 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel, -40-23°C	150 / *	E-6/K	ISO 11359-1/-2
CLTE, Parallel, 23-55°C(73-130°F)	240 / -	E-6/K	ASTM E 831
Coeff. of linear therm. expansion, parallel, 55-160°C	483 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, -40-23°C	97 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal, 55-160°C	145 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, Normal,23-55°C (73-130°F)	123 / -	E-6/K	ASTM E 831
Thermal conductivity, flow	0.37	W/(m K)	ISO 22007-2
Thermal conductivity of melt	0.17	W/(m K)	ISO 22007-2
Specific heat capacity of melt	2690	J/(kg K)	ISO 22007-4
Specific heat capacity solid	1660	J/(kg K)	ISO 22007-4

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TGA curve	available		ISO 11359-1/-2

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	IEC 62631-3-1
Surface resistivity	* / >1E15	Ohm	IEC 62631-3-2
Electric strength	34 / -	kV/mm	IEC 60243-1

Physical/Other properties

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

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

Characteristics

Processing	Injection Moulding, Film Extrusion, Extrusion, Sheet Extrusion, Other Extrusion
Delivery form	Pellets
Special characteristics	High impact or impact modified, Heat stabilised or stable to heat

Additional information

Profile extrusion

POSTPROCESSING

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
General Motors	GMW17558P-PA612	Black
Renault-Nissan	UB08b, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB09g, No Spec, Special Part Approval, See Your CE Account Manager.	
Renault-Nissan	UB16c, No Spec, Special Part Approval, See Your CE Account Manager.	
Stellantis - Chrysler	MS.50017 / CPN-4970	Black

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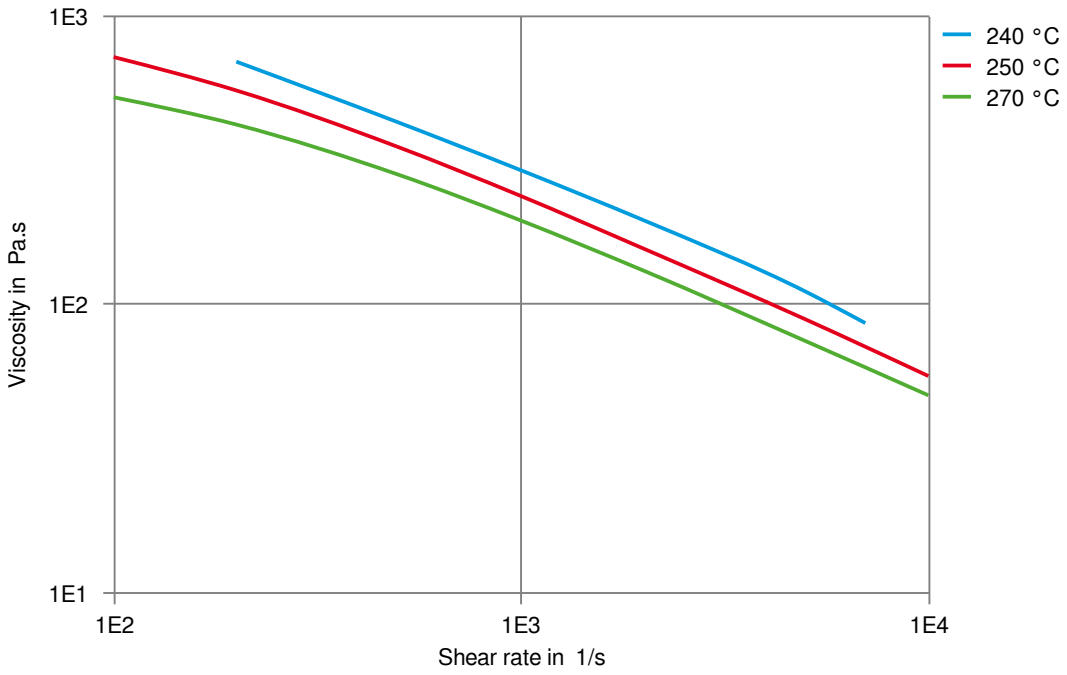
Viscosity-shear rate



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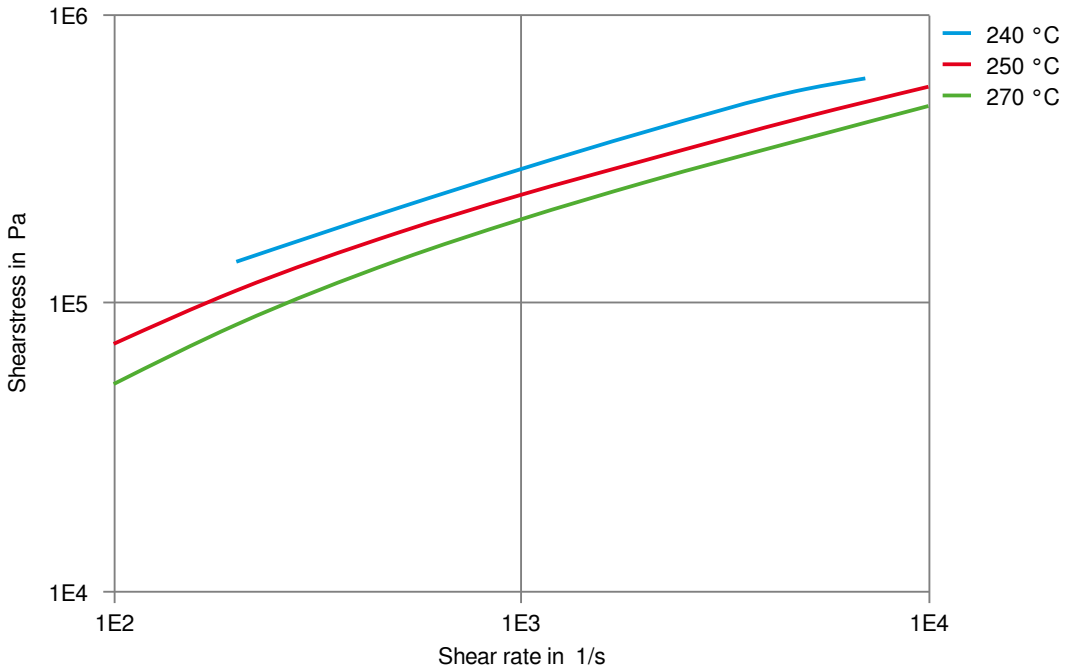
Shearstress-shear rate



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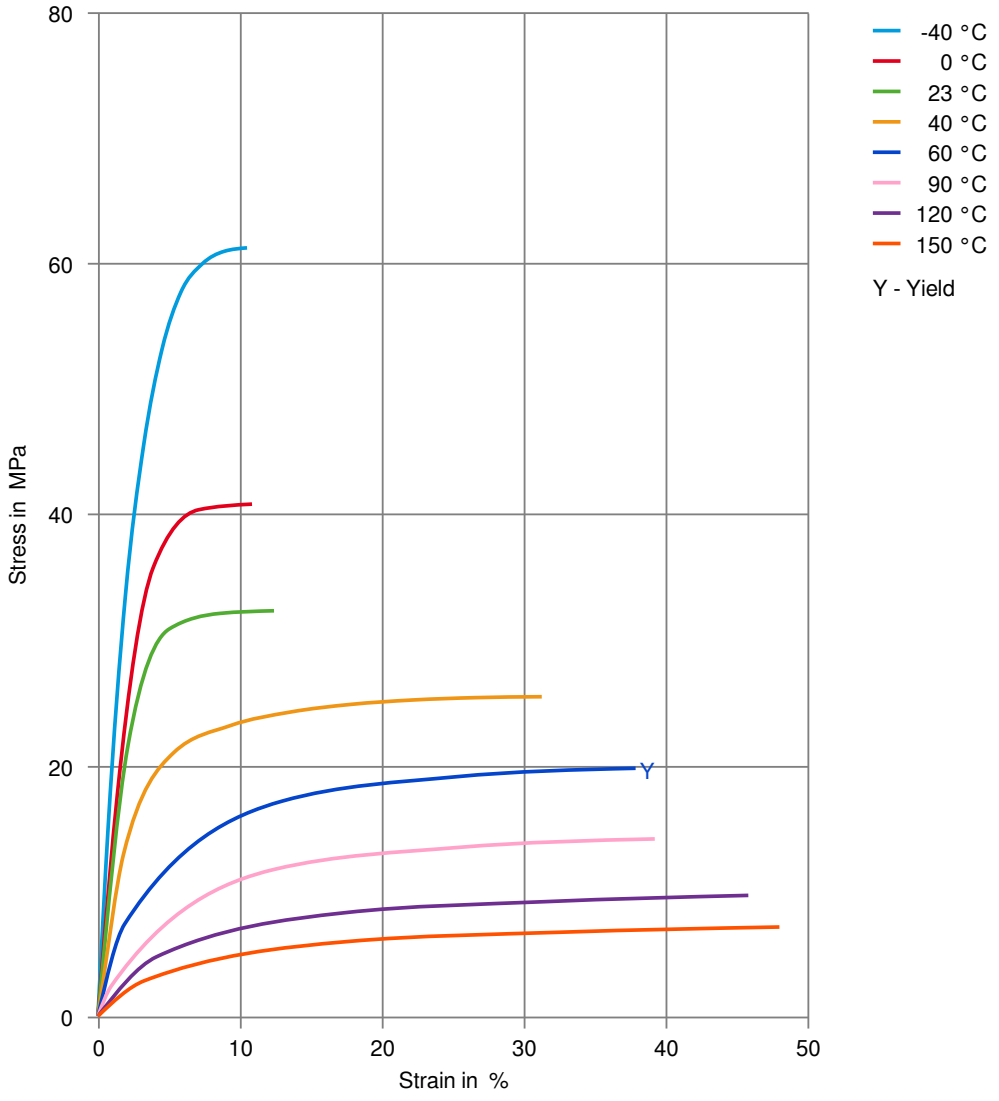
Stress-strain (dry)



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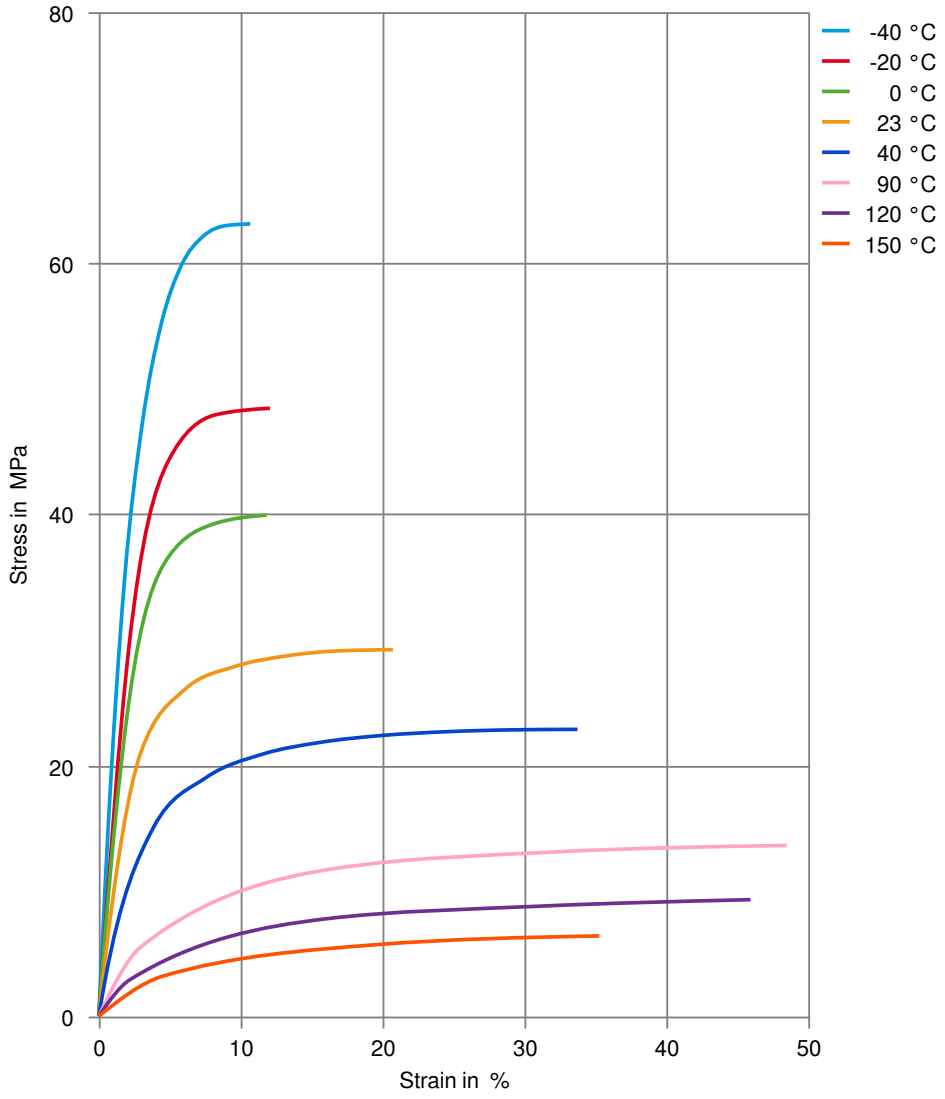
LONG CHAIN POLYAMIDE RESIN

Stress-strain (cond.)



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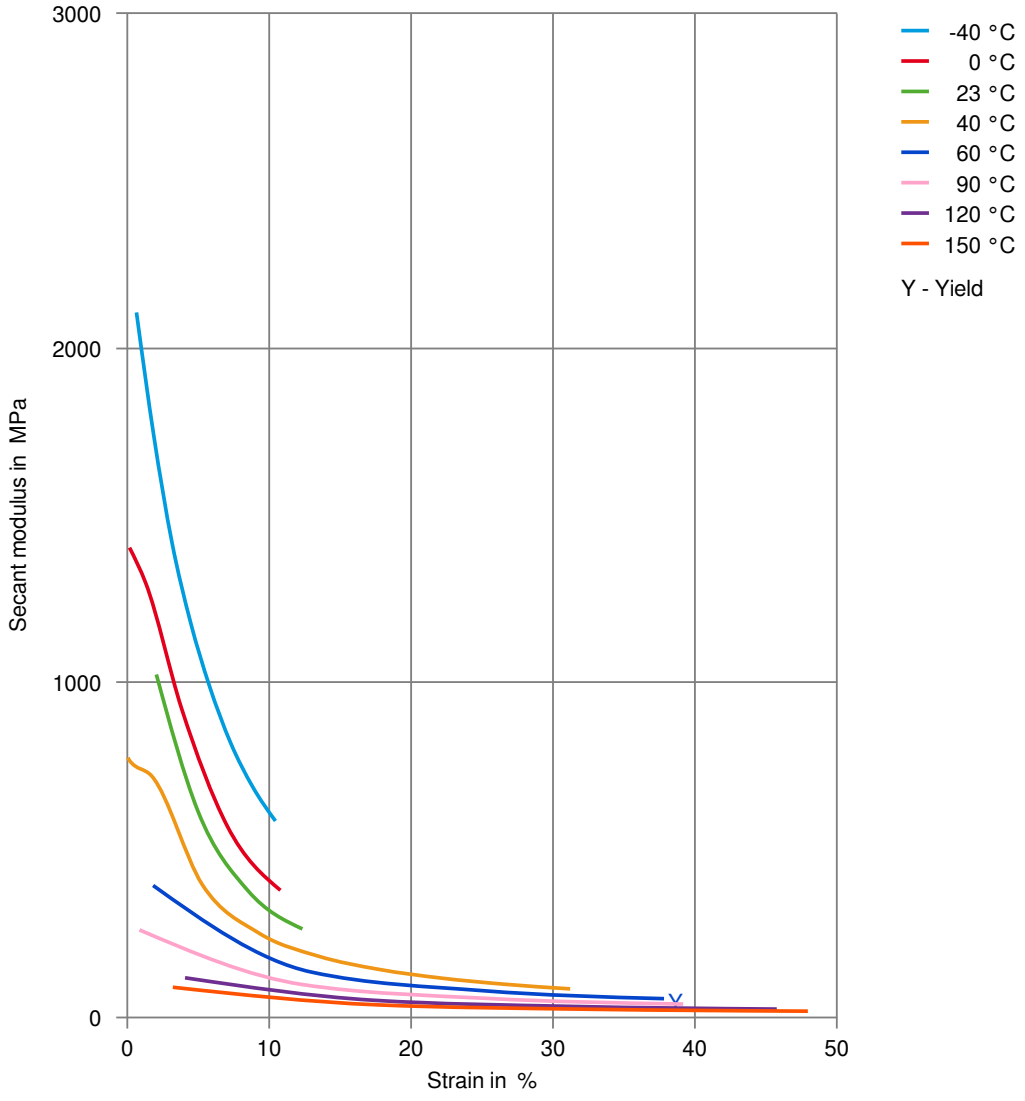
LONG CHAIN POLYAMIDE RESIN

Secant modulus-strain (dry)



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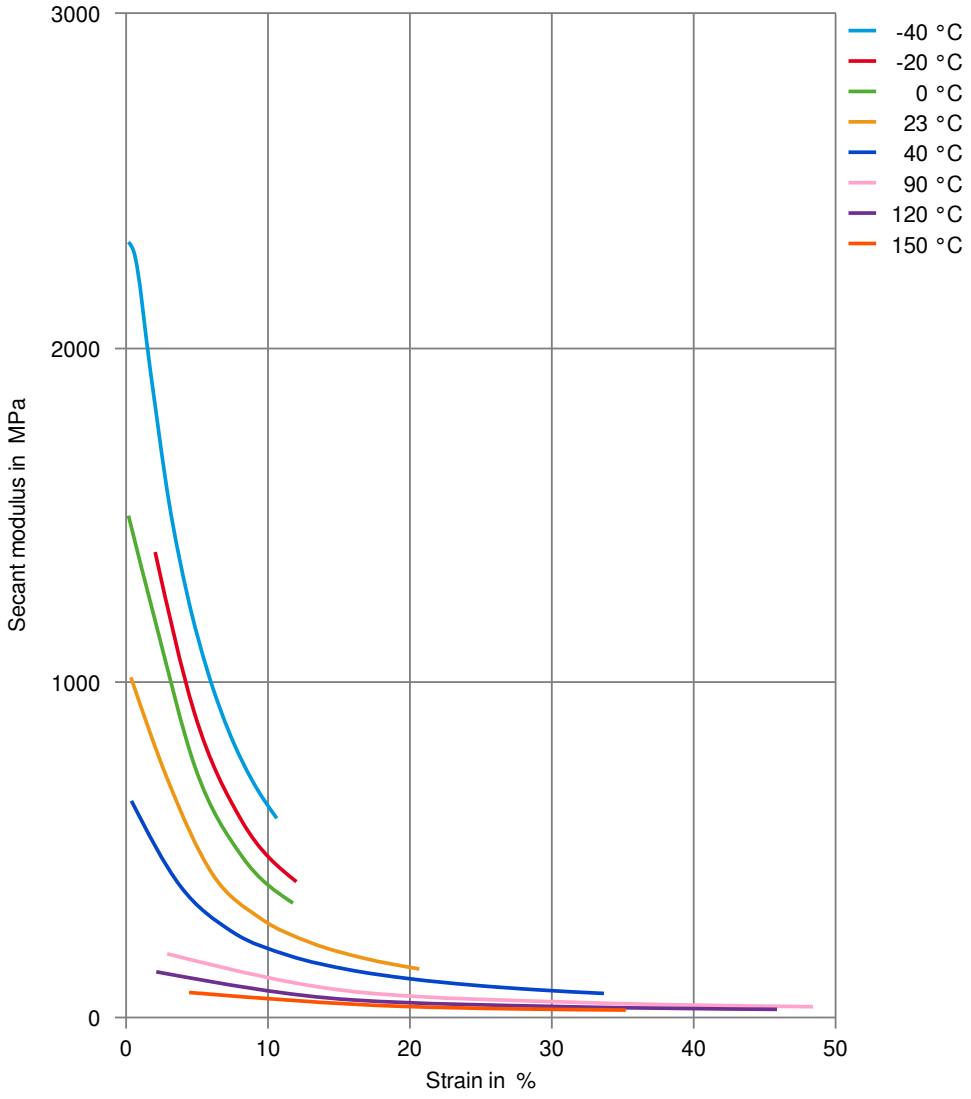
Secant modulus-strain (cond.)



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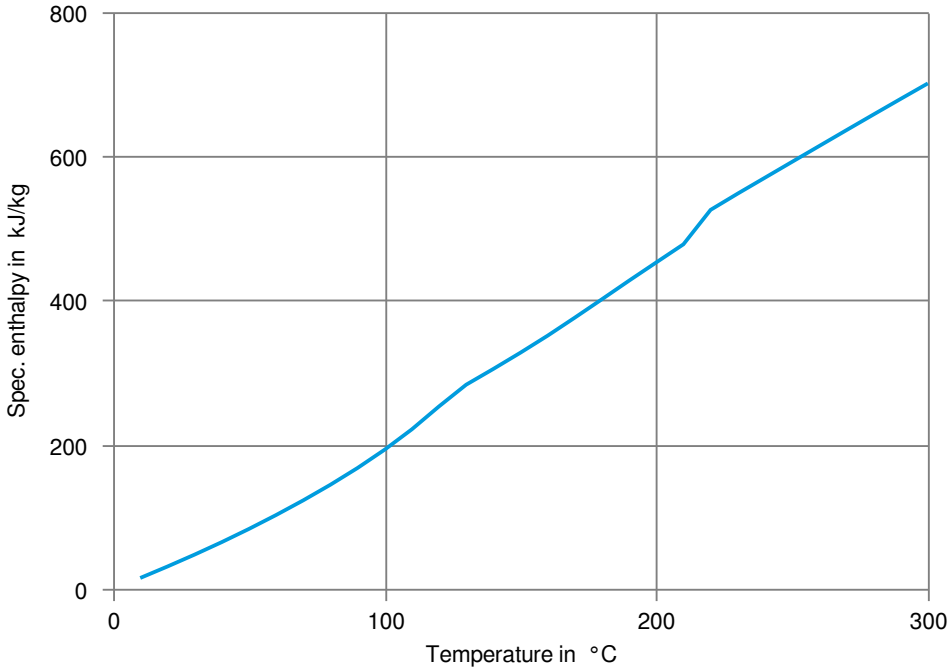
Spec. enthalpy/mass-temp. (DSC)



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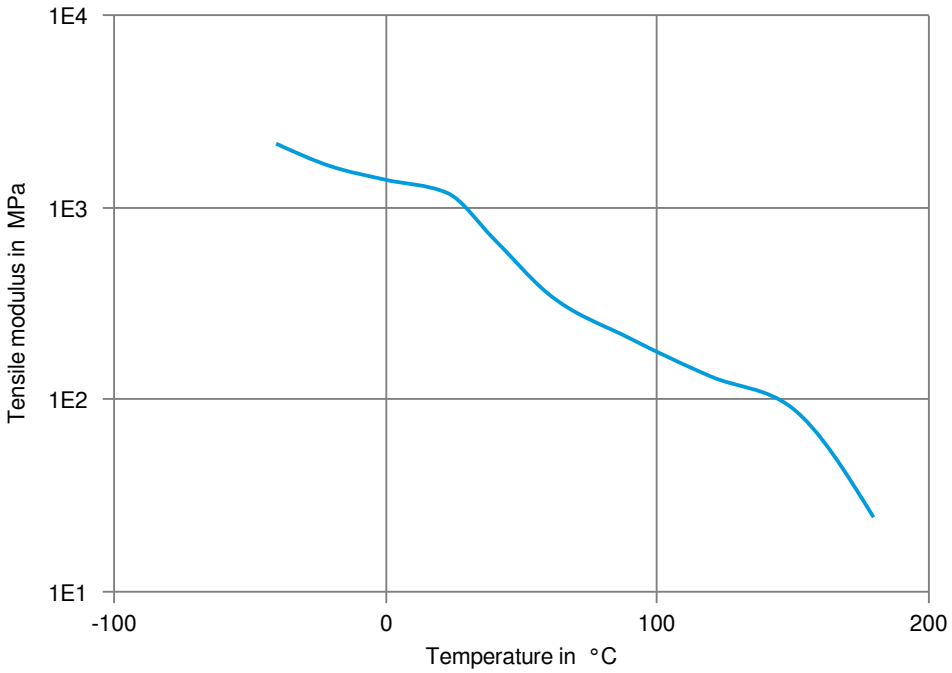
Tensile modulus-temperature (dry)



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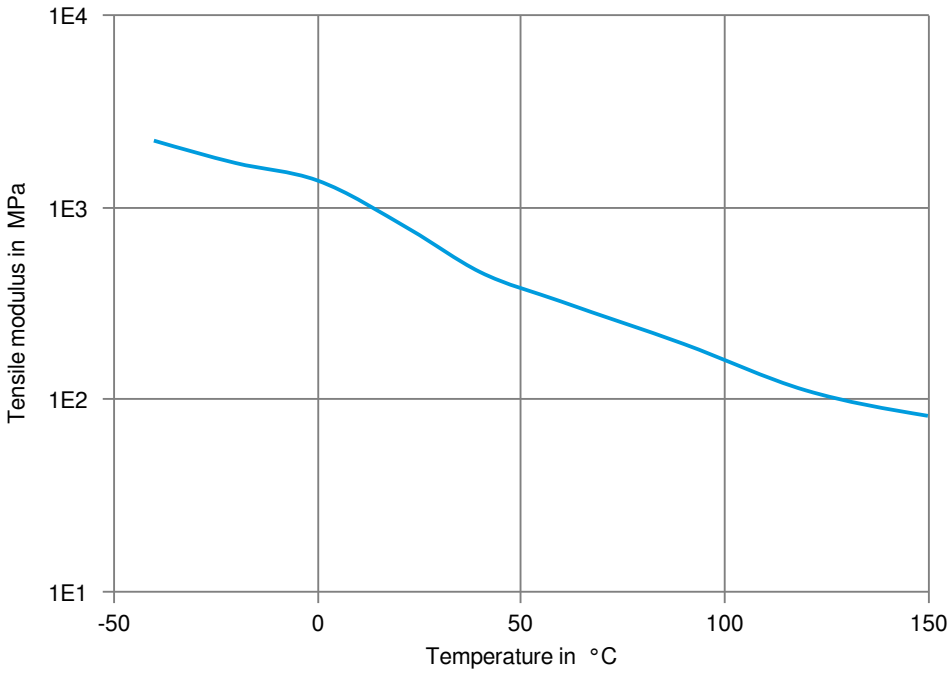
Tensile modulus-temperature (cond.)



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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).