Celanese
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HOSTAFORM® C 13031 ECO-C 872

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Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 04-002 POM copolymer Easy flowing Injection molding type like C 13021, but with higher strength, rigidity and hardness over the entire permissible temperature range for HOSTAFORM; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation. Monomers and additives are listed in EU-Regulation (EU) 10/2011 FDA compliant according to 21 CFR 177.2470 UL-registration for all colours and a thickness more than 1.5 mm as UL 94 HB; burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm. Ranges of applications: For molded parts with higher requirements to strength, rigidity und hardness, ranges of applications with fuel contact. FDA = Food and Drug Administration (USA) UL = Underwriters Laboratories (USA) FMVSS = Federal Motor Vehicle Safety Standard (USA)

ECO-C: Hostaform® POM C 13031 ECO-C 872 incorporates circular content derived from captured carbon dioxide emissions in the finished product through mass balance allocation. The product is a drop-in replacement to the standard grade with the same performance and processing properties and contributes to the displacement of virgin fossil fuel resources. The feedstock utilizing captured carbon dioxide emissions are ISCC CFC certified as low carbon intensity methanol.

Product information

Resin Identification	POM		ISO 1043
Part Marking Code	>POM<		ISO 11469

Rheological properties

Melt volume-flow rate	12	cm^3/10min	ISO 1133
Temperature	190	°C	
Load	2.16	kg	
Moulding shrinkage, parallel	2.0	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	3050	MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	68	MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	8	%	ISO 527-1/-2
Nominal strain at break	28	%	ISO 527-1/-2
Flexural modulus	3000	MPa	ISO 178
Flexural stress at 3.5%	78	MPa	ISO 178
Compressive stress at 1% strain	31	MPa	ISO 604
Tensile creep modulus, 1h	2750	MPa	ISO 899-1
Tensile creep modulus, 1000h	1450	MPa	ISO 899-1
Charpy impact strength, 23°C	200	kJ/m^2	ISO 179/1eU
Charpy impact strength, -30°C	200	kJ/m^2	ISO 179/1eU
Charpy notched impact strength, 23°C	6.7	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m^2	ISO 179/1eA
Ball indentation hardness, H 358/30	156	MPa	ISO 2039-1
Poisson's ratio	0.428		

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Thermal properties

Melting temperature, 10°C/min	170	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	107	°C	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	161	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	110	E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.155	W/(m K)	ISO 22007-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Burning Behav. at thickness h	HB	class	IEC 60695-11-10
Thickness tested	3	mm	IEC 60695-11-10
UL recognition	yes		UL 94

Electrical properties

Relative permittivity, 100Hz	4		IEC 62631-2-1
Relative permittivity, 1MHz	4		IEC 62631-2-1
Dissipation factor, 100Hz	20	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	50	E-4	IEC 62631-2-1
Volume resistivity	1E12	Ohm.m	IEC 62631-3-1
Surface resistivity	1E14	Ohm	IEC 62631-3-2
Electric strength	35	kV/mm	IEC 60243-1
Comparative tracking index	600		IEC 60112

Physical/Other properties

Humidity absorption, 2mm	0.2	%	Sim. to ISO 62
Water absorption, 2mm	0.65	%	Sim. to ISO 62
Density	1410	kg/m³	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	100	°C
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	200	°C
Min. melt temperature	190	°C
Max. melt temperature	210	°C
Screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	100	°C
Min. mould temperature	80	°C
Max. mould temperature	120	°C
Hold pressure range	60 - 120	MPa
Back pressure	4	MPa
Ejection temperature	136	°C

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Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Sustainability	Carbon Capture

Additional information

Injection molding

Preprocessing

General drying is not necessary due to low moisture absorption of the resin.

In case of bad storage conditions (water contact or condensed water) the use of a recirculating air dryer (100 to 120 °C / max. 40 mm layer / 3 to 6 hours) is recommended.

Max. Water content 0,2 %

Processing

Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.

Postprocessing

Conditioning e.g. moisturizing is not necessary.

Processing Notes

Pre-Drying

Drying is not normally required. If material has come in contact with moisture through improper storage or handling or through regrind use, drying may be necessary to prevent splay and odor problems.

Storage

The product can then be stored in standard conditions until processed.

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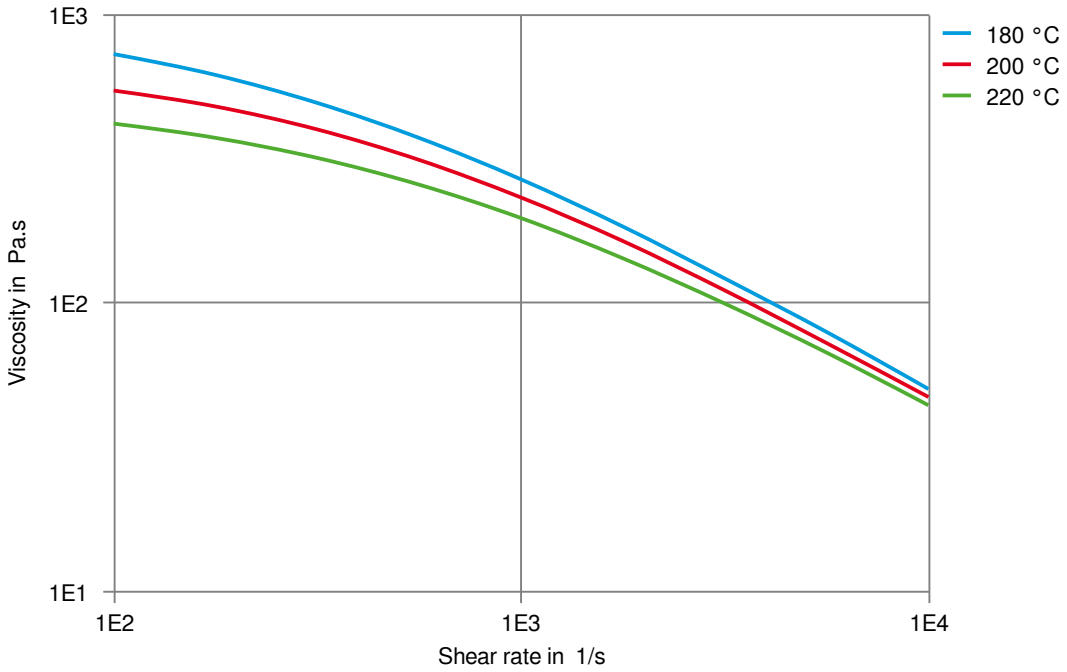
Viscosity-shear rate



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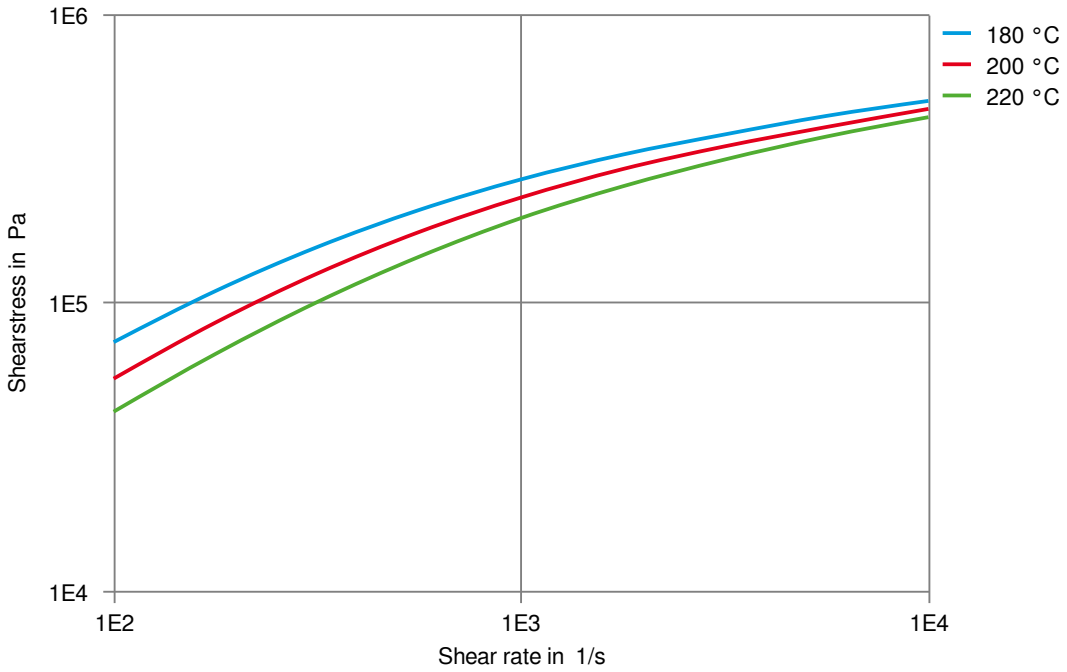
Shearstress-shear rate



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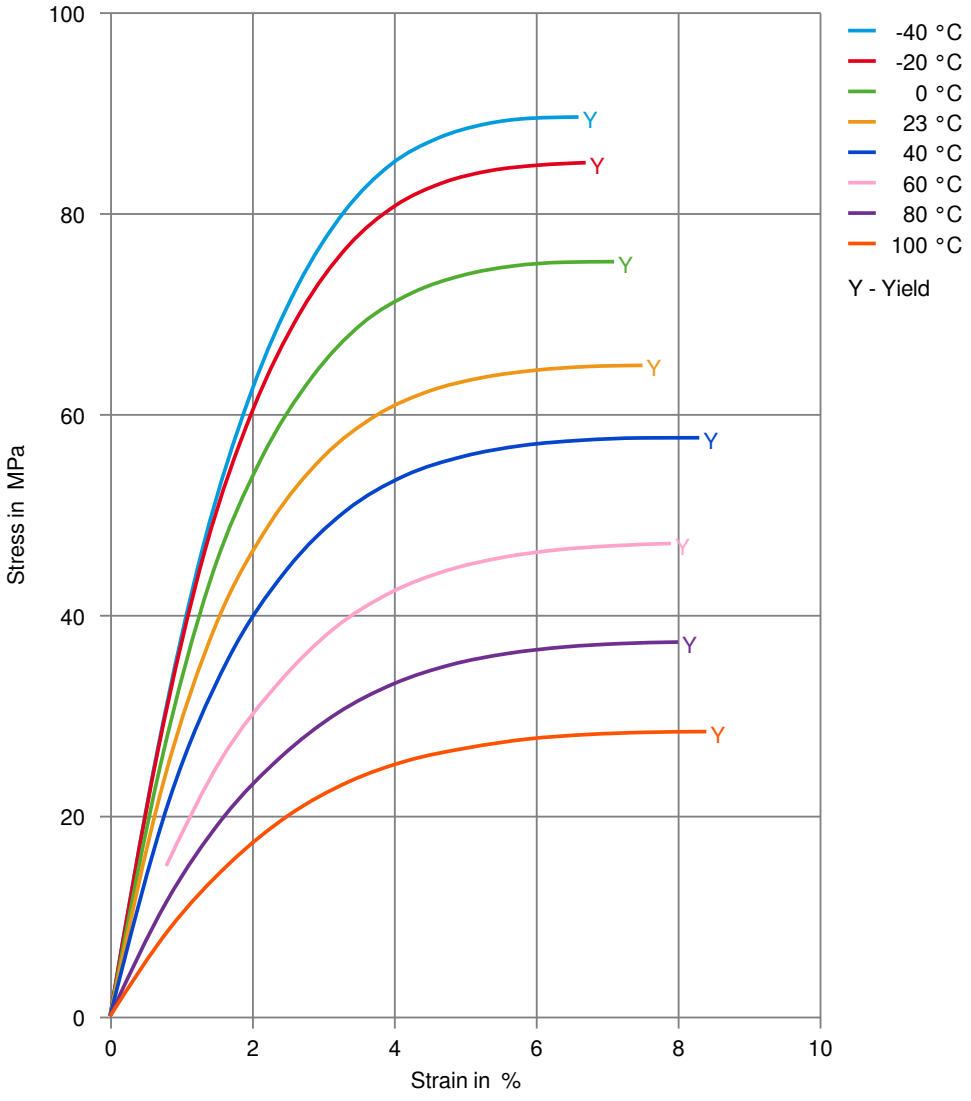
Stress-strain



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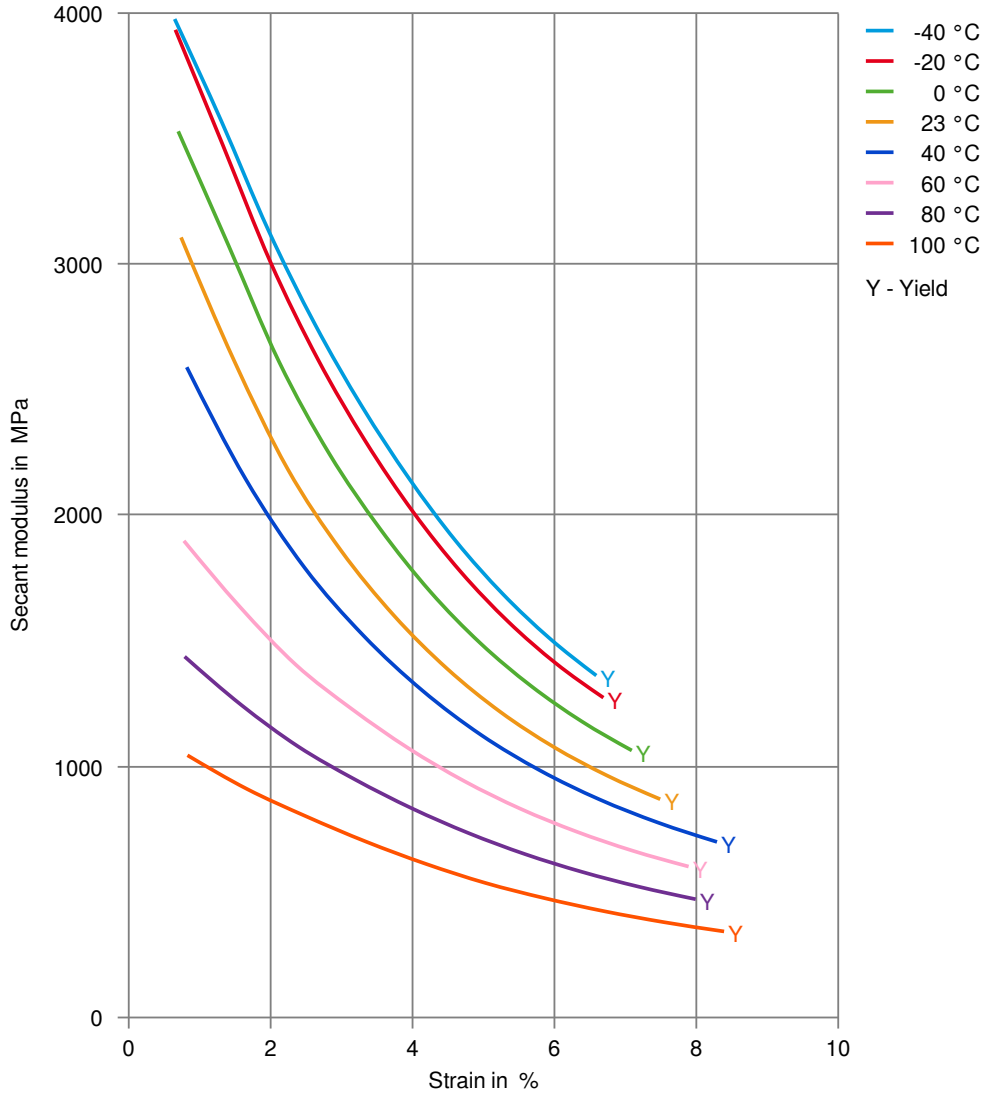
Secant modulus-strain



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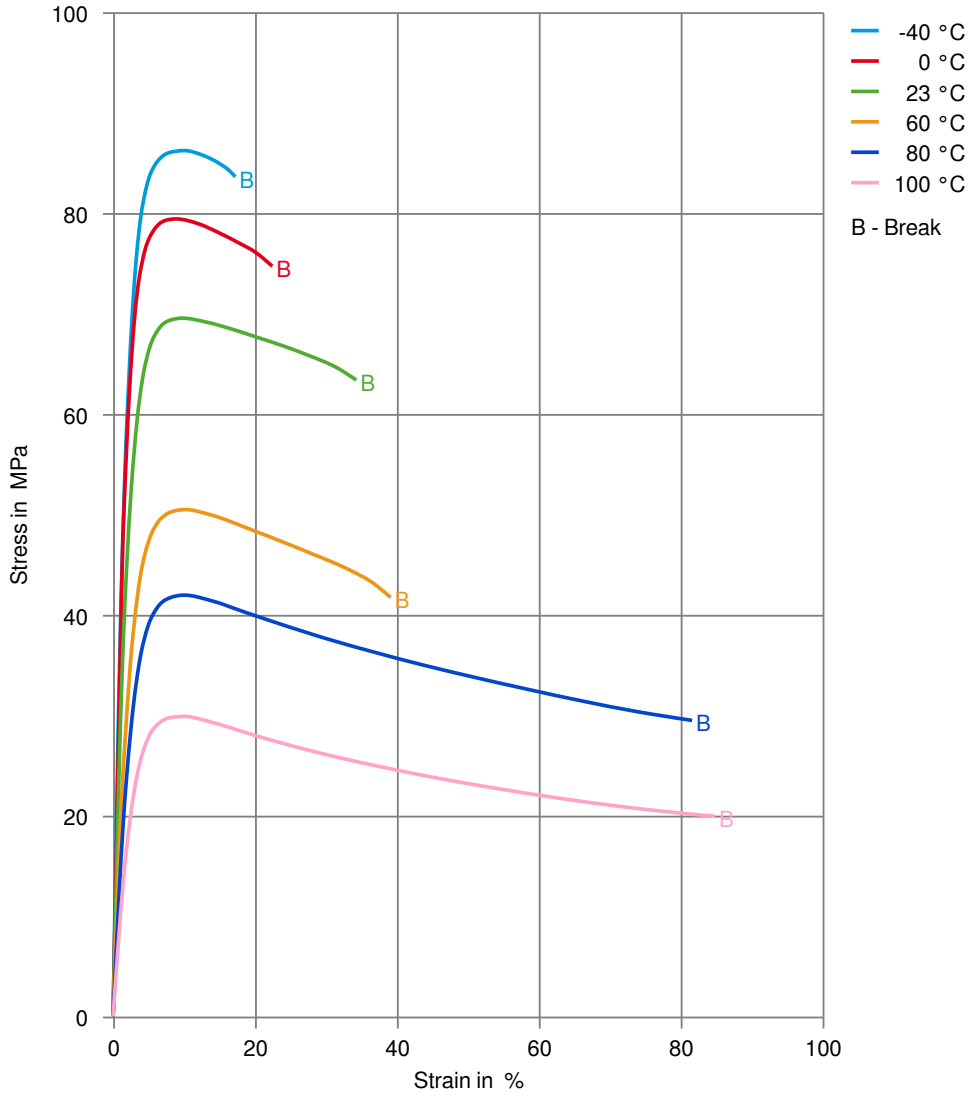
Stress-strain, 50mm/min



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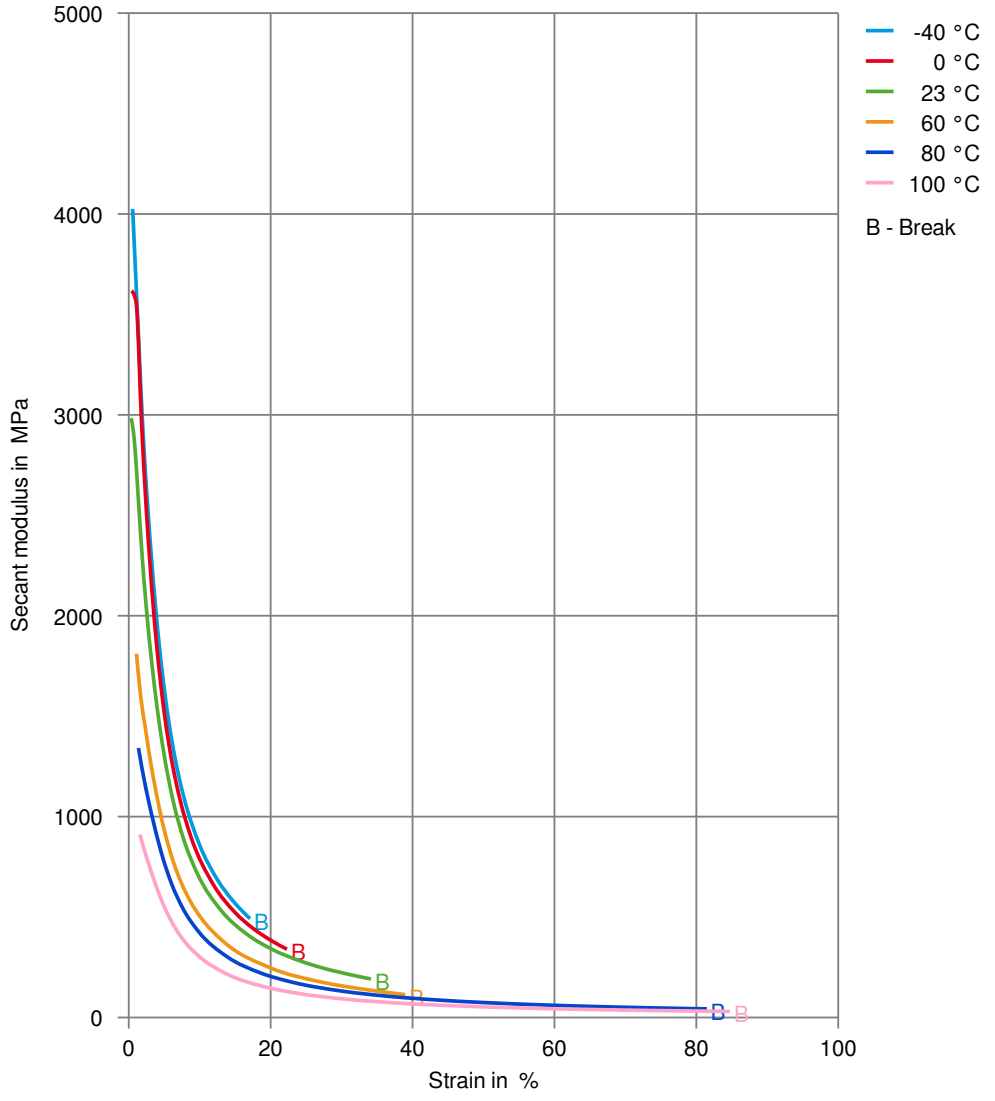
Secant modulus-strain, 50mm/min



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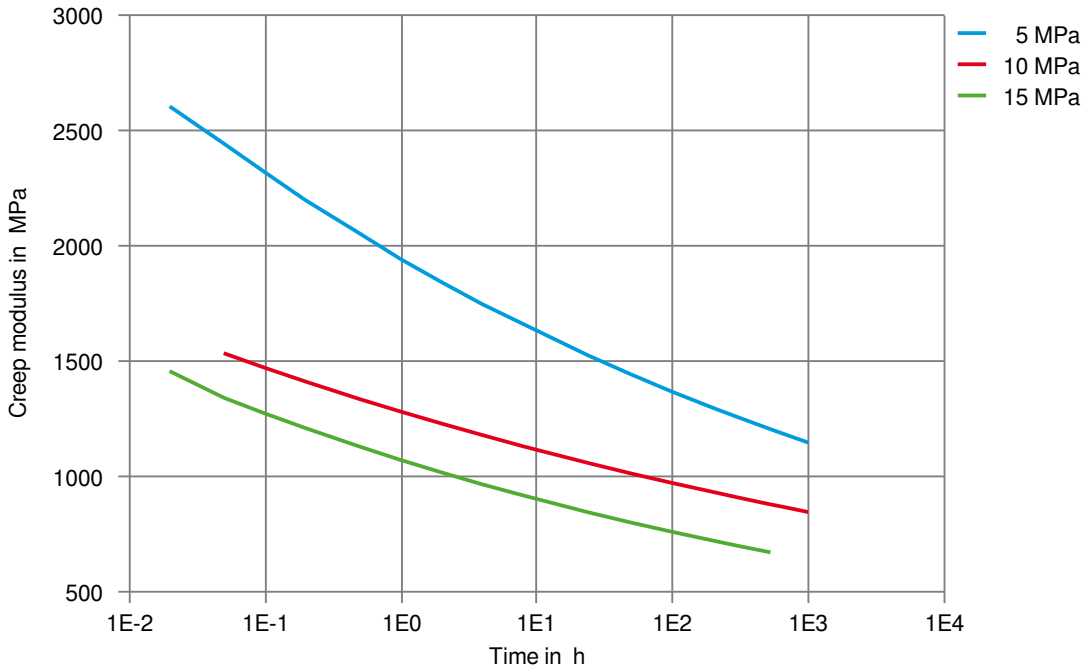
Creep modulus-time 80 °C



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Creep strain-time 80 °C