

# HOSTAFORM® C 27021 ECO-C 872

## HOSTAFORM®

Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 05-002 POM copolymer Very easy flowing Injection molding type with high rigidity and hardness; 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, temperature index UL 746 B electrical 110°C, mechanical 90°C. Burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm. Ranges of applications: thin-walled molded parts with unfavourable flow-path-wall thickness relation; multicavity moulds; complicated precision molded parts; short cycle time. FDA = Food and Drug Administration (USA) FMVSS = Federal Motor Vehicle Safety Standard (USA) UL = Underwriters Laboratories (USA)

ECO-C: Hostaform® POM C 27021 ECO-C 872 NATURAL 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	24 cm <sup>3</sup> /10min	ISO 1133
Temperature	190 °C	
Load	2.16 kg	
Moulding shrinkage, parallel	1.9 %	ISO 294-4, 2577
Moulding shrinkage, normal	1.8 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile modulus	2900 MPa	ISO 527-1/-2
Tensile stress at yield, 50mm/min	65 MPa	ISO 527-1/-2
Tensile strain at yield, 50mm/min	7.5 %	ISO 527-1/-2
Nominal strain at break	17 %	ISO 527-1/-2
Flexural modulus	2750 MPa	ISO 178
Flexural stress at 3.5%	73 MPa	ISO 178
Tensile creep modulus, 1h	2500 MPa	ISO 899-1
Tensile creep modulus, 1000h	1300 MPa	ISO 899-1
Charpy impact strength, 23°C	170 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	170 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	5.5 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	5.5 kJ/m <sup>2</sup>	ISO 179/1eA
Ball indentation hardness, H 358/30	147 MPa	ISO 2039-1
Poisson's ratio	0.406	

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### Thermal properties

Melting temperature, 10 °C/min	166 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	106 °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	25 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/m <sup>3</sup>	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
Special characteristics	High Flow
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.

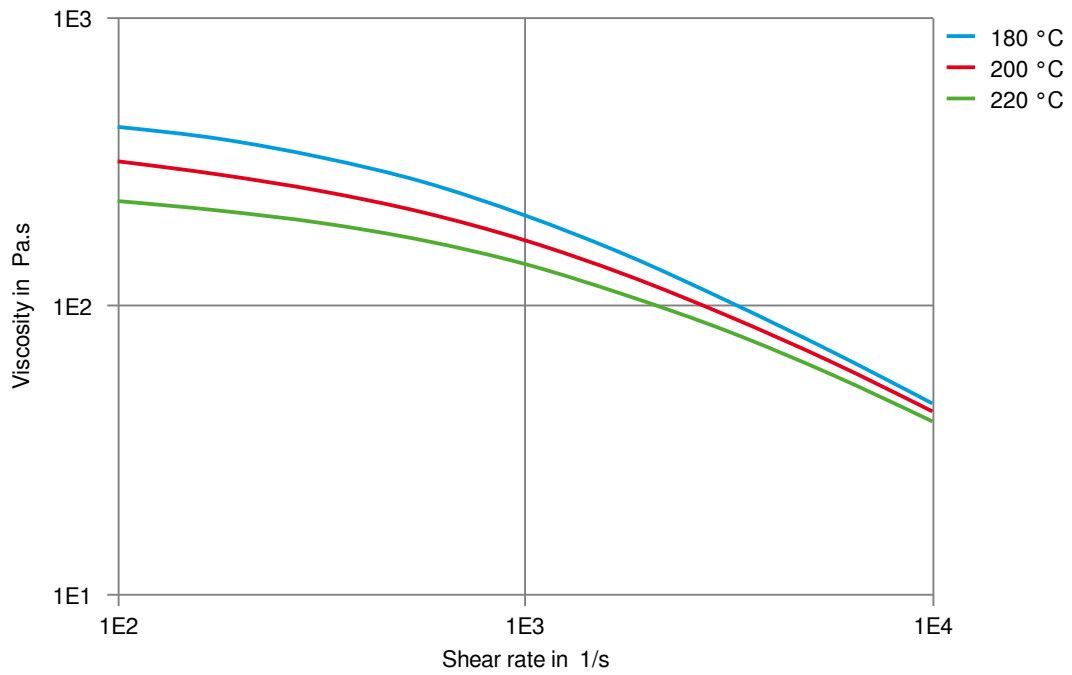
### Storage

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

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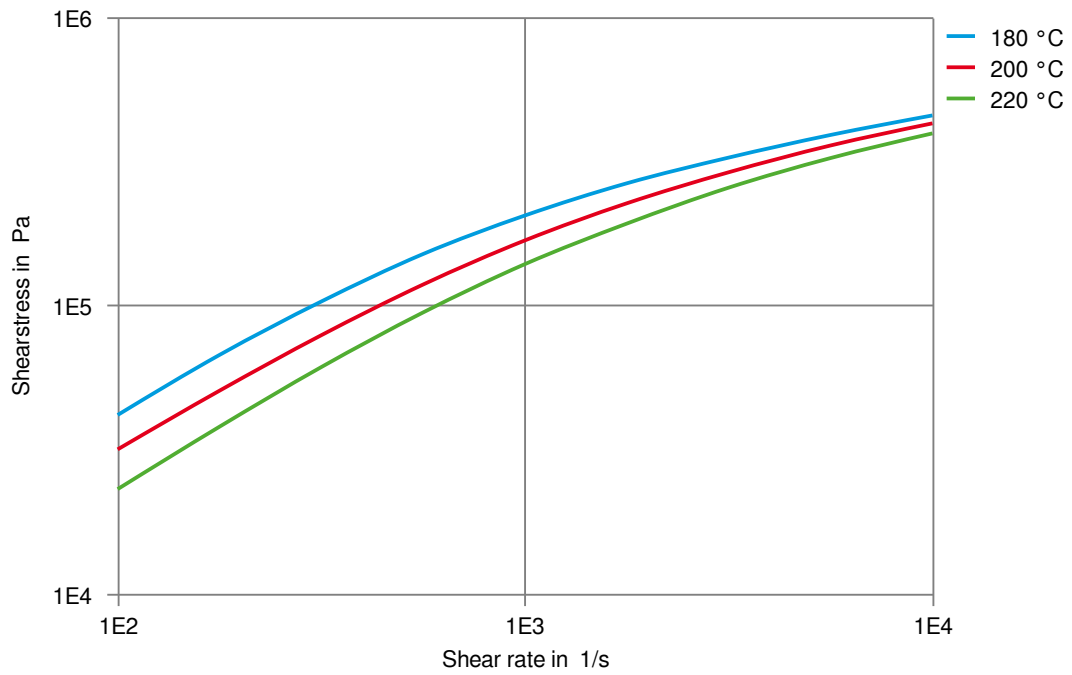
## Viscosity-shear rate



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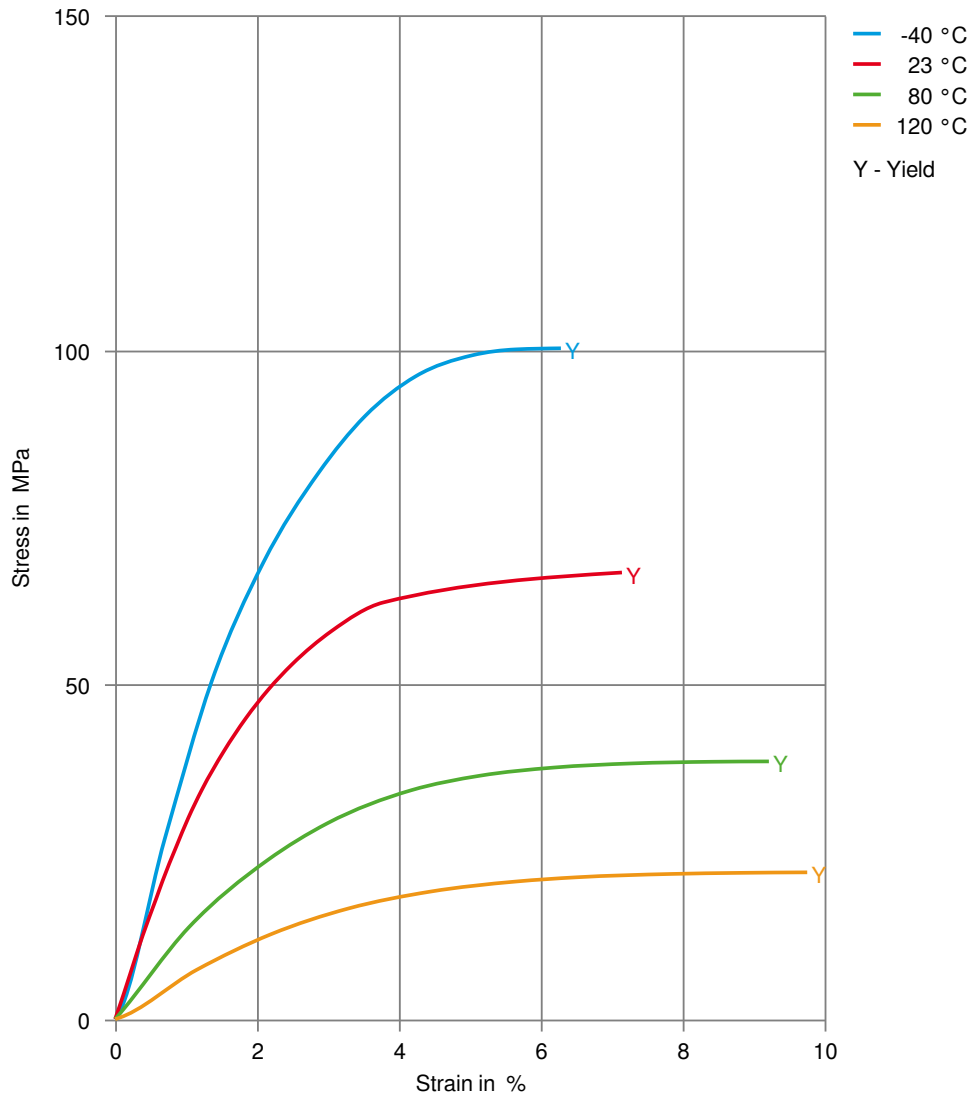
## Shearstress-shear rate



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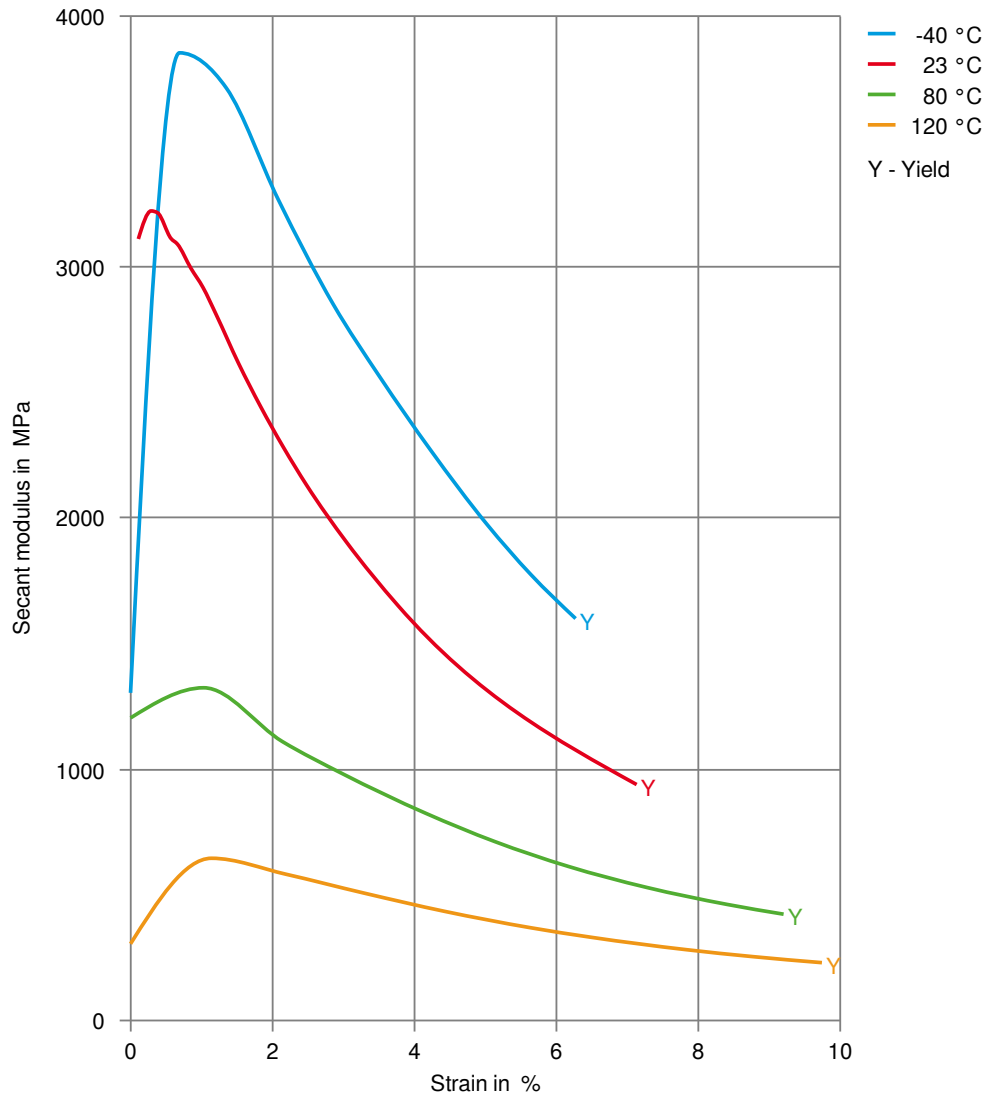
## Stress-strain



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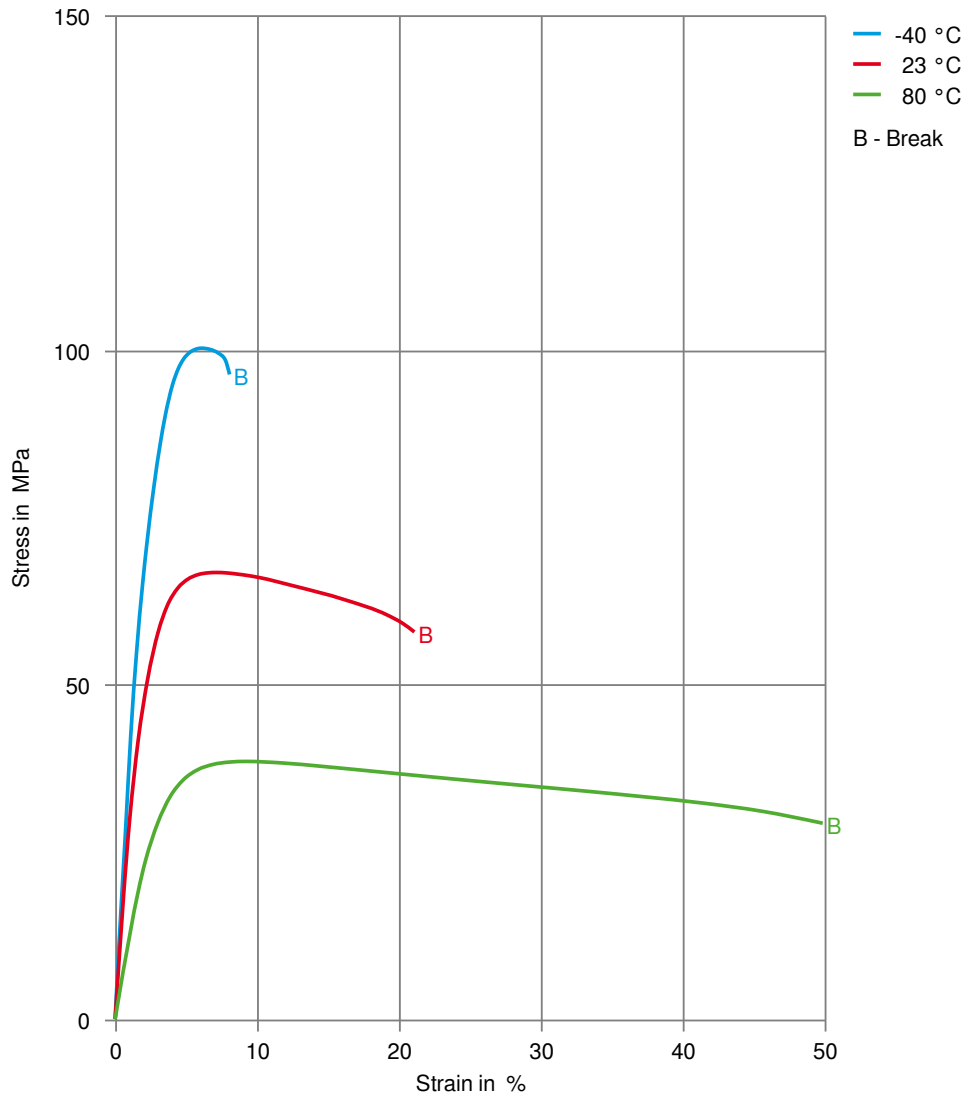
## Secant modulus-strain



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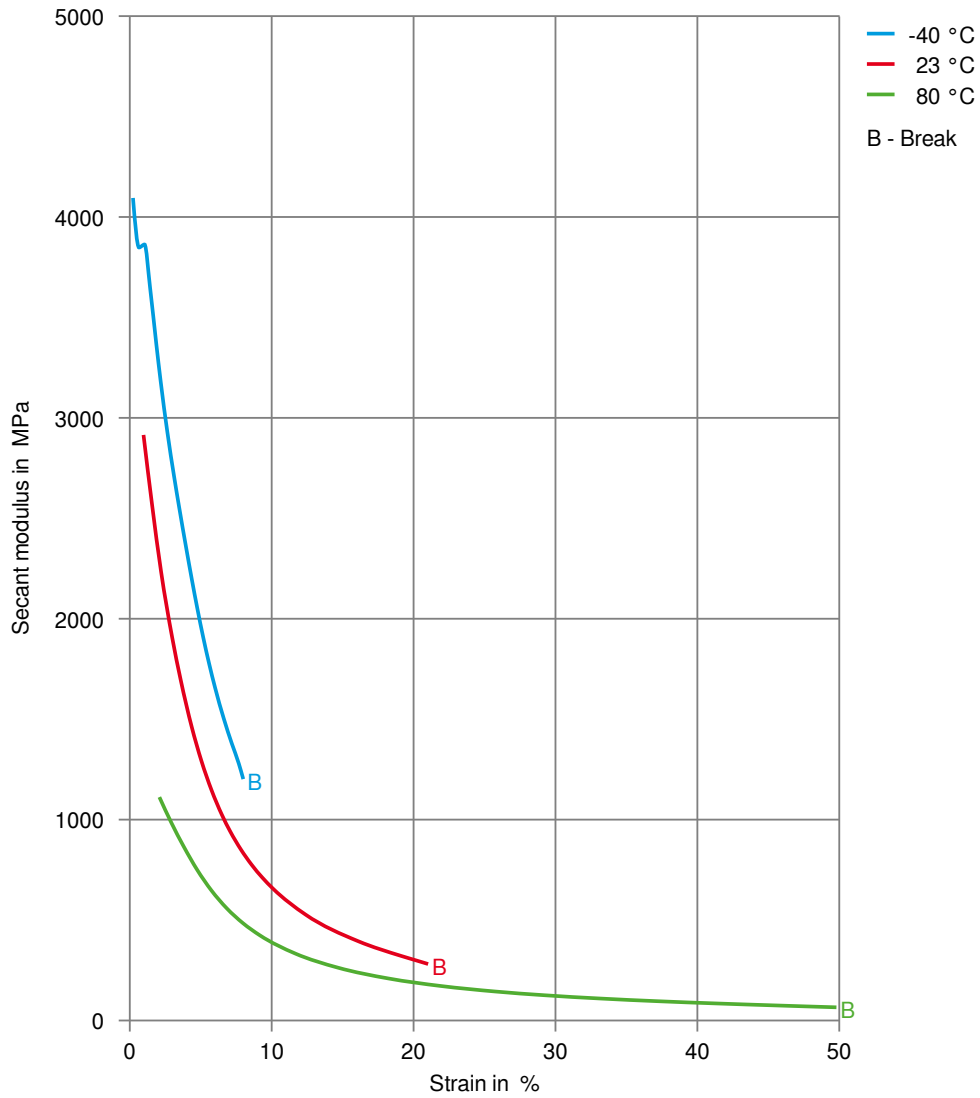
## Stress-strain, 50mm/min



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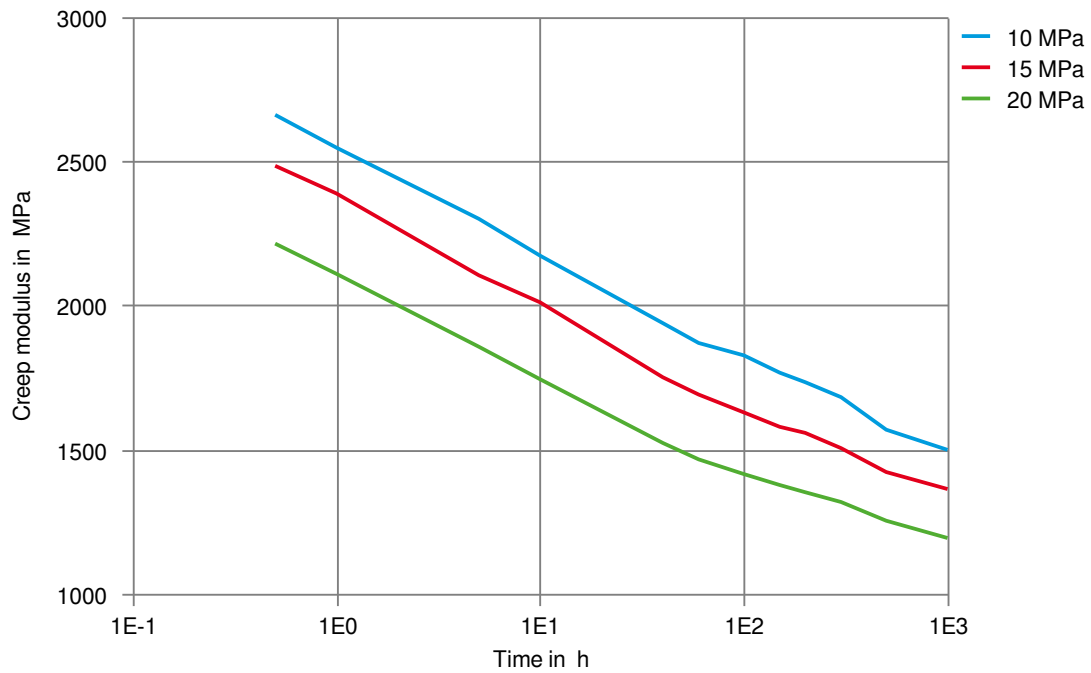
Secant modulus-strain, 50mm/min



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Creep modulus-time 23°C



# HOSTAFORM® C 27021 ECO-C 872

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Creep strain-time 23°C

