Celanese
The chemistry inside innovation™

# HOSTAFORM® C 27021

## 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 unfavourite 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)

## Product information

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

## Rheological properties

| | | | |
|---|---|---|---|
| Melt volume-flow rate | 24 | $cm^3$/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 | $kJ/m^2$ | ISO 179/1eU |
| Charpy impact strength, -30 °C | 170 | $kJ/m^2$ | ISO 179/1eU |
| Charpy notched impact strength, 23 °C | 5.5 | $kJ/m^2$ | ISO 179/1eA |
| Charpy notched impact strength, -30 °C | 5.5 | $kJ/m^2$ | ISO 179/1eA |
| Ball indentation hardness, H 358/30 | 147 | MPa | ISO 2039-1 |
| Poisson's ratio | 0.406 | | |

## 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 |

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## 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/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 |

## Characteristics

| | |
|---|---|
| Processing | Injection Moulding |
| Delivery form | Pellets |
| Additives | Release agent |
| Special characteristics | High Flow |

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## 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.

## Automotive

| OEM | STANDARD | ADDITIONAL INFORMATION |
|---|---|---|
| BMW | GS93016 | |
| Bosch | N28 BN22-O028 | Natural, Made In Frankfurt |
| Bosch | N28 BN22-O028 | Black, Made In Frankfurt |
| Continental | TST N 055 54.12 | |
| Continental | TST N 055 54.12 | (TST N 055 54.12-001) |
| Continental | TST N 055 54.12 | (TST N 055 54.12-005) + 4 % HOSTAFORM FK 33 (Grey Coloured Masterbatch) |
| Continental | TST N 055 54.12 | (TST N 055 54.12-004) + 4 % HOSTAFORM FK 87 (Blue Coloured Masterbatch) |
| Ford | WSK-M4D635-A3 | Natural |

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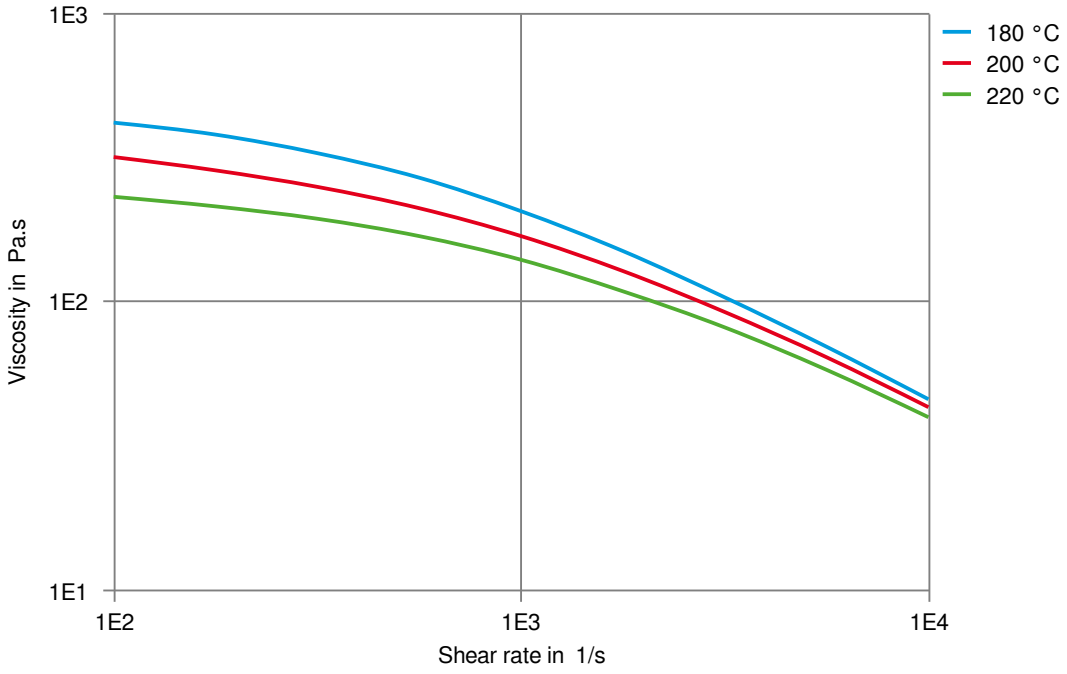
| | | |
|---|---|---|
| Ford | WSK-M4D635-A3 | Black |
| Nissan | POM-IHx-1 | |

## Viscosity-shear rate



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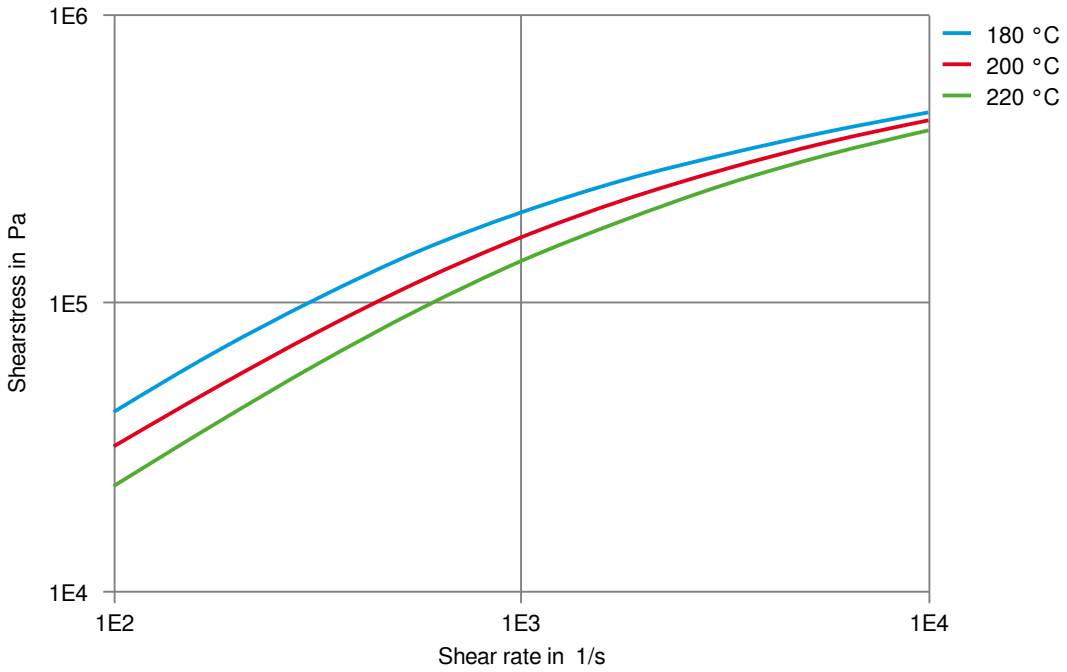
## Shearstress-shear rate



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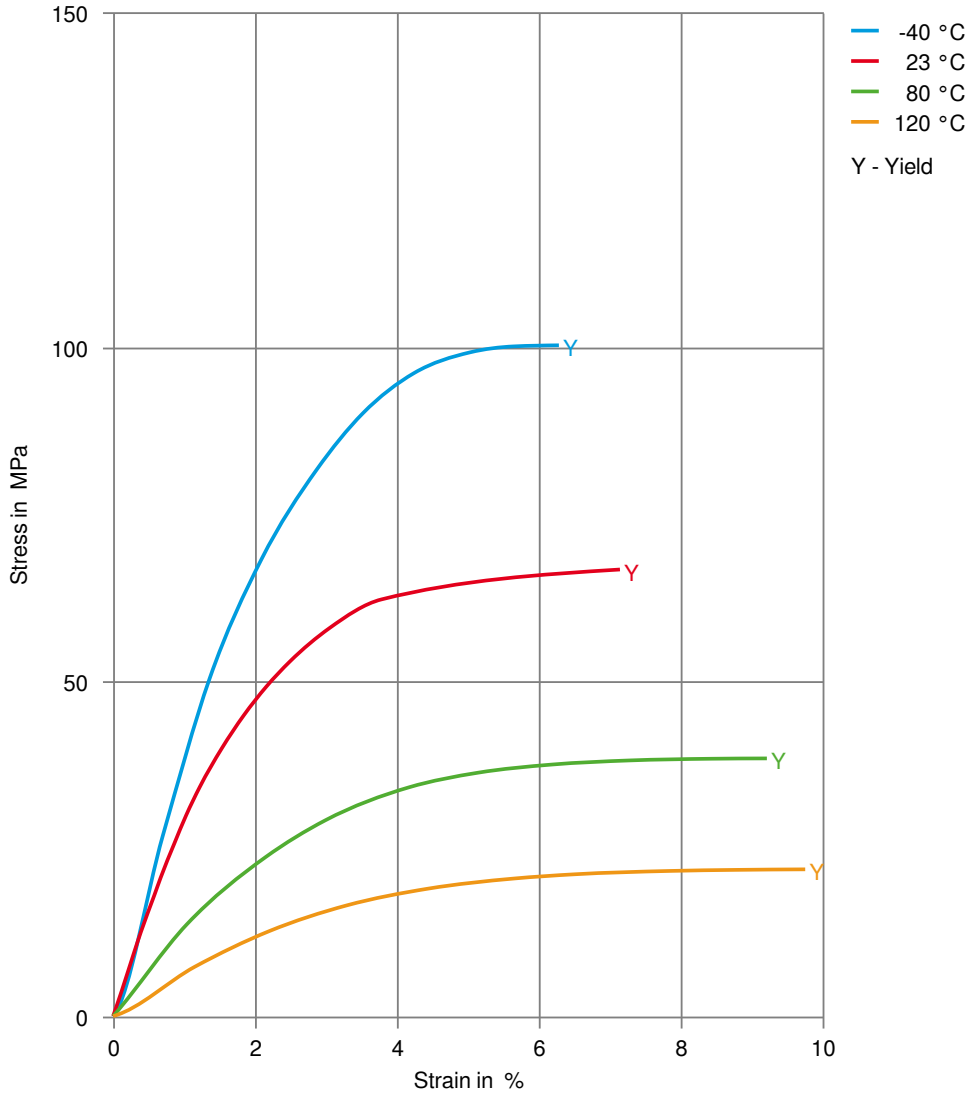
## Stress-strain



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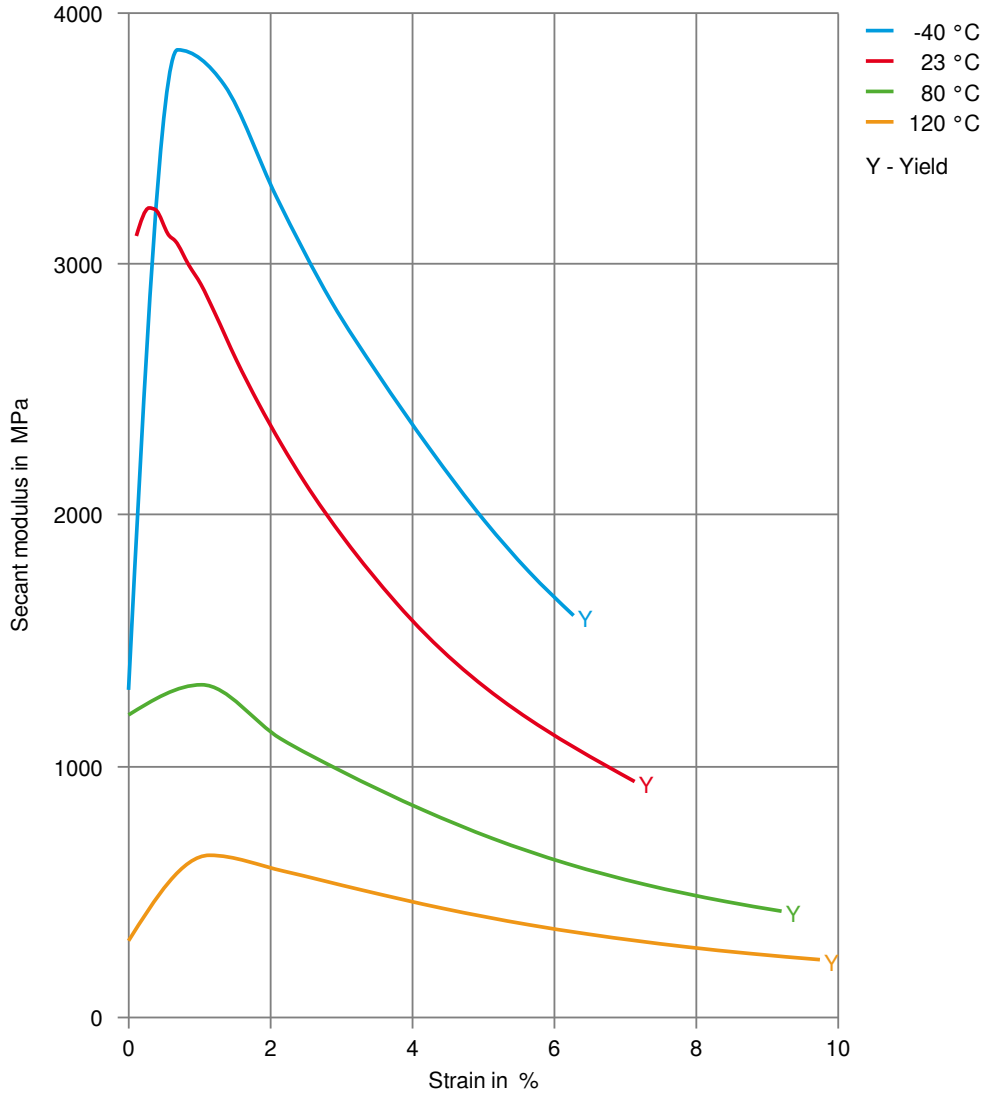
## Secant modulus-strain



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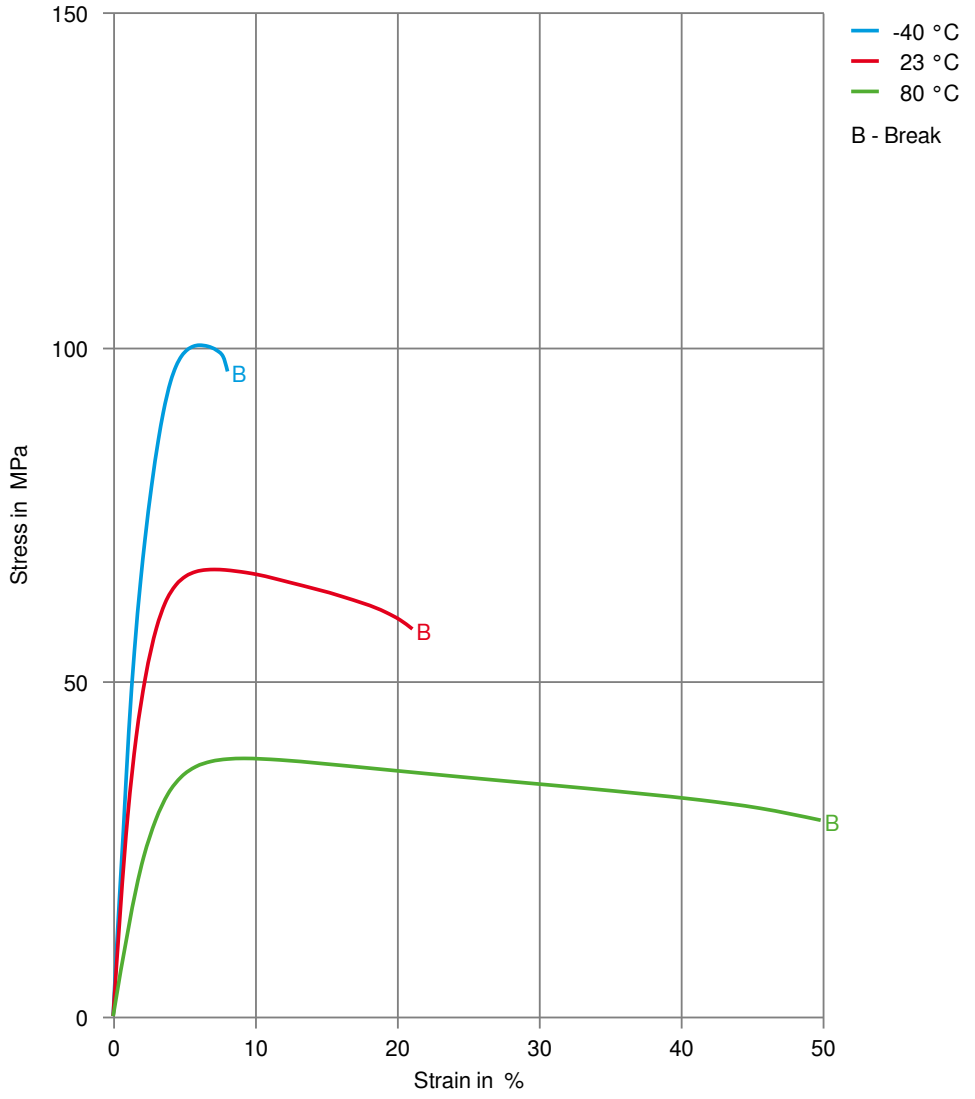
## Stress-strain, 50mm/min



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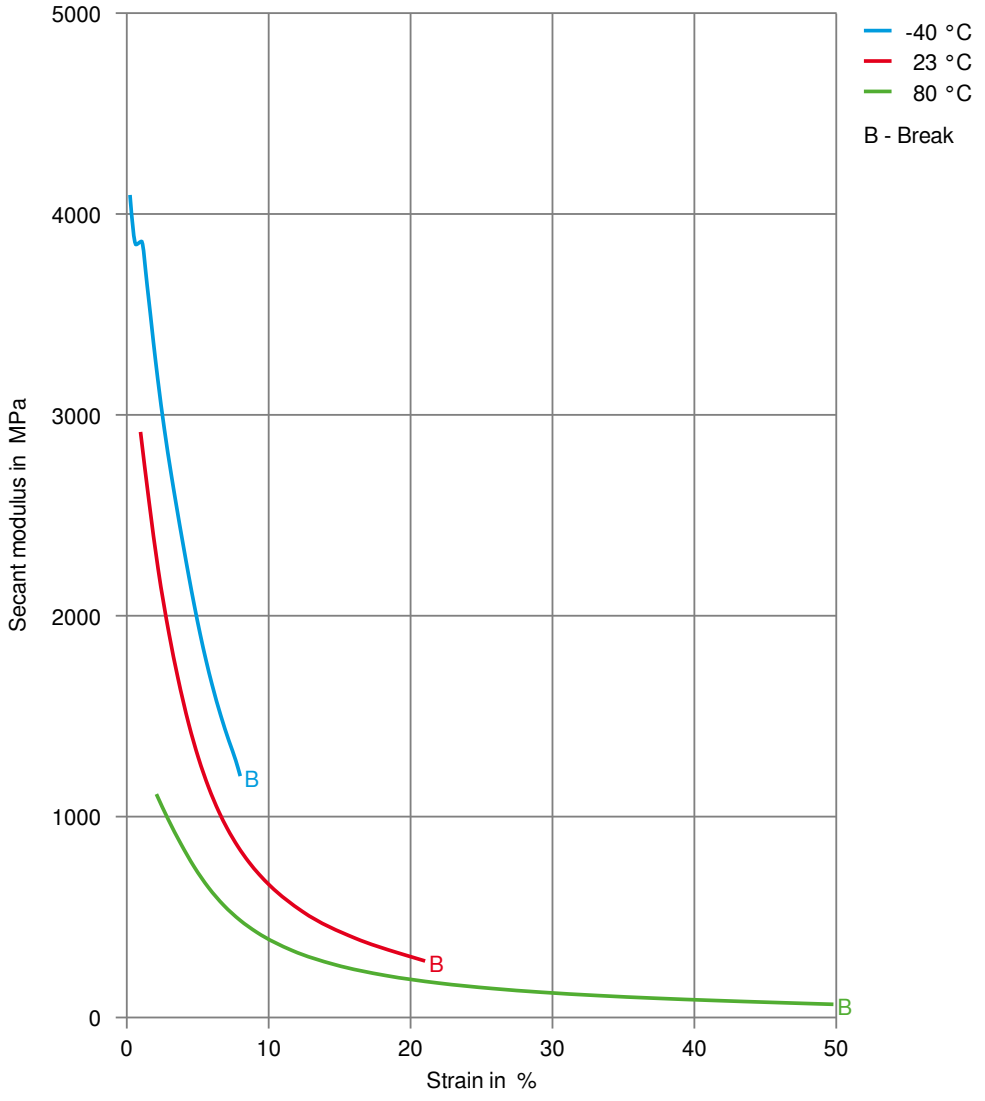
## Secant modulus-strain, 50mm/min



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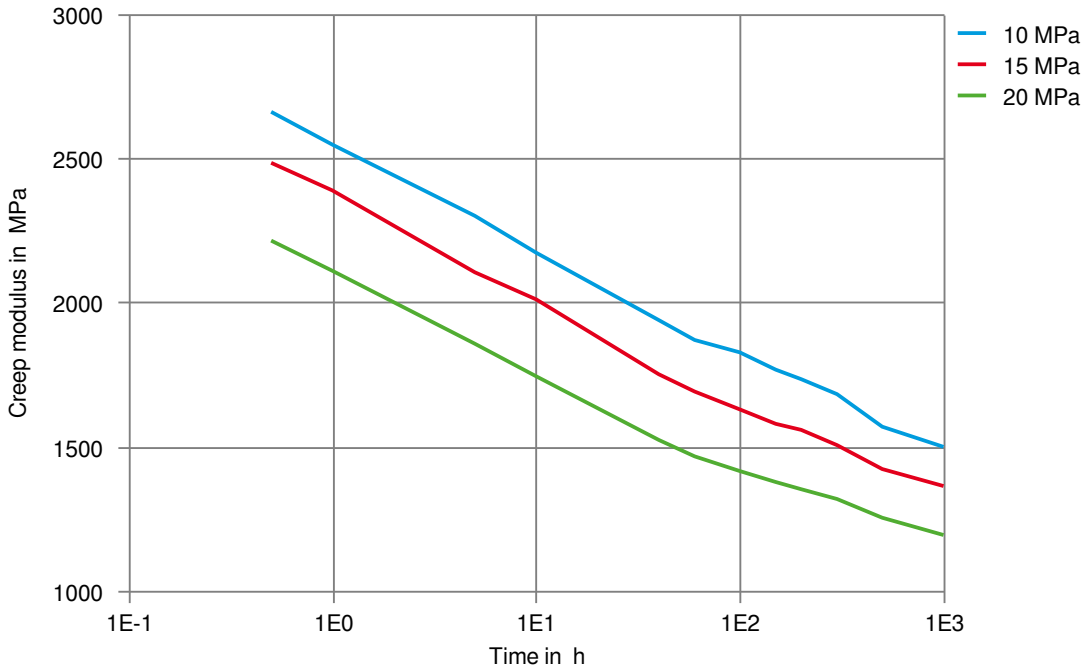
## Creep modulus-time 23 °C



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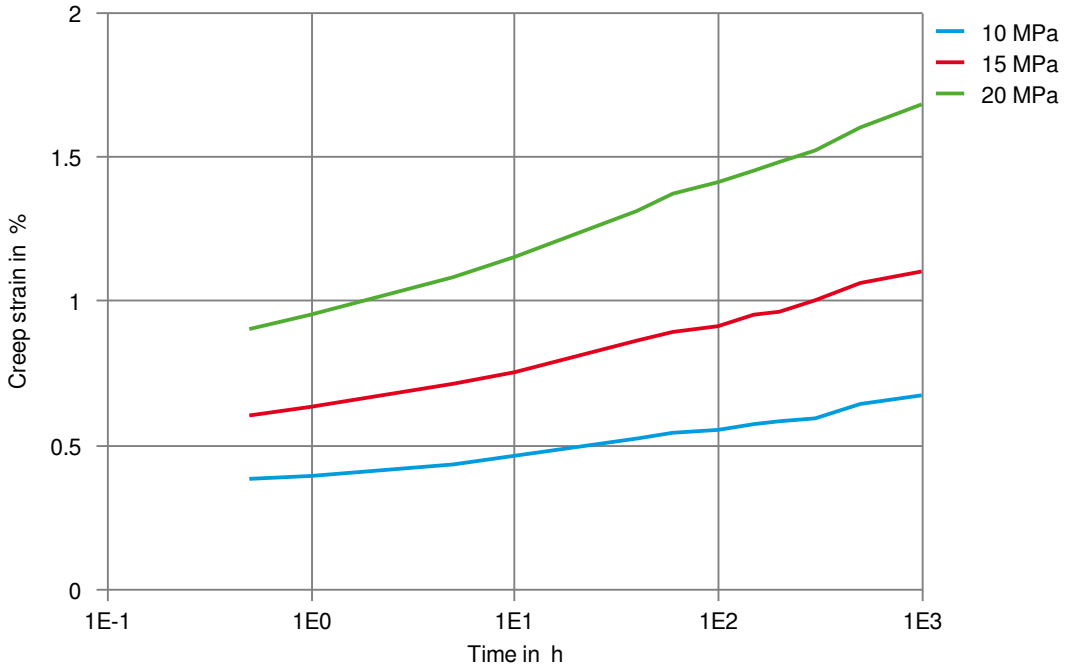
## Creep strain-time 23 °C



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