

CELANEX® 2406MT GF20

CELANEX® PBT

Celanex 2406MT GF20 is a 20% glass fiber reinforced, tribologically-modified, medium flow PBT + PET blend grade for injection molding processing.

Celanex 2406MT GF20 is a special grade developed for medical industry applications and complies with:

- CFR 21 (177.1660) of the Food and Drug Administration (FDA) and is listed in the Drug Master File (DMF 10047 (US) / 10033 (EU)) and the Device Master File (MAF 443 (US) / 1078 (EU))
- the corresponding EU and national registry regulatory requirements
- biocompatibility in tests corresponding to USP 23 Class VI/ISO 10993
- low residual monomers
- no animal products

Product information

Resin Identification	(PBT+PET)-GF2	ISO 1043
	0	
Part Marking Code	>(PBT+PET)-GF20<	ISO 11469

Rheological properties

Melt volume-flow rate	13 cm ³ /10min	ISO 1133
Temperature	265 °C	
Load	2.16 kg	
Moulding shrinkage range, parallel	0.3 - 0.5 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.7 - 0.9 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	7600 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	125 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3 %	ISO 527-1/-2
Flexural modulus	7500 MPa	ISO 178
Flexural strength	190 MPa	ISO 178
Charpy impact strength, 23°C	65 kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	55 kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	10 kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	9.5 kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	10 kJ/m ²	ISO 180/1A
Izod impact strength, 23°C	47 kJ/m ²	ISO 180/1U
Poisson's ratio	0.34 ^[C]	

[C]: Calculated

Thermal properties

Melting temperature, 10°C/min	255 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	205 °C	ISO 75-1/-2

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Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	IEC 60695-11-10
Thickness tested	1.6 mm	IEC 60695-11-10
Burning Behav. at thickness h	HB class	IEC 60695-11-10
Thickness tested	0.8 mm	IEC 60695-11-10

Physical/Other properties

Humidity absorption, 2mm	0.15 %	Sim. to ISO 62
Water absorption, 2mm	0.4 %	Sim. to ISO 62
Density	1470 kg/m ³	ISO 1183

Injection

Drying Recommended	yes
Drying Temperature	140 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.02 %
Melt Temperature Optimum	265 °C
Min. melt temperature	255 °C
Max. melt temperature	275 °C
Screw tangential speed	0.1 - 0.3 m/s
Mold Temperature Optimum	100 °C
Min. mould temperature	90 °C
Max. mould temperature	130 °C
Ejection temperature	190 °C

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	High Gloss, Low wear / Low friction

Additional information

Injection molding

To minimize the volatile content in the final product, dry the resin to ≤0.01% water content. In injection molding, use the lowest possible melt temperature (recommended 240 °C) and shortest feasible residence time (recommended 2-3 minutes). Store the parts in a ventilated, clean area before use. If assistance is needed please contact your Celanese account representative.

These recommendations are based on internal Celanese testing. For drying and injection molding conditions outside the above parameters, customer must test for and verify suitably low volatiles emissions on molded articles to confirm the final product is suitably pure for its intended use.

Processing Notes

Pre-Drying

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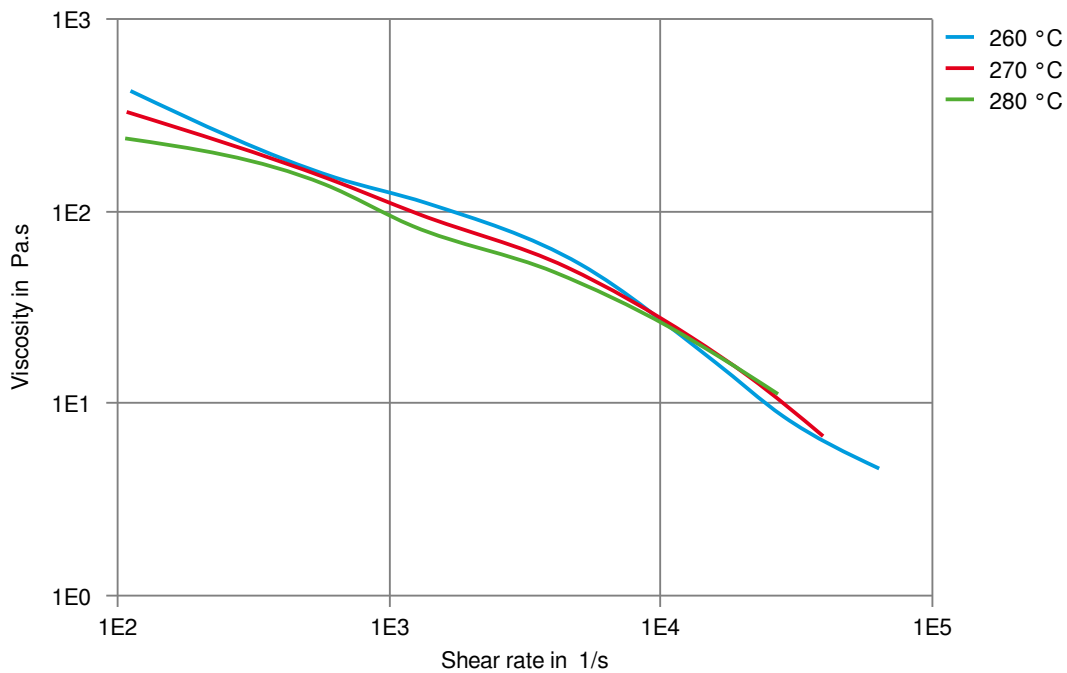
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To avoid hydrolytic degradation during processing, CELANEX resins have to be dried to a moisture level equal to or less than 0.01%. Drying should be done in a dehumidifying hopper dryer capable of dewpoints <-40° C (-40° F) at 140° C (284° F) for 4-6 hours.

Storage

For subsequent storage of the material in the dryer until processed (<= 60 h) it is necessary to lower the temperature to 100° C.

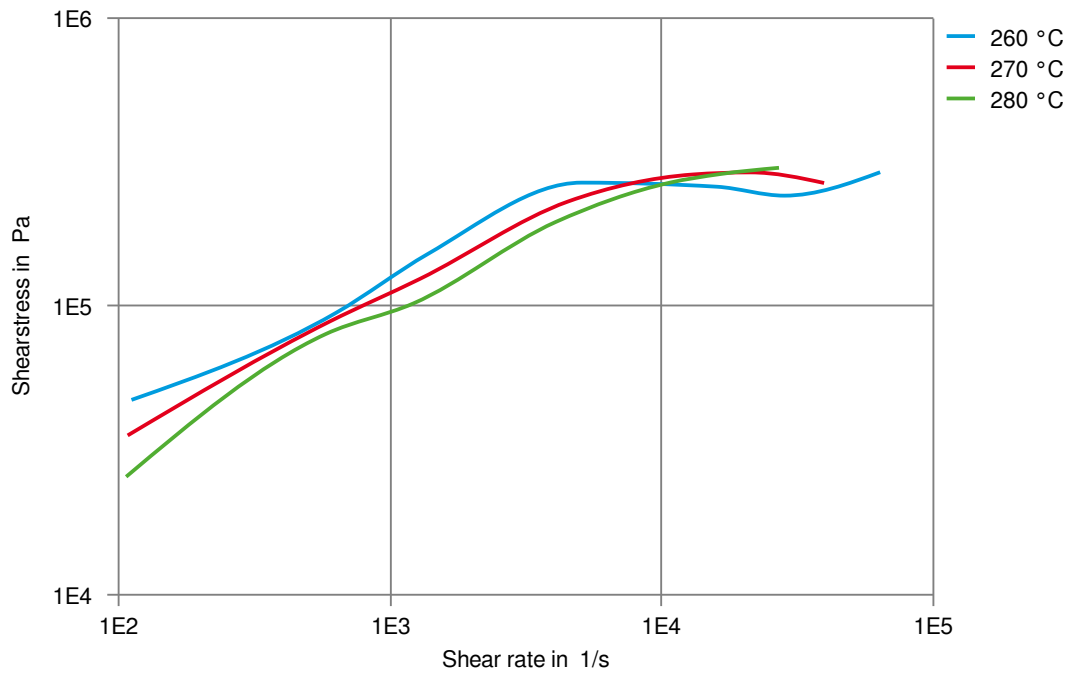
Viscosity-shear rate



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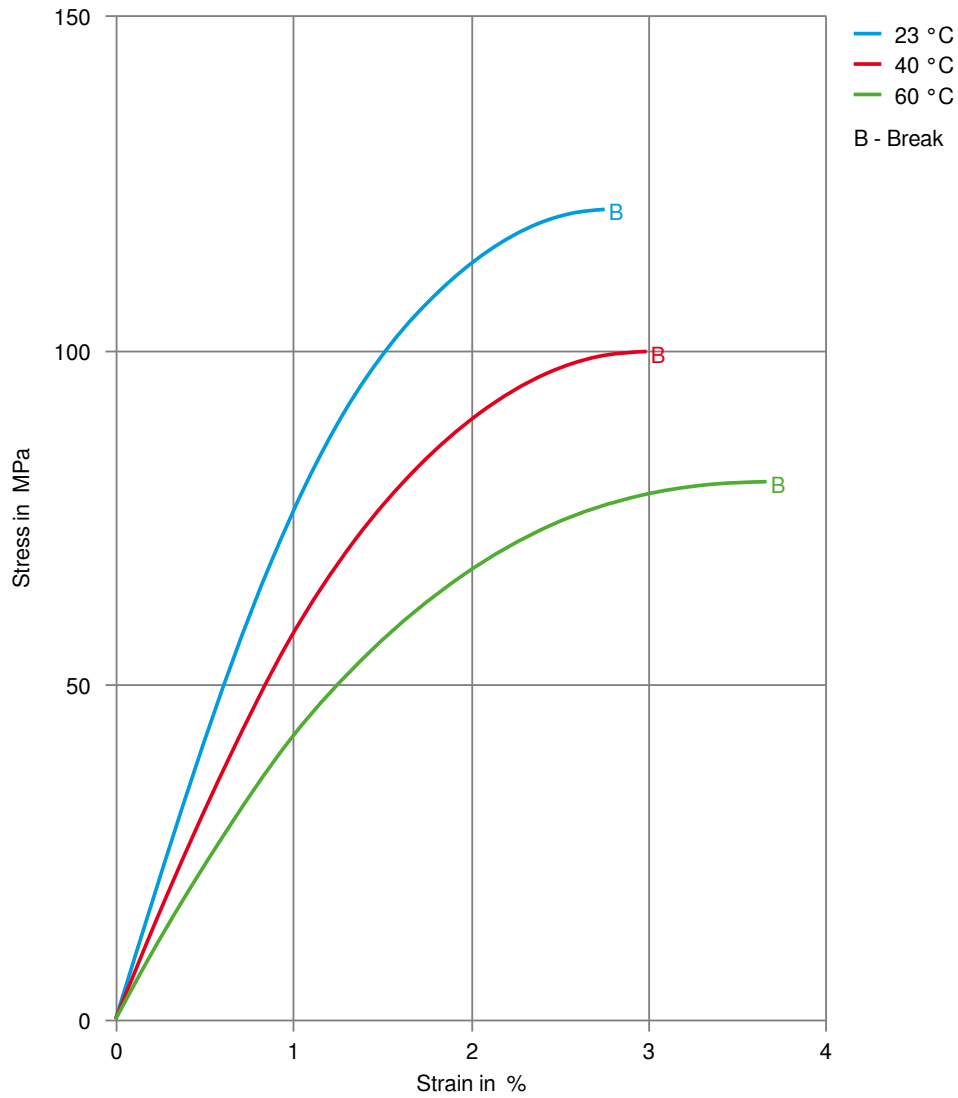
Shearstress-shear rate



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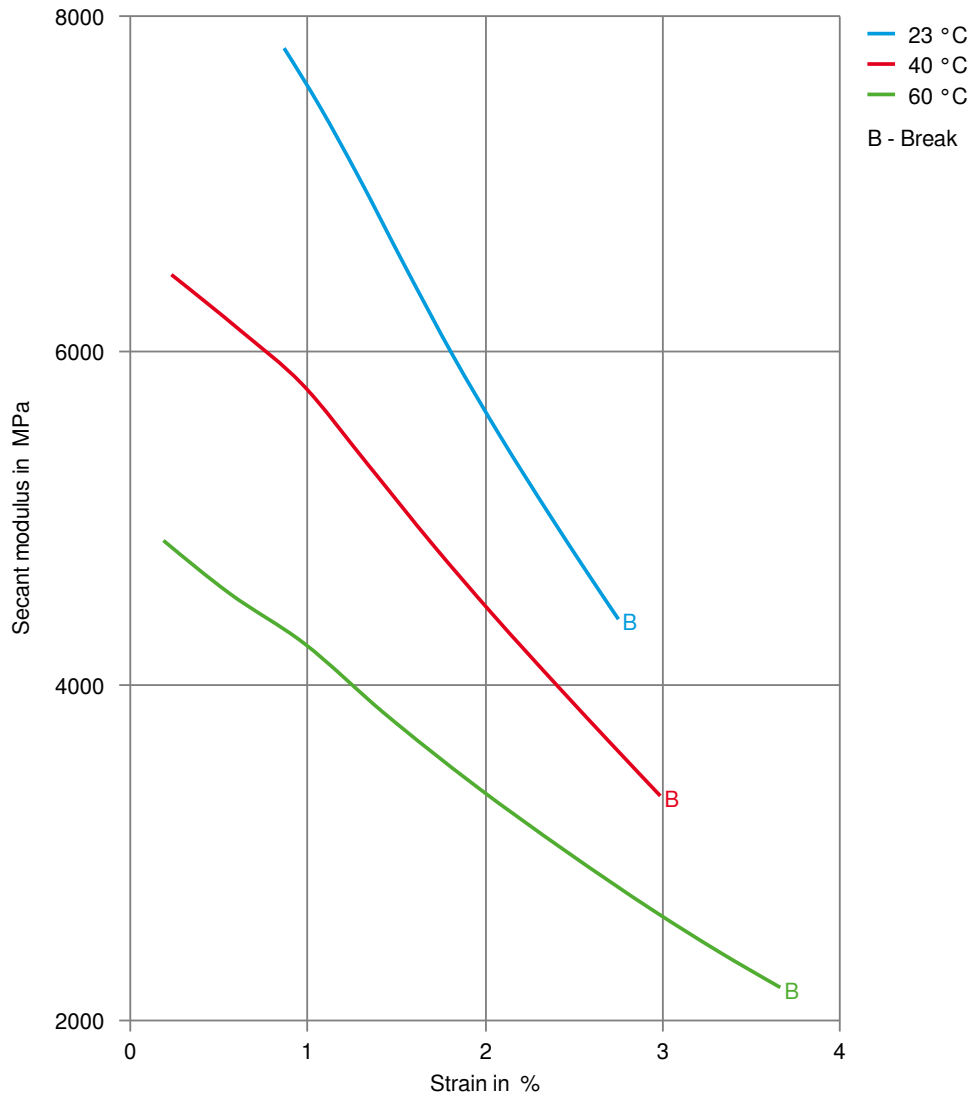
Stress-strain



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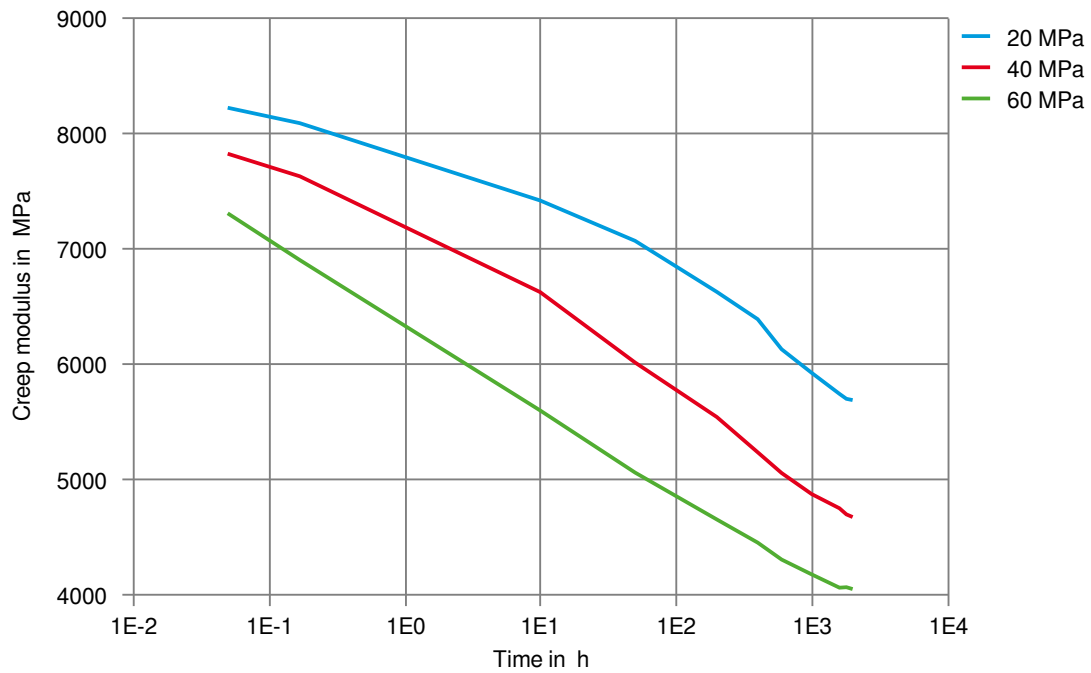
Secant modulus-strain



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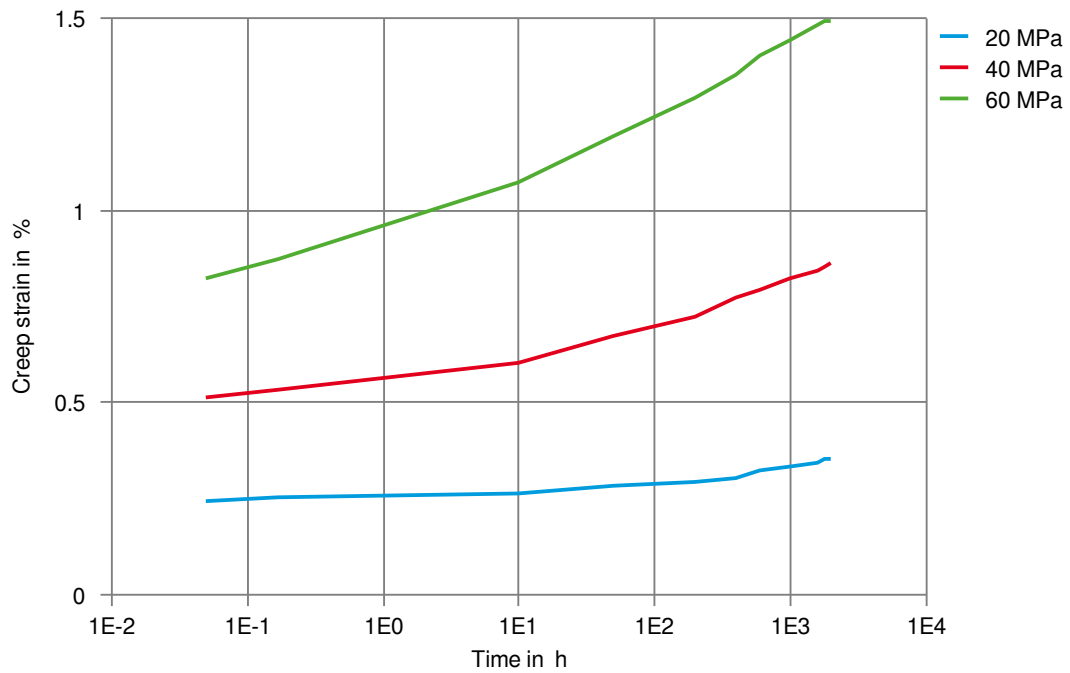
Creep modulus-time 23°C



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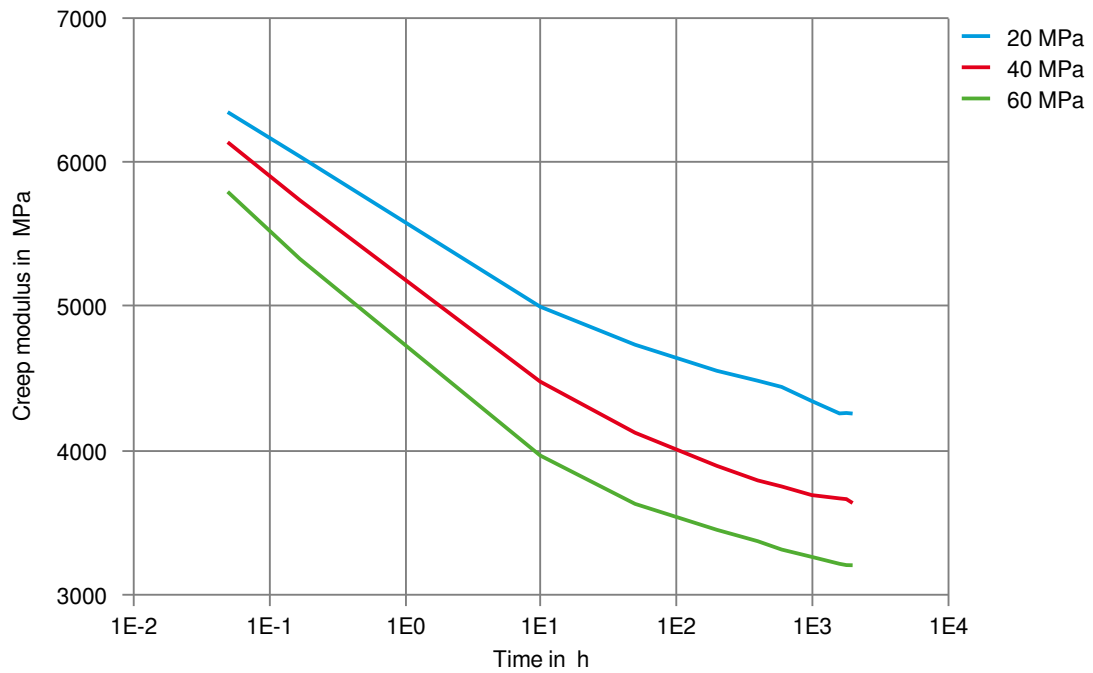
Creep strain-time 23°C



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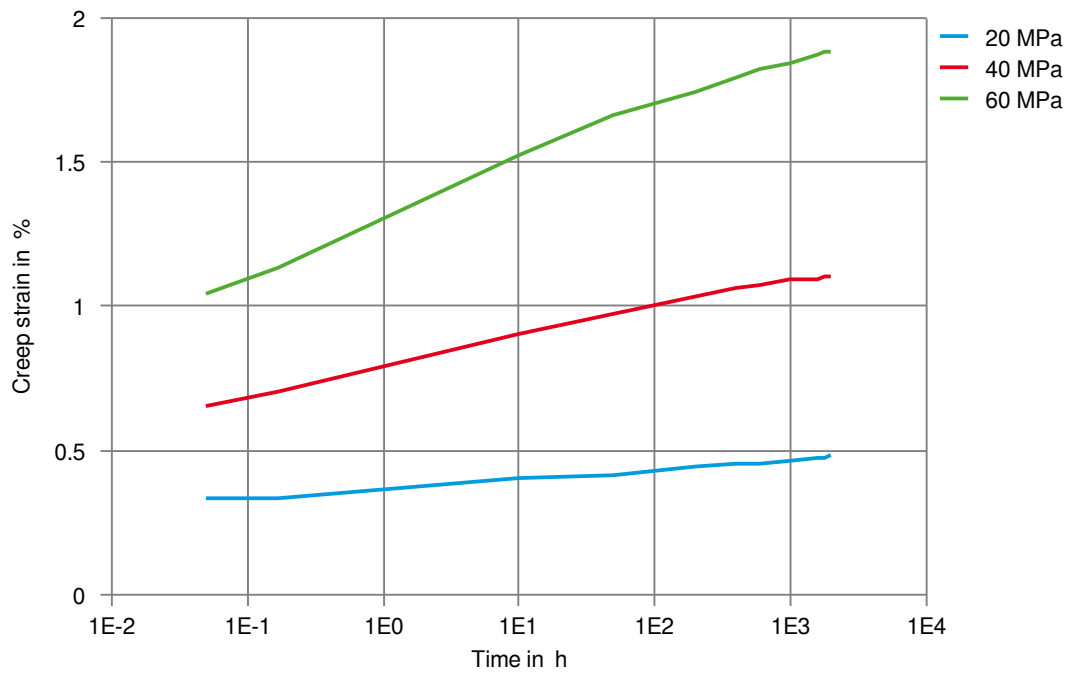
Creep modulus-time 40°C



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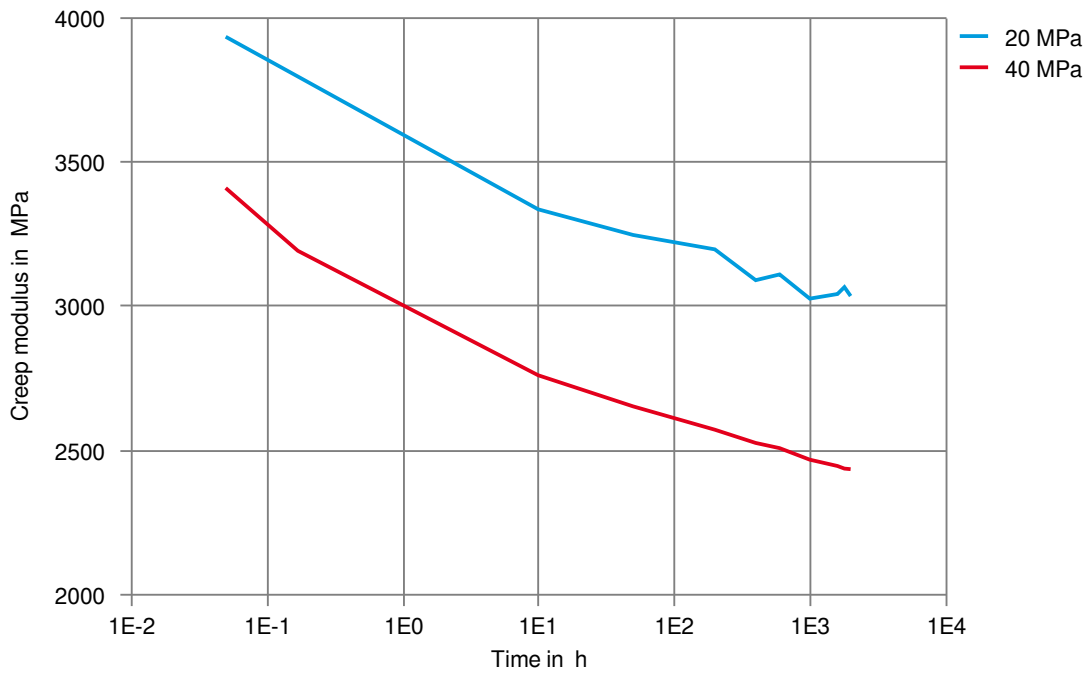
Creep strain-time 40°C



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Creep modulus-time 80°C



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Creep strain-time 80°C

