HOSTAFORM® MT®12U03

Improved flow grade with optimum properties and higher stiffness for medical technology applications
Hostaform® MT®12U03 is a moderately high flow grade for faster cycling and thin walled injection molding with improved stiffness and hardness compared to Hostaform® MT®12U01.

Hostaform® MT®12U03 is a special grade developed for medical industry applications and complies with:

- CFR 21 (177.2470) of the Food and Drug Administration (FDA) and is listed in the Drug Master File (DMF 11559) and the Device Master File (MAF 1079)
- the corresponding EU and national registry regulatory requirements
- biocompatibility in tests corresponding to USP <88> Class VI/ISO 10993
- low residual monomers
- no animal-derived constituents

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	3100	MPa	ISO 527-1/-2
Yield stress, 50mm/min	70	MPa	ISO 527-1/-2
Yield strain, 50mm/min	8	%	ISO 527-1/-2
Nominal strain at break	28	%	ISO 527-1/-2
Flexural Modulus	3000	MPa	ISO 178
Shear Modulus	1120	MPa	ISO 6721
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	kJ/m^2	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m^2	ISO 179/1eA
Izod notched impact strength, 23°C	5.5	kJ/m^2	ISO 180/1A
Ball indentation hardness, H 358/30	156	MPa	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	170	°C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	107	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	158	°C	ISO 306
Coeff. of linear therm. expansion, parallel	120	E-6/K	ISO 11359-1/-2

HOSTAFORM® MT®12U03

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

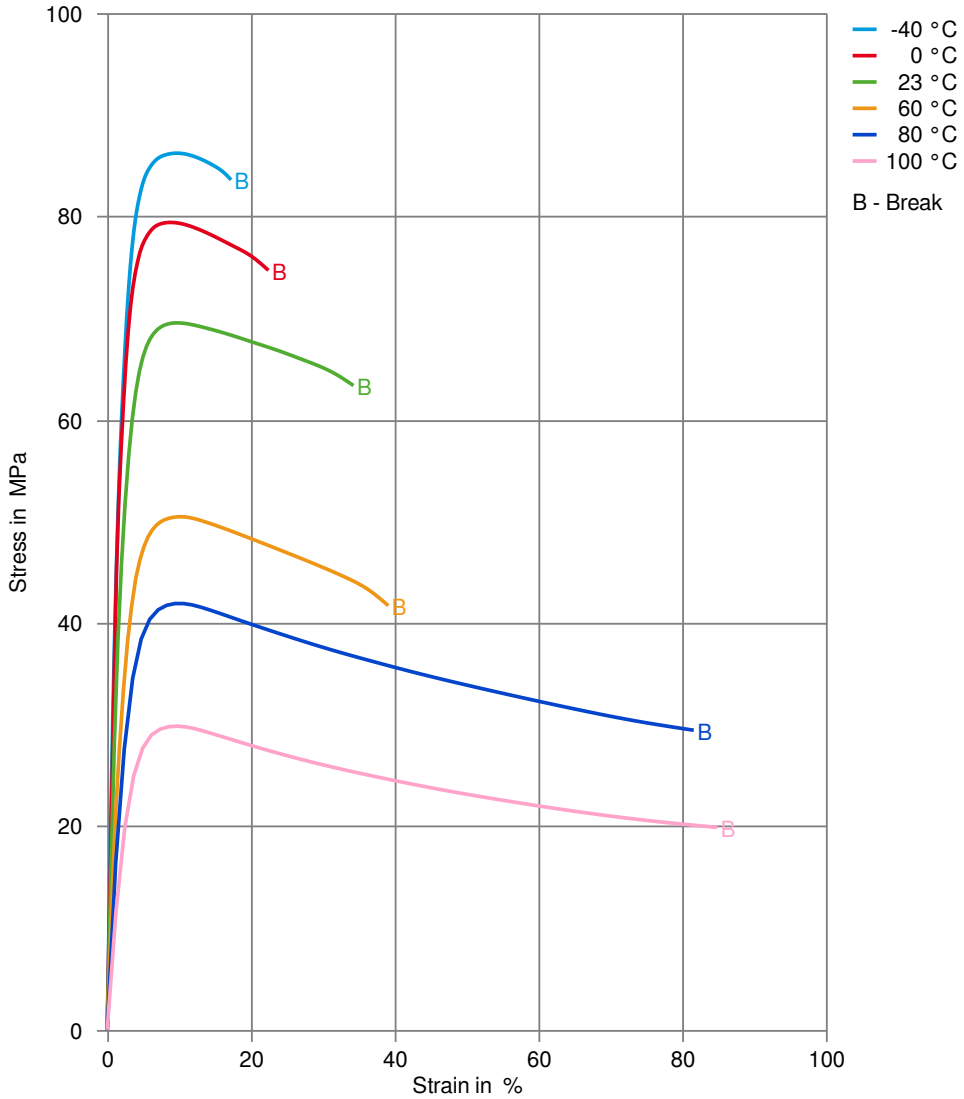
Drying Temperature	100 - 120	°C	
Drying Time, Dehumidified Dryer	3 - 4	h	
Processing Moisture Content	0.15	%	
Melt Temperature Optimum	205	°C	Internal
Max. mould temperature	80 - 120	°C	
Back pressure	4	MPa	
Injection speed	slow-medium		

Characteristics

Additives	Release agent

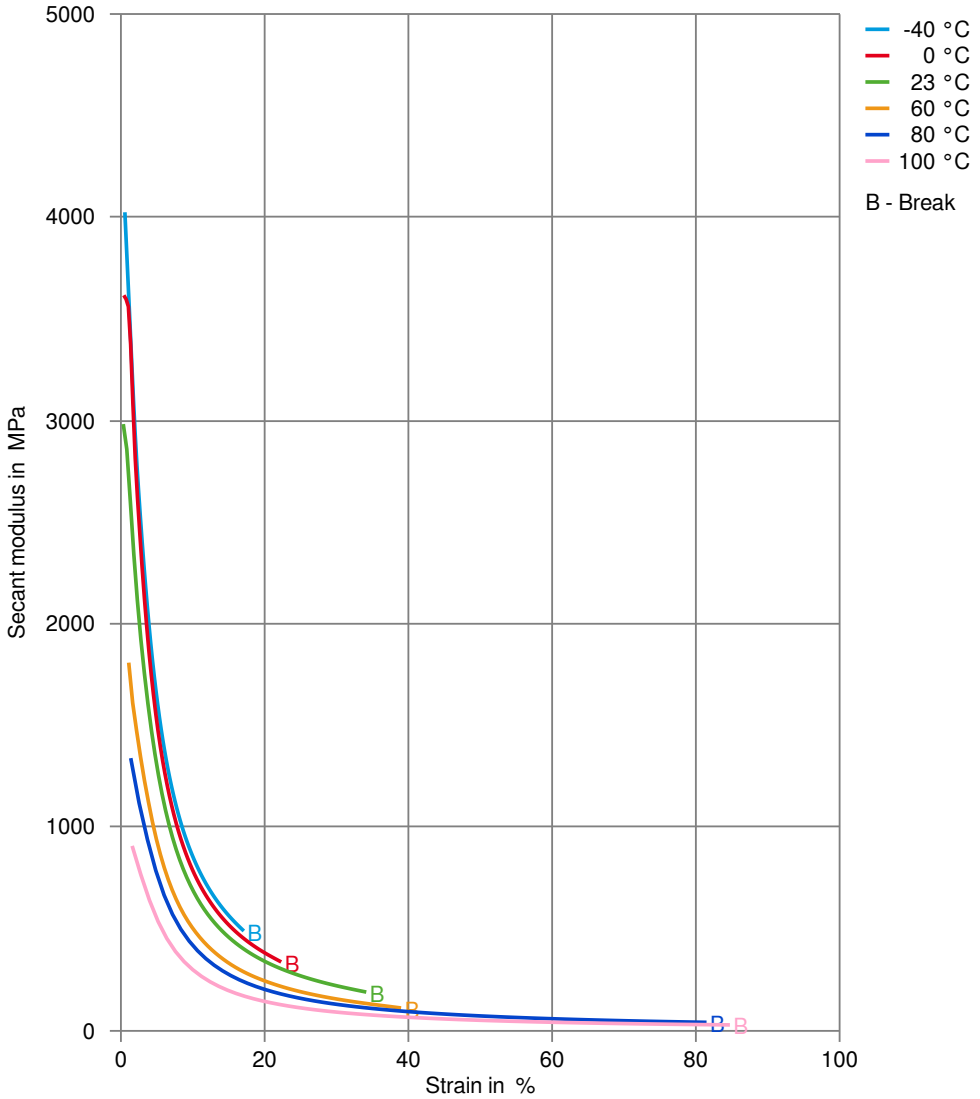
HOSTAFORM® MT®12U03

Stress-strain



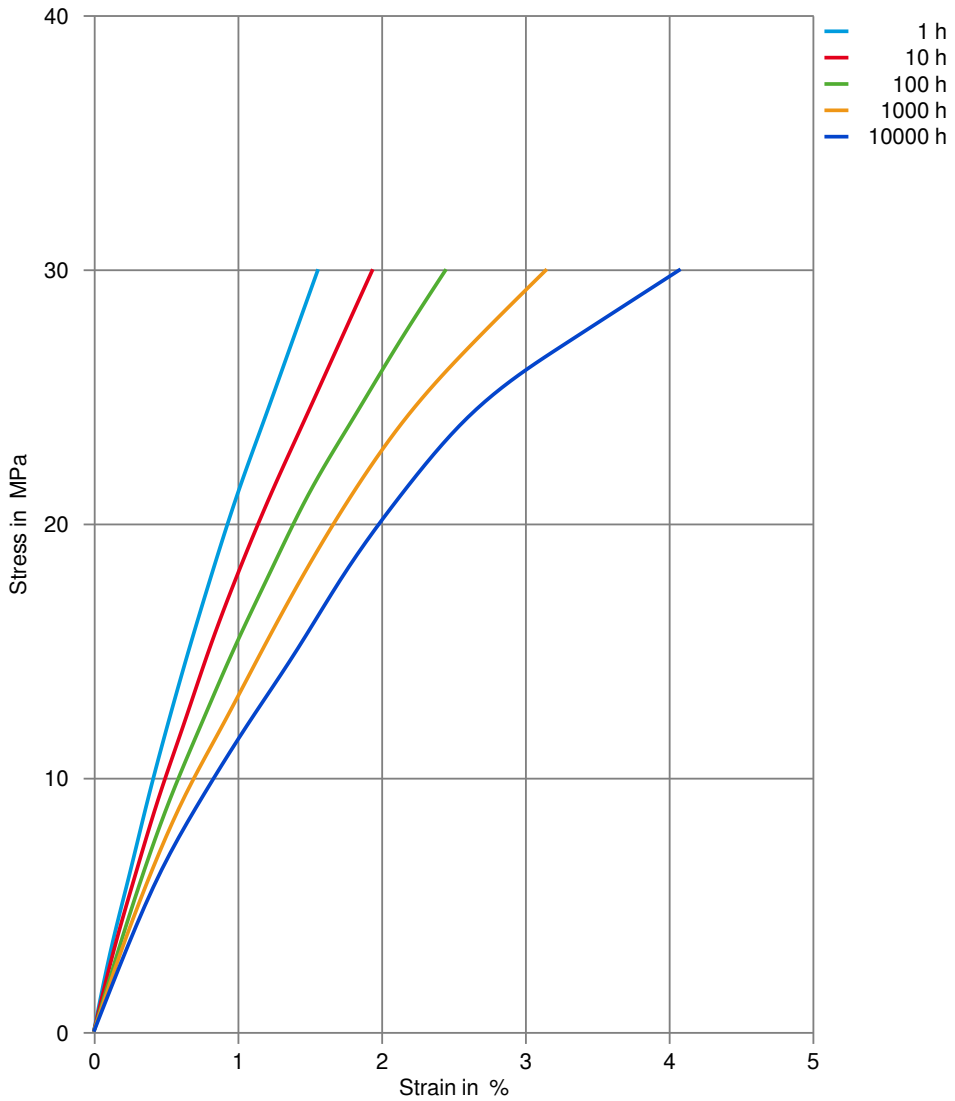
HOSTAFORM® MT®12U03

Secant modulus-strain



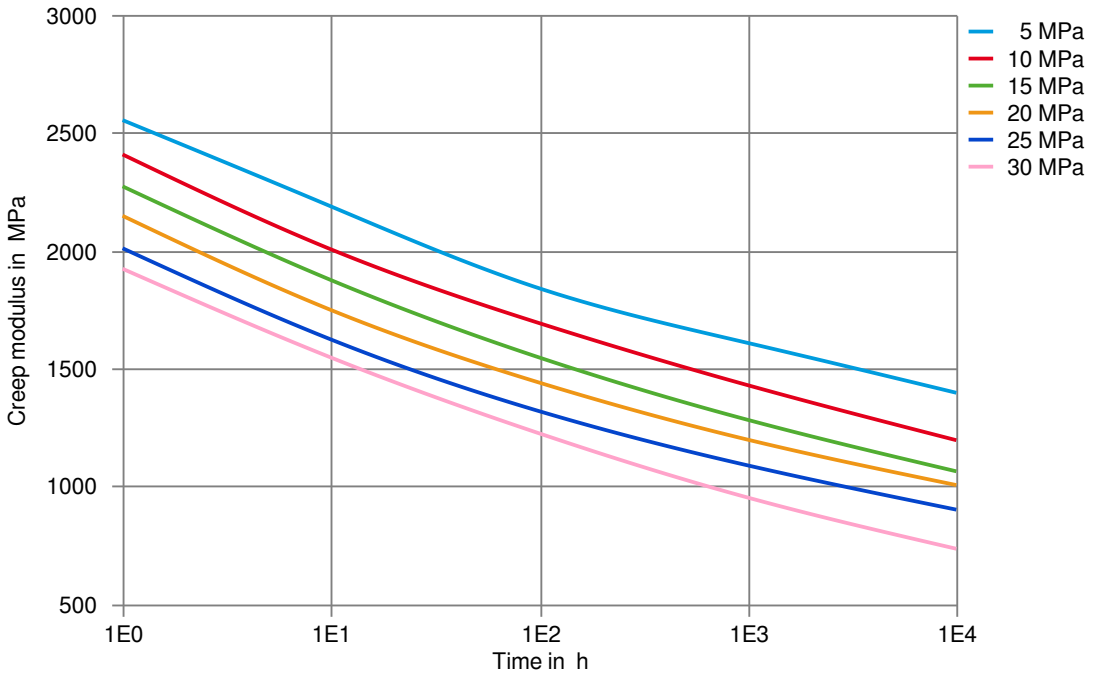
HOSTAFORM® MT®12U03

Stress-strain (isochronous) 23 °C



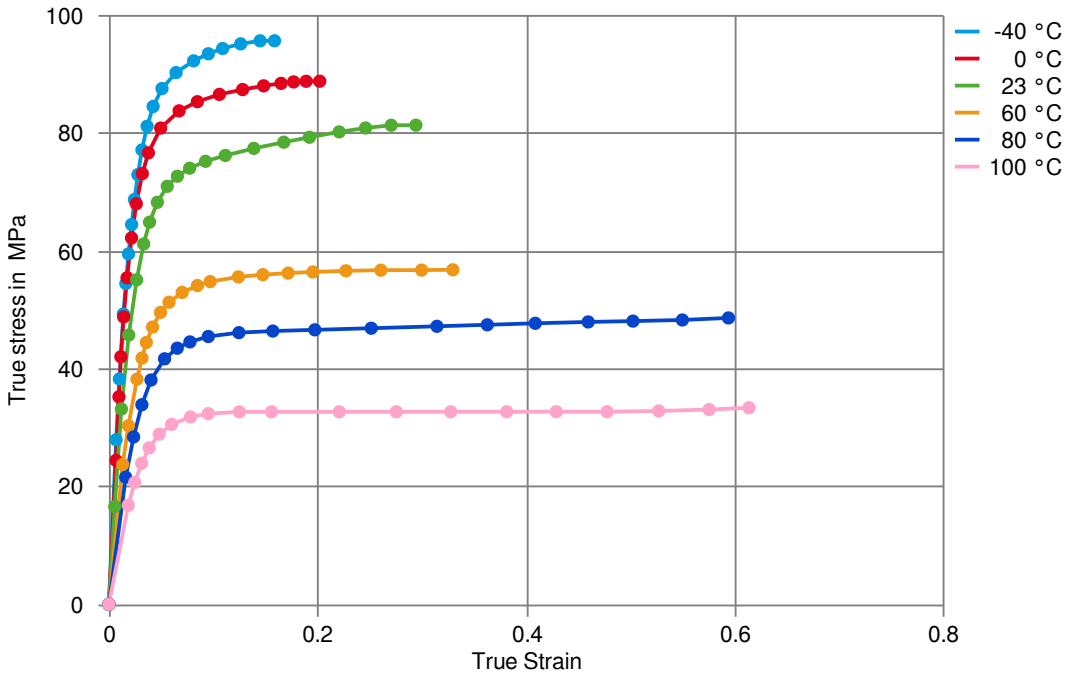
HOSTAFORM® MT®12U03

Creep modulus-time 23 °C



HOSTAFORM® MT®12U03

True stress-strain



HOSTAFORM® MT®12U03

Processing Texts

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