

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 range, parallel	2.0 %	ISO 294-4, 2577
Moulding shrinkage range, 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
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

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Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Water absorption, 2mm	0.65 %	Sim. to ISO 62
Density	1410 kg/m ³	ISO 1183

Injection

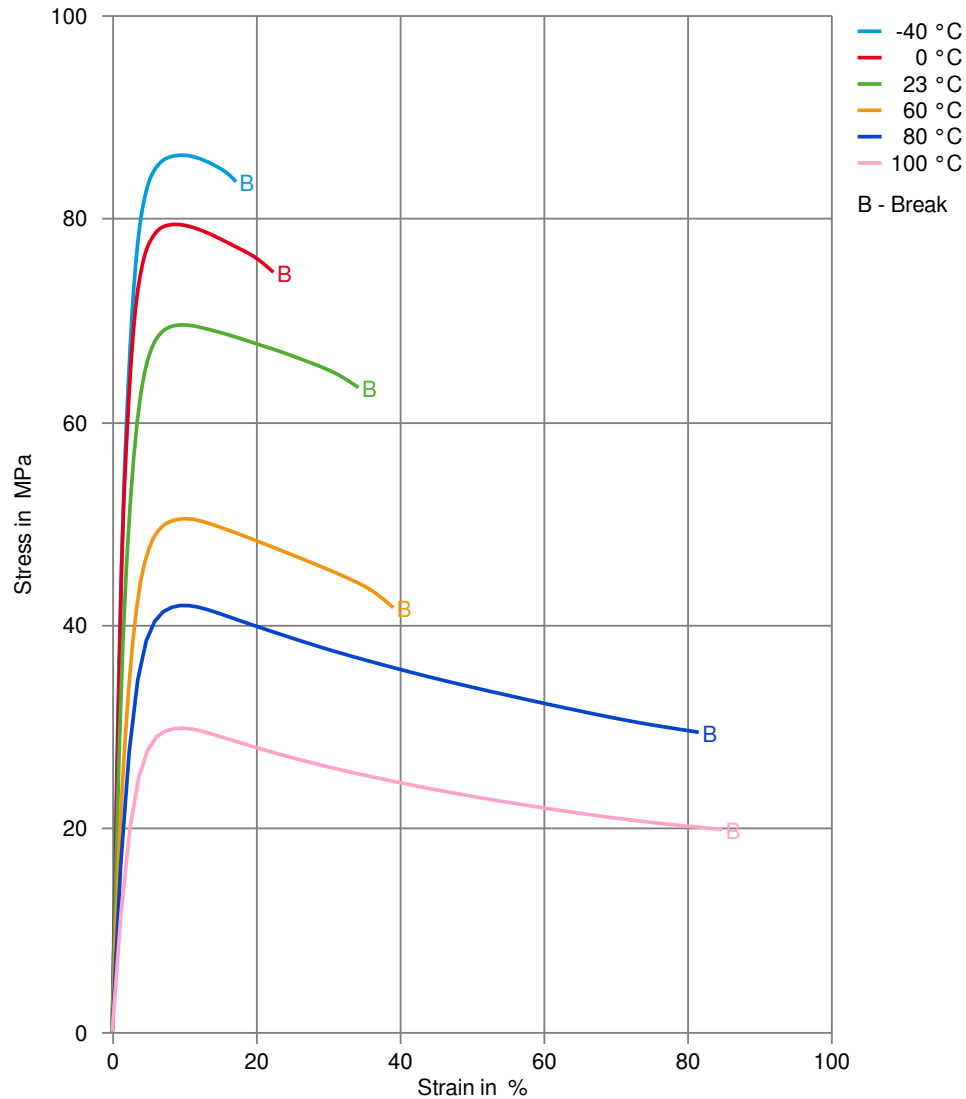
Drying Temperature	100 - 120 °C	
Drying Time, Dehumidified Dryer	3 - 4 h	
Processing Moisture Content	0.15 %	
Melt Temperature Optimum	205 °C	Internal
Max. mould temperature	80 - 120 °C	
Back pressure	4 MPa	
Injection speed	slow-medium	

Characteristics

Additives	Release agent
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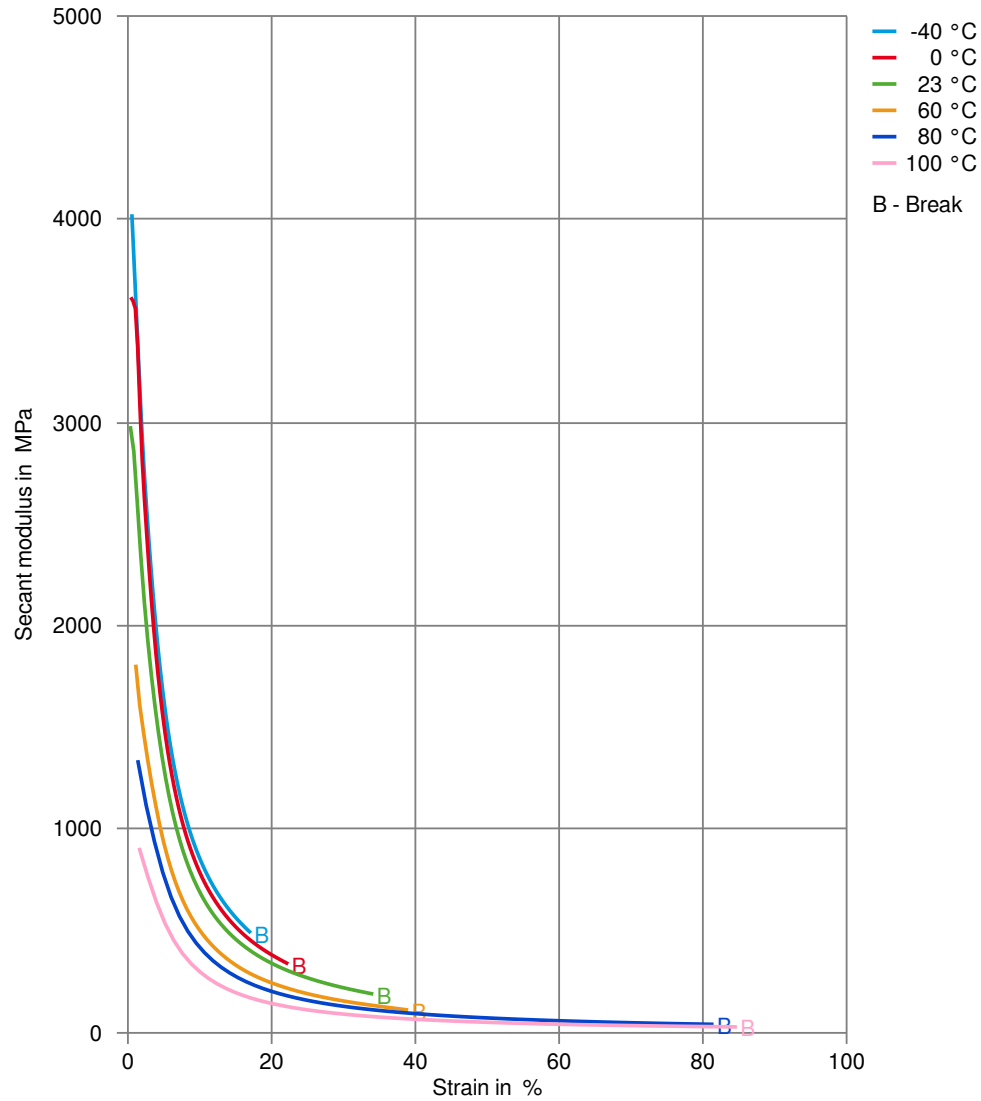
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Stress-strain



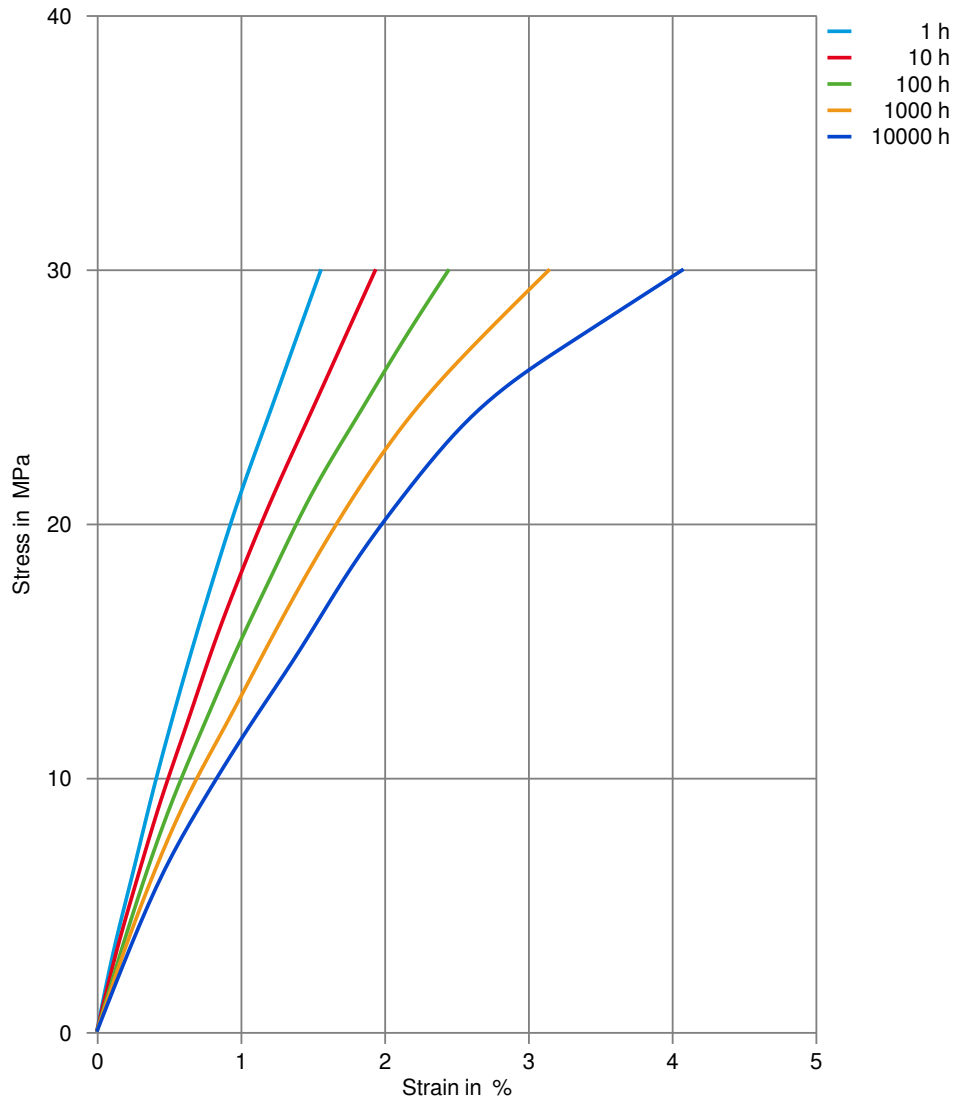
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Secant modulus-strain



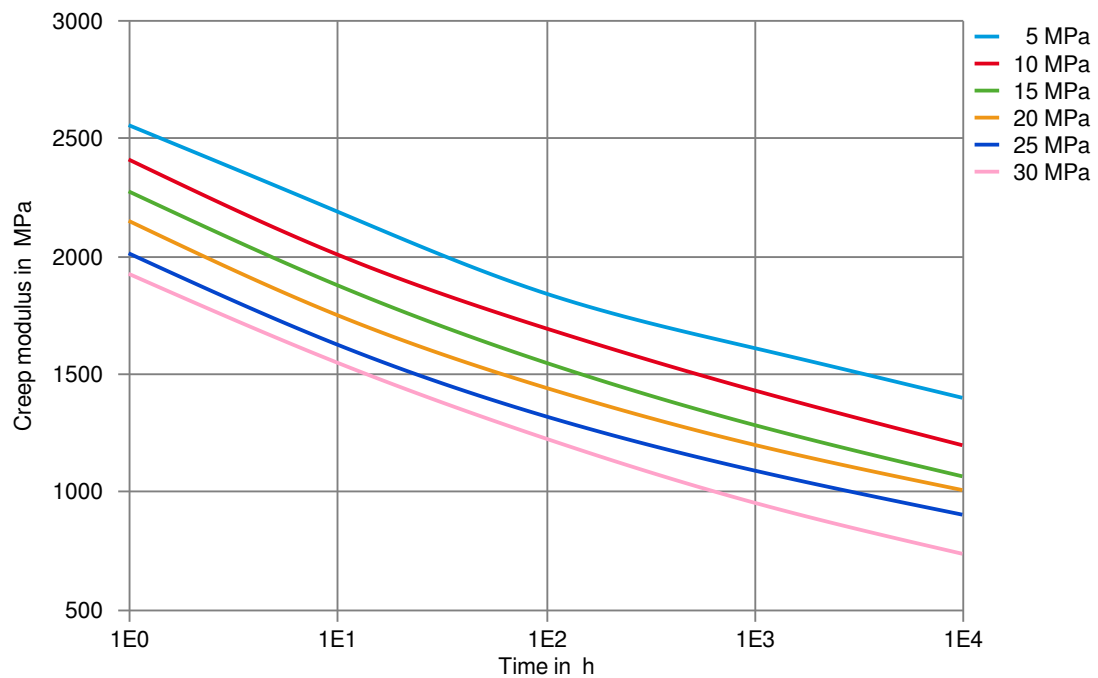
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Stress-strain (isochronous) 23°C



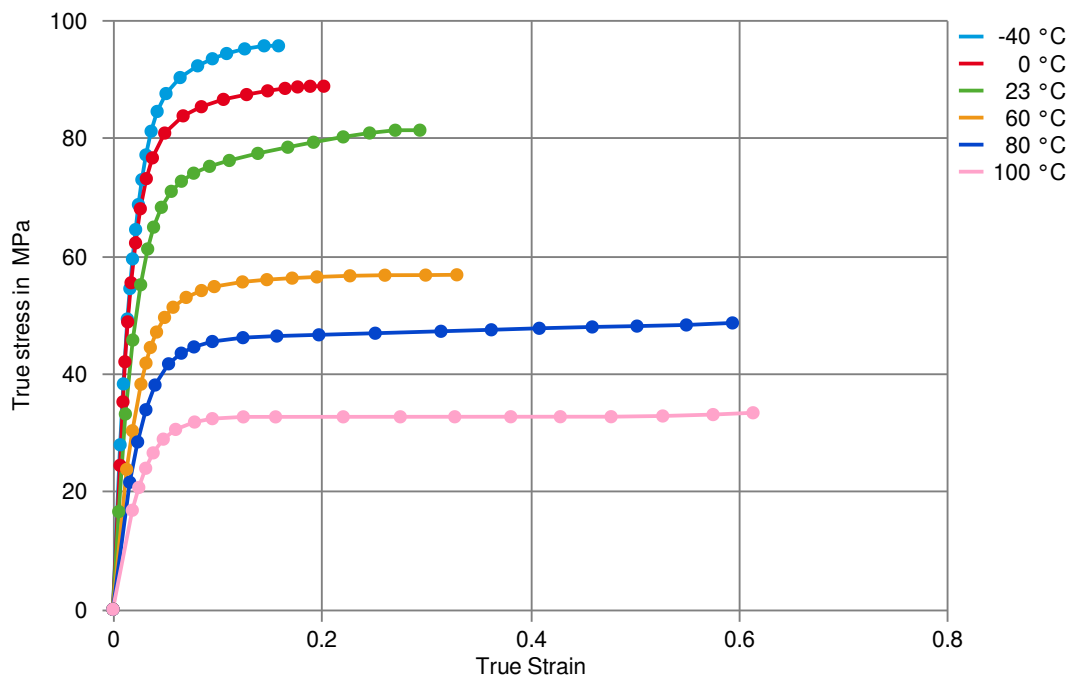
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Creep modulus-time 23°C



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True stress-strain



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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.