

# HOSTAFORM® MT®12U03

## HOSTAFORM®

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

### Product information

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

### Rheological properties

Melt volume-flow rate	12 cm <sup>3</sup> /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
Tensile stress at yield, 50mm/min	70 MPa	ISO 527-1/-2
Tensile strain at yield, 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 <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	200 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	6 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	6 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	5.5 kJ/m <sup>2</sup>	ISO 180/1A
Ball indentation hardness, H 358/30	156 MPa	ISO 2039-1
Poisson's ratio	0.37 <sup>[C]</sup>	

[C]: Calculated

### Thermal properties

Melting temperature, 10°C/min	170 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	107 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	120 E-6/K	ISO 11359-1/-2

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### 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

### Characteristics

Processing	Injection Moulding
Delivery form	Pellets

### Additional information

Processing Notes

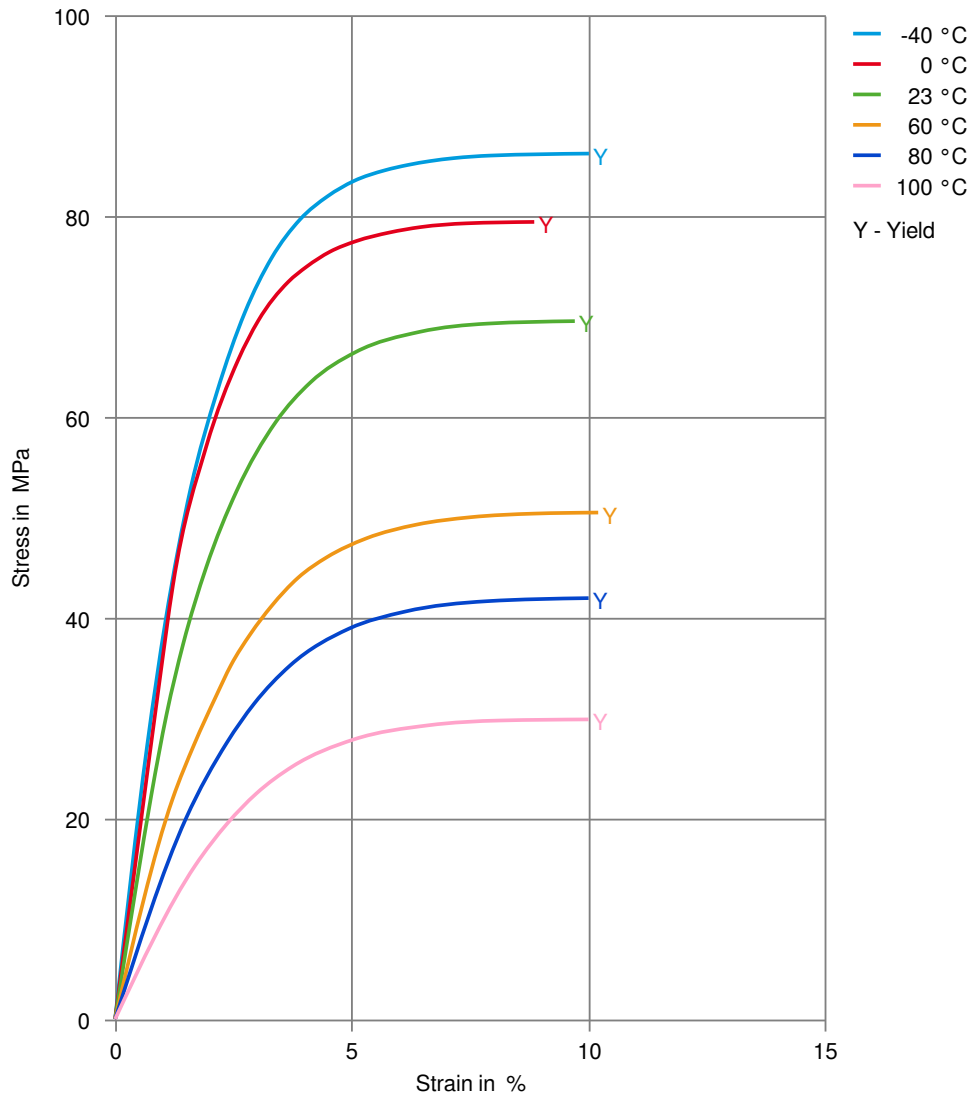
#### Pre-Drying

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.

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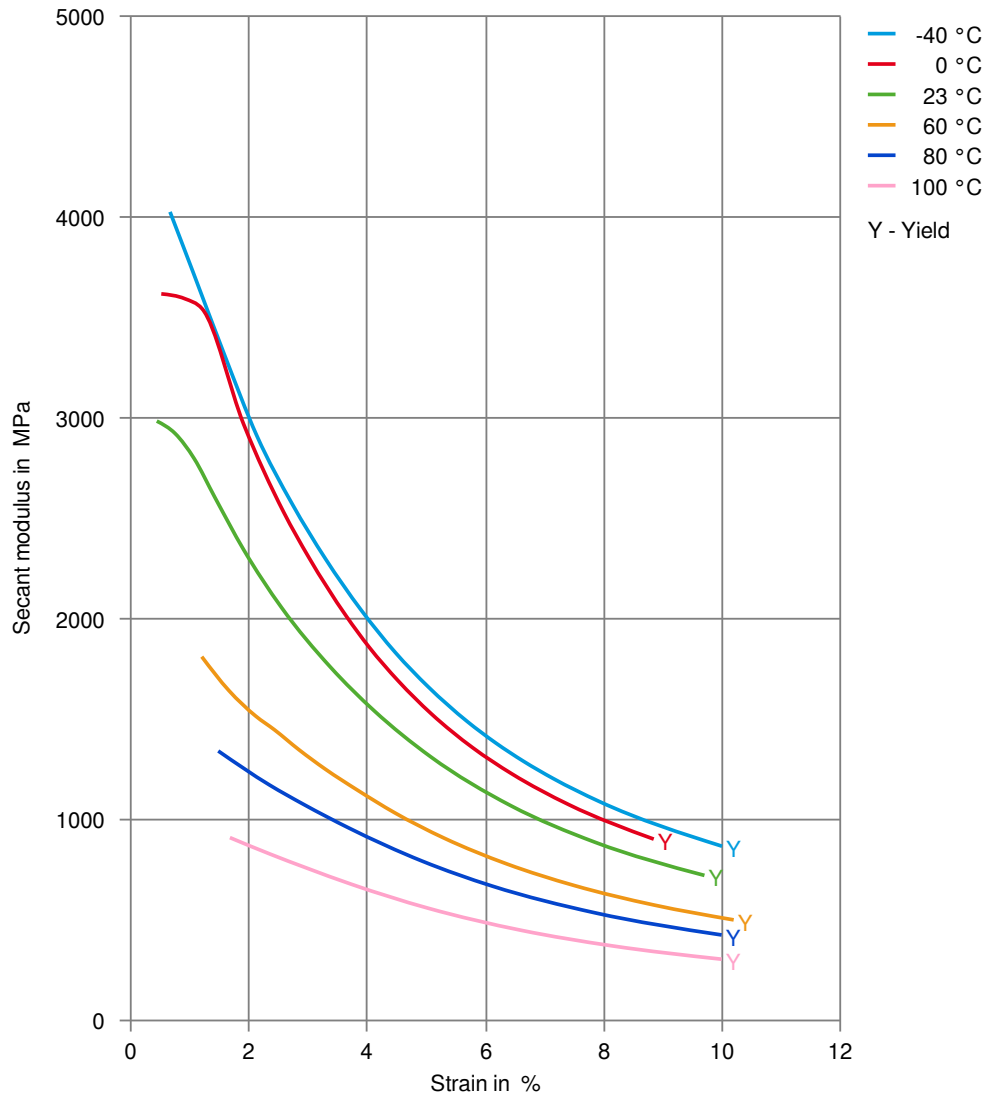
## Stress-strain



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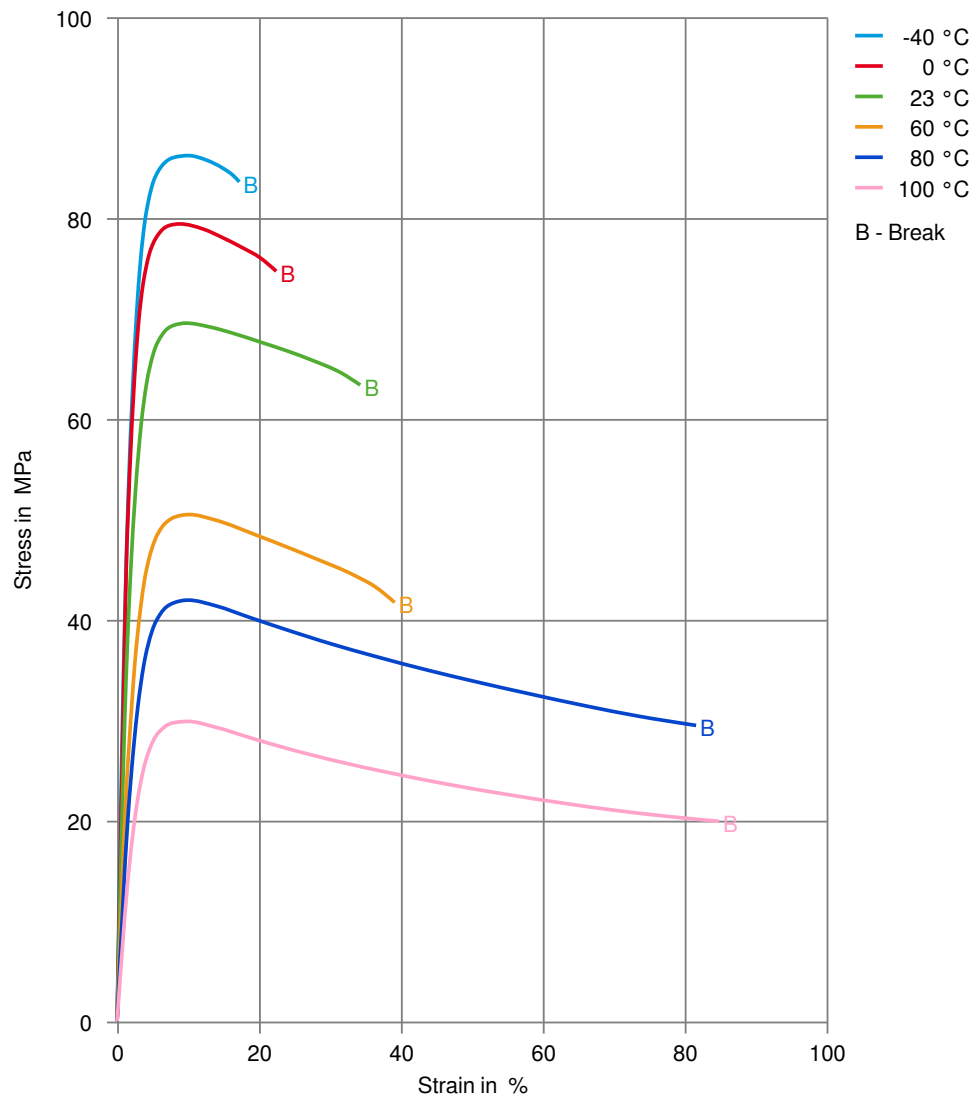
## Secant modulus-strain



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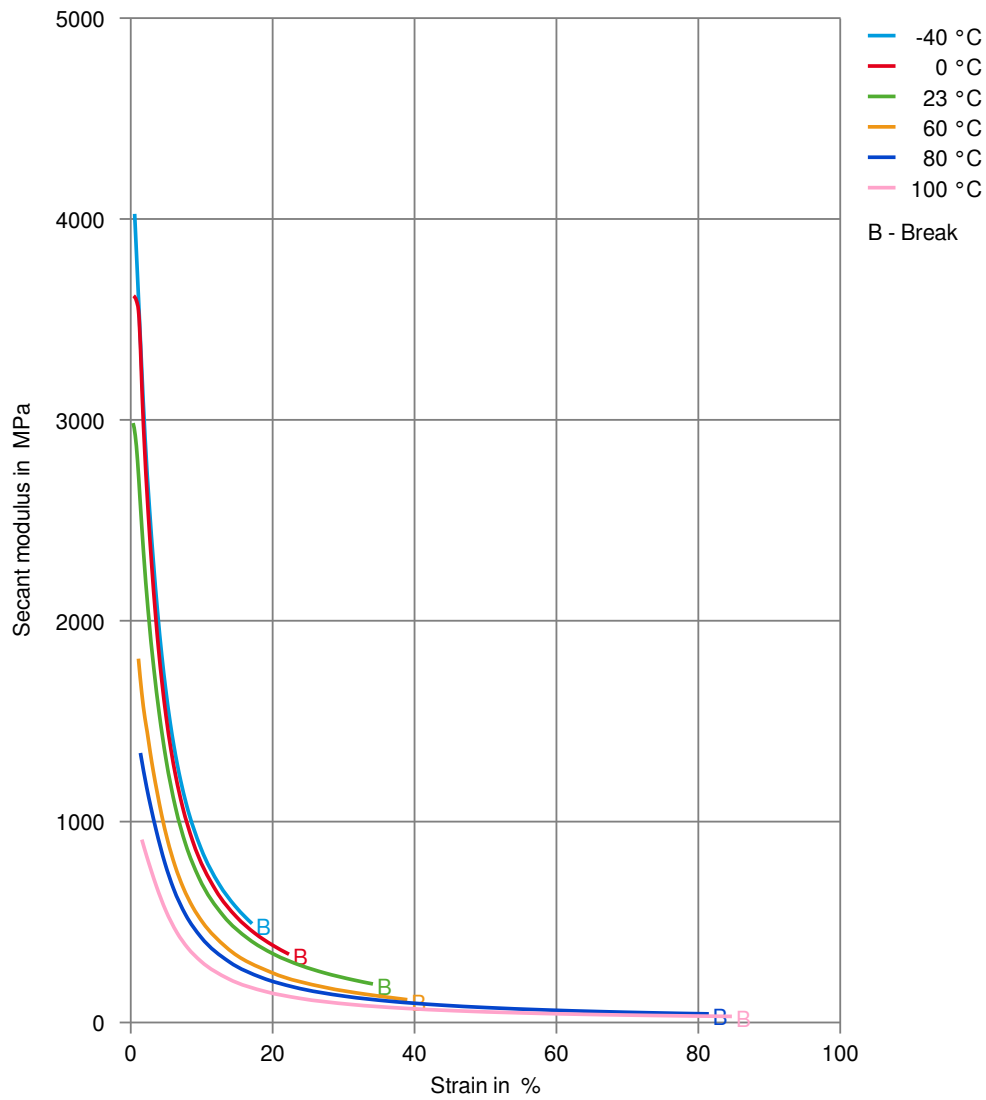
Stress-strain, 50mm/min



# HOSTAFORM® MT® 12U03

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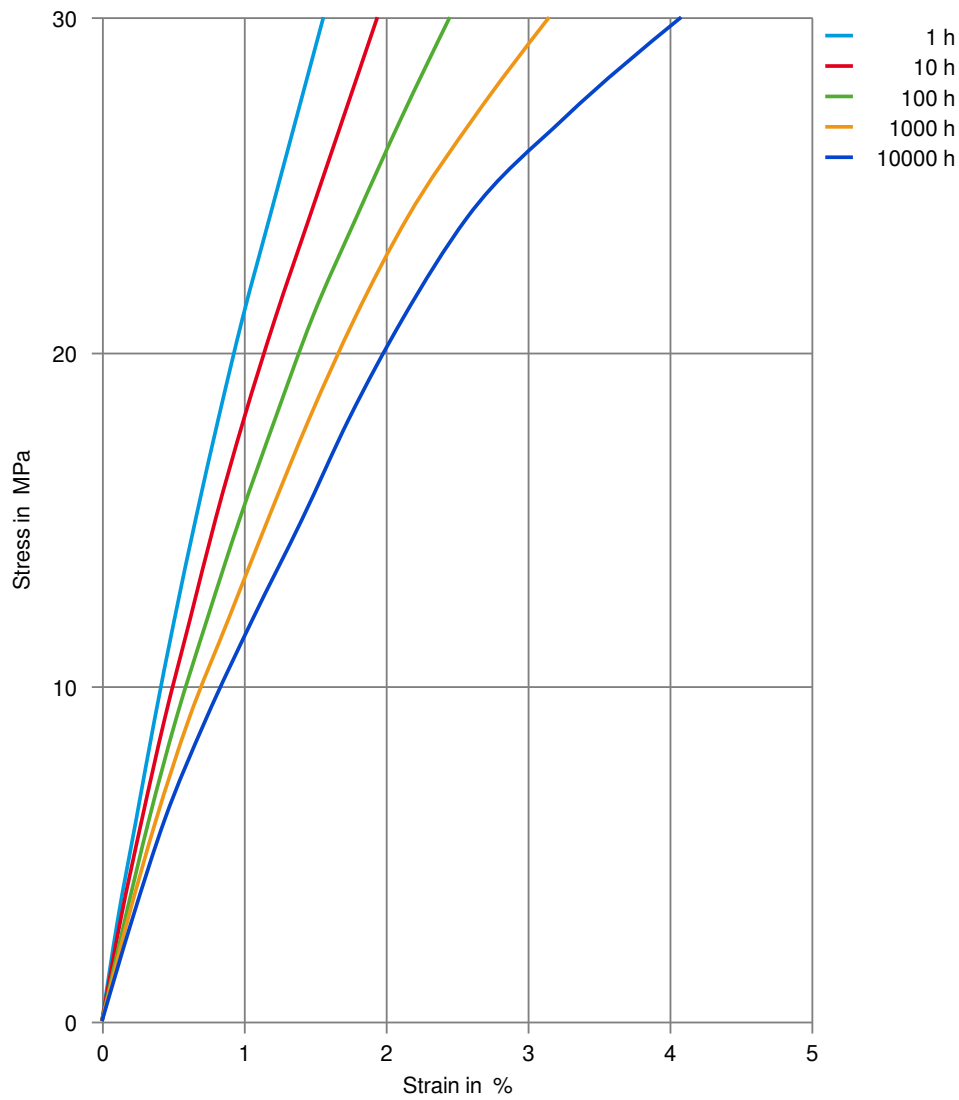
Secant modulus-strain, 50mm/min



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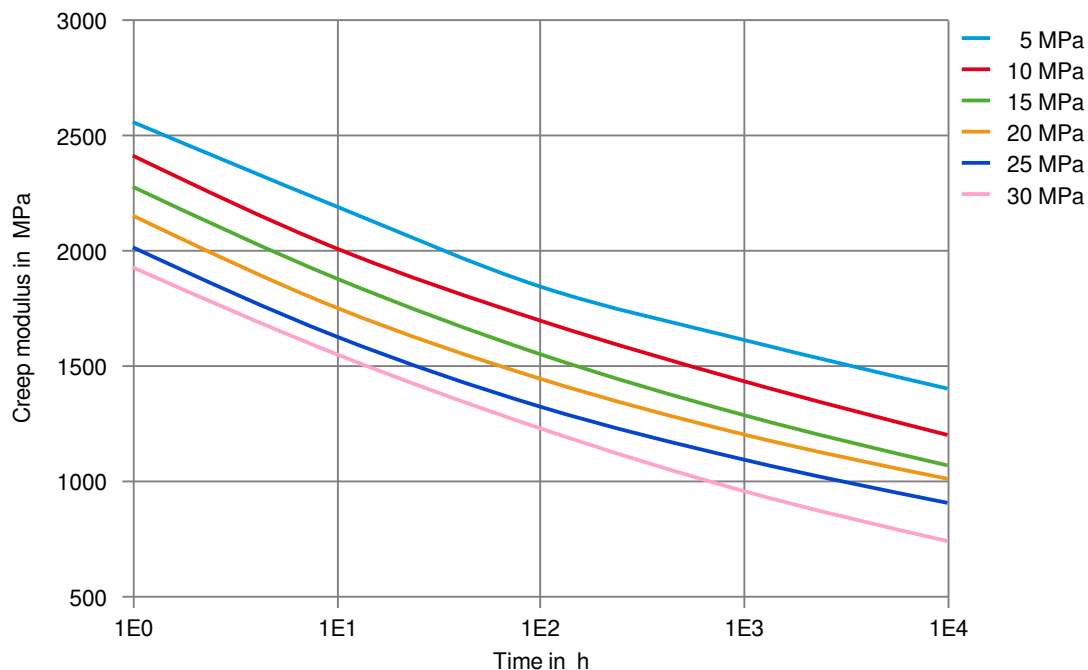
Stress-strain (isochronous) 23°C



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Creep modulus-time 23°C



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