HOSTAFORM® MT®24U01 - POM

Description

High flow, low melt viscosity, fast cycling grade for medical technology applications
Hostaform® MT®24U01 is a low melt viscosity for fast cycling, thin walled injection molding.

Hostaform® MT®24U01 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

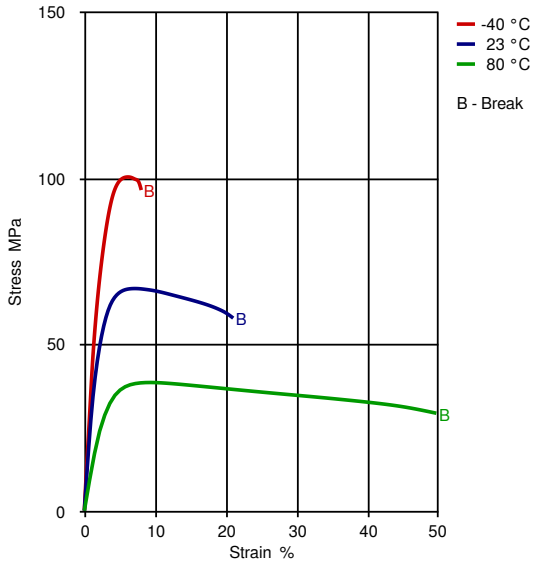
Physical properties	Value	Unit	Test Standard
Density	**1410**	kg/m³	ISO 1183
Melt volume rate, MVR	**24**	cm³/10min	ISO 1133
MVR temperature	**190**	°C	ISO 1133
MVR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**1.9**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.8**	%	ISO 294-4, 2577
Water absorption, 23°C-sat	**0.65**	%	ISO 62
Humidity absorption, 23°C/50%RH	**0.2**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**2900**	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	**65**	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	**7.5**	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	**17**	%	ISO 527-2/1A
Tensile creep modulus, 1h	**2500**	MPa	ISO 899-1
Tensile creep modulus, 1000h	**1300**	MPa	ISO 899-1
Flexural modulus, 23°C	**2800**	MPa	ISO 178
Charpy impact strength, 23°C	**170**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**170**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**5.5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**5.5**	kJ/m²	ISO 179/1eA
Ball indentation hardness, 30s	**147**	MPa	ISO 2039-1

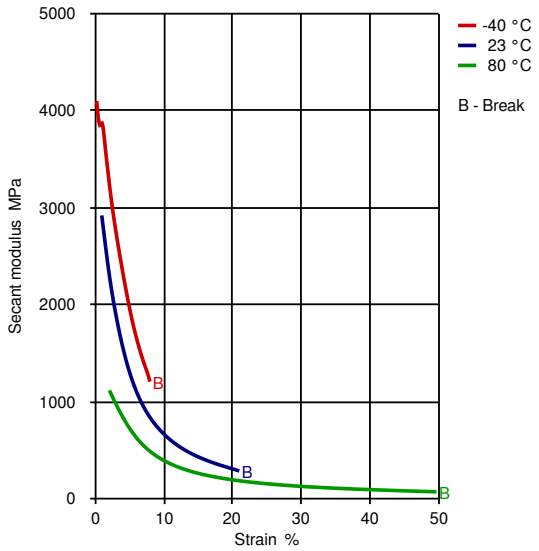
Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**166**	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	**106**	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	**1.1**	E-4/°C	ISO 11359-2

Diagrams

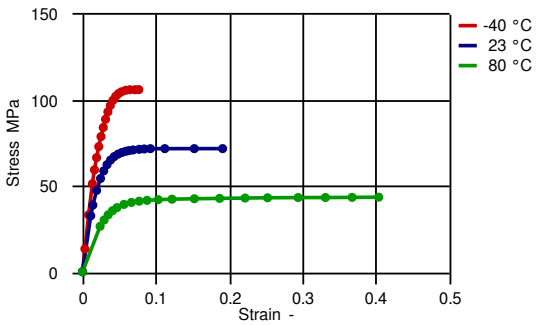
Stress-strain



Secant modulus-strain

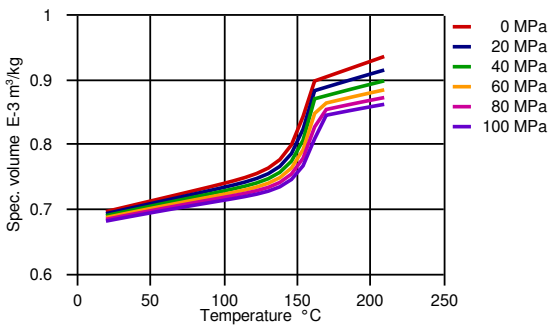


True Stress-strain



-40 °C yield at 0.05893 strain, 105.159 stress
23 °C yield at 0.06897 strain, 70.575 stress
80 °C yield at 0.08810 strain, 41.359 stress

Moldflow Specific volume-temperature (pvT)



Indirect Dilatometry

Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	**0.15**	%
Drying time	**3 - 4**	h
Drying temperature	**100 - 120**	°C

Temperature	Value	Unit
Hopper temperature	**20 - 30**	°C
Feeding zone temperature	**60 - 80**	°C
Zone1 temperature	**170 - 180**	°C
Zone2 temperature	**180 - 190**	°C
Zone3 temperature	**190 - 200**	°C

Zone4 temperature	**190 - 210**	°C
Nozzle temperature	**190 - 210**	°C
Melt temperature	**190 - 210**	°C
Mold temperature	**80 - 120**	°C
Hot runner temperature	**190 - 210**	°C

Pressure	Value	Unit
Back pressure max.	**40**	bar

Speed	Value
Injection speed	**slow-medium**

Other text information

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.

Characteristics

Product Categories

Medical technology

Processing

Injection molding

Delivery Form

Pellets

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