

HOSTAFORM® MT®12U03 ECO-B

Improved flow grade with optimum properties and higher stiffness for medical technology applications

Hostaform® MT®12U03 ECO-B 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 ECO-B 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

ECO-B: Hostaform ECO-B is a POM-Copolymer with the same properties and performance as standard grades but produced with sustainability in mind. Using a mass-balance approach, biogenic feedstocks are used to offset the use of fossil-based raw materials and decrease greenhouse gas emissions. The process is audited and certified according to the ISCC Plus mass balance approach.

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	1100 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

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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

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

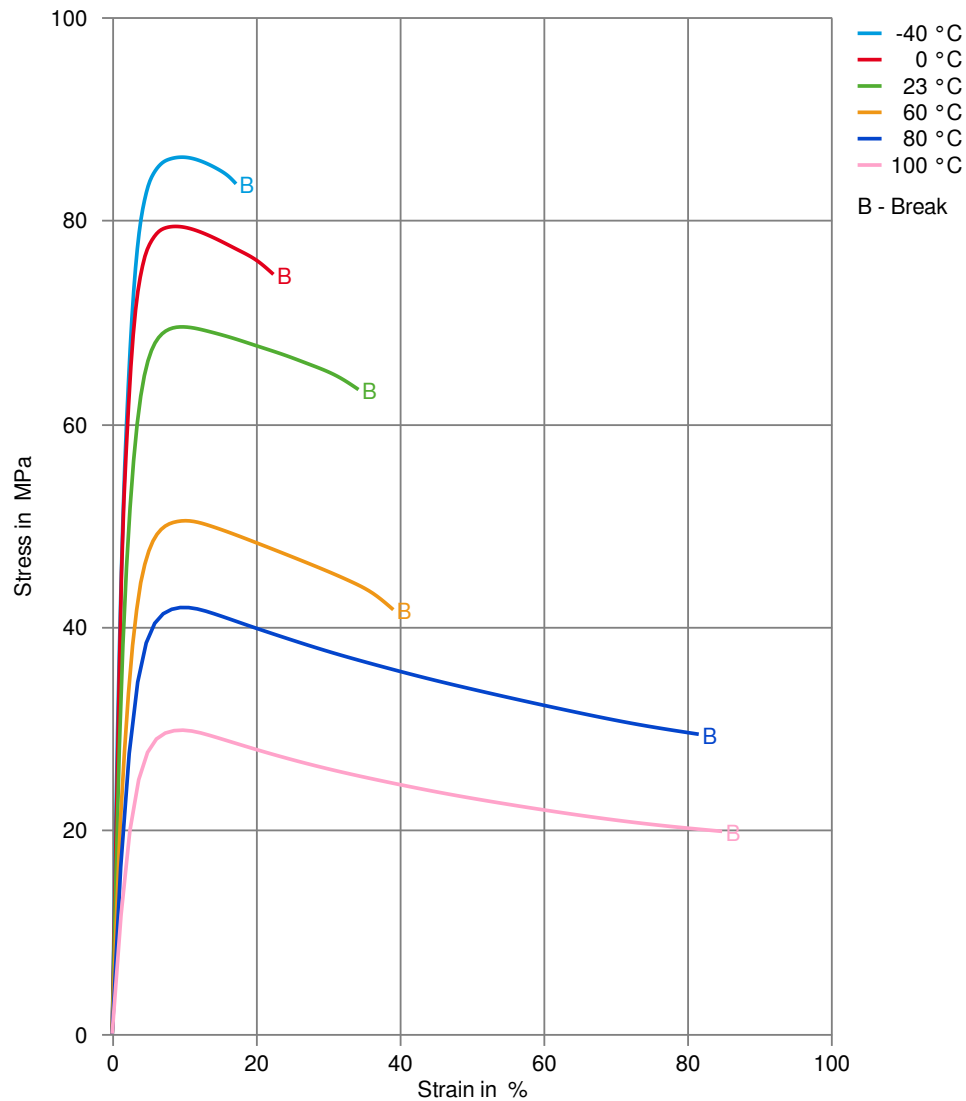
Drying Temperature	100 - 120 °C	
Drying Time, Dehumidified Dryer	3 - 4 h	
Processing Moisture Content	0.15 %	
Melt Temperature Optimum	210 °C	Internal
Max. mould temperature	80 - 120 °C	
Back pressure	4 MPa	
Injection speed	slow-medium	

Characteristics

Additives	Release agent, Biobased
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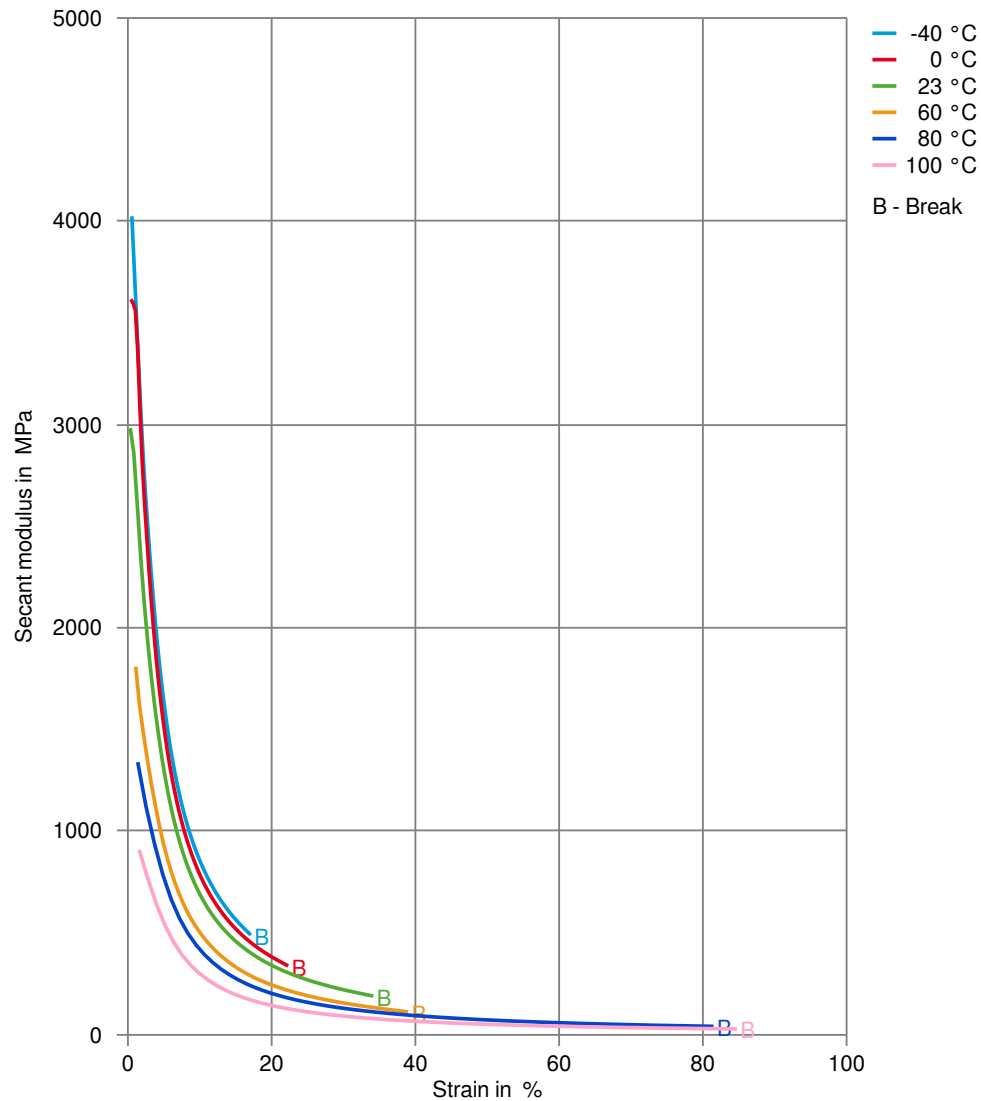
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Stress-strain



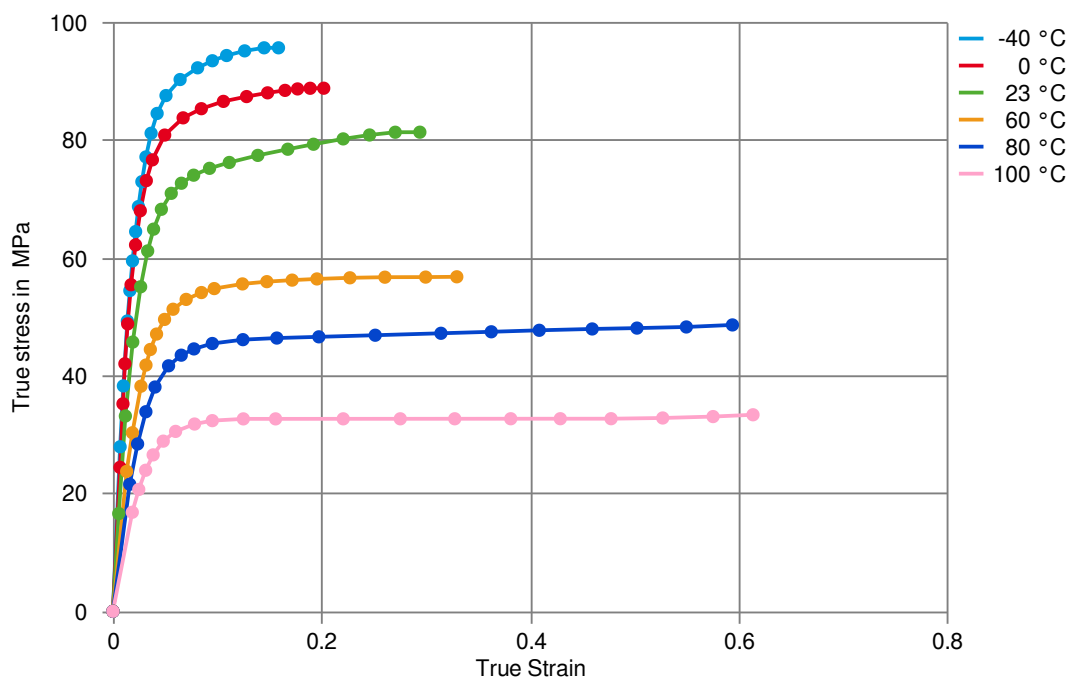
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Secant modulus-strain



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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.

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colourants or other additives may cause significant variations in data values. Properties of moulded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

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