HOSTAFORM® MT®12R01 ECO-B

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Hostaform® MT®12R01 ECO-B is a low melt viscosity and improved slip grade for fast cycling, thin walled injection molding.

Hostaform® MT®12R01 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.

Product information

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

Rheological properties

Melt volume-flow rate	12	cm^3/10min	ISO 1133
Temperature	374	°F	
Load	4.76	lb	
Molding shrinkage, parallel	2.0	%	ISO 294-4, 2577
Molding shrinkage, normal	1.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	421000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	9400	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	9	%	ISO 527-1/-2
Nominal strain at break	25	%	ISO 527-1/-2
Flexural modulus	406000	psi	ISO 178
Tensile creep modulus, 1h	363000	psi	ISO 899-1
Tensile creep modulus, 1000h	189000	psi	ISO 899-1
Charpy impact strength, 23°C	95.1	$ftlb/in^2$	ISO 179/1eU
Charpy impact strength, -30°C	95.1	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23°C	3.09	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30°C	2.85	$ftlb/in^2$	ISO 179/1eA
Ball indentation hardness, H 358/30	20700	psi	ISO 2039-1

Thermal properties

Melting temperature, 10°C/min	331	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	216	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.61	E-4/°F	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	0.0509	lb/in³	ISO 1183

Injection

Drying Recommended	no	
Drying Temperature	212	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	392	°F
Min. melt temperature	374	°F
Max. melt temperature	410	°F
Max. screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold pressure range	8700 - 17400	psi
Hold Pressure Time (h is the max. wall thickness of the part in mm)	2h²-3	s
Back pressure	580	psi

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Low wear / Low friction
Sustainability	Bio-Content

Additional information

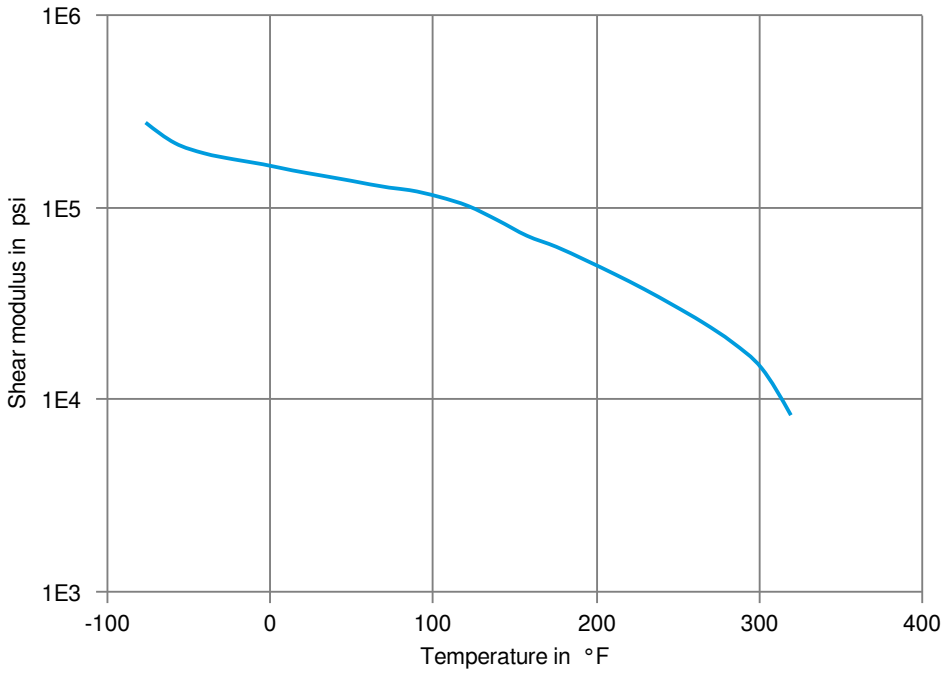
Processing Notes

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.

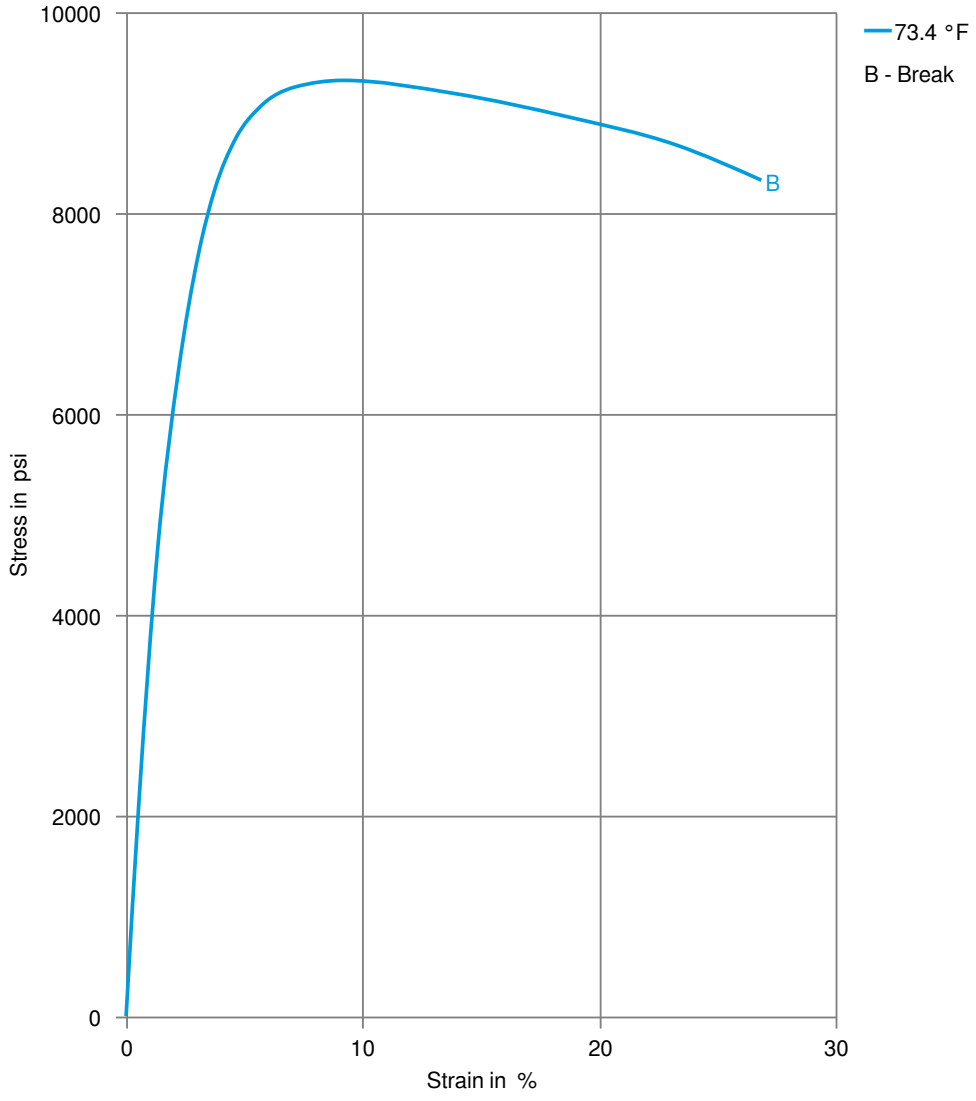
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Dynamic Shear modulus-temperature



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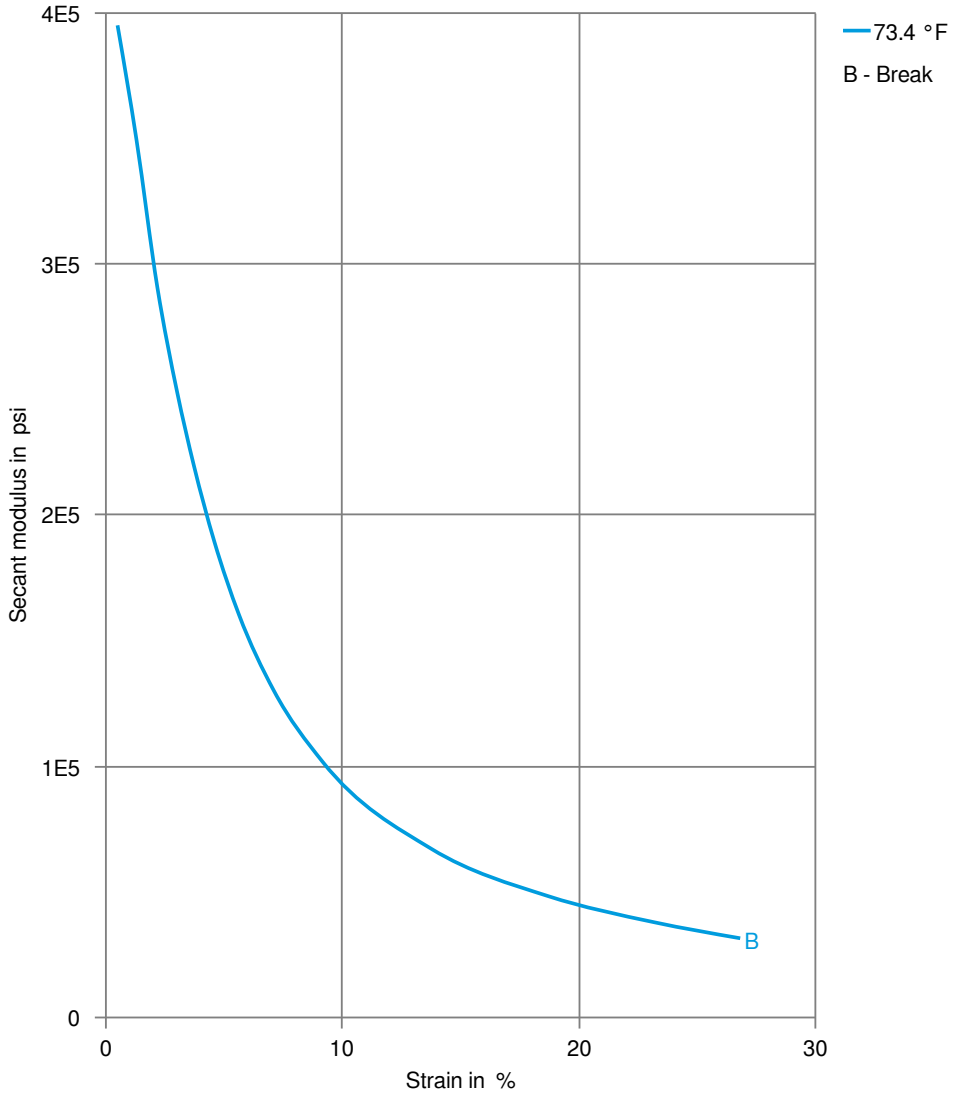
Stress-strain



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Secant modulus-strain



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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. Colorants or other additives may cause significant variations in data values. Properties of molded 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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