HOSTAFORM® MT®12U03 ECO-C 872

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Hostaform® MT®12U03 ECO-C 872 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-C 872 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)
- biocompatibility in tests corresponding to USP <88> Class VI/ISO 10993
- low residual monomers
- no animal-derived constituents

Hostaform® MT®12U03 ECO-C 872 incorporates a minimum of 85% circular content derived from captured carbon dioxide emissions by weight in the finished product through mass balance allocation. The product is a drop-in replacement to the standard grade with the same performance and processing properties and contributes to the displacement of virgin fossil fuel resources. The feedstock utilizing captured carbon dioxide emissions are ISCC CFC certified as low carbon intensity methanol.

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	450000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	10000	psi	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	435000	psi	ISO 178
Tensile creep modulus, 1h	399000	psi	ISO 899-1
Tensile creep modulus, 1000h	210000	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	2.85	$ftlb/in^2$	ISO 179/1eA
Charpy notched impact strength, -30°C	2.85	$ftlb/in^2$	ISO 179/1eA
Izod notched impact strength, 23°C	2.62	$ftlb/in^2$	ISO 180/1A
Ball indentation hardness, H 358/30	22600	psi	ISO 2039-1

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Thermal properties

Melting temperature, 10 °C/min	338	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	225	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.67	E-4/°F	ISO 11359-1/-2

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
Ejection temperature	277	°F

Characteristics

Processing	Injection Molding
Sustainability	Carbon Capture

Additional information

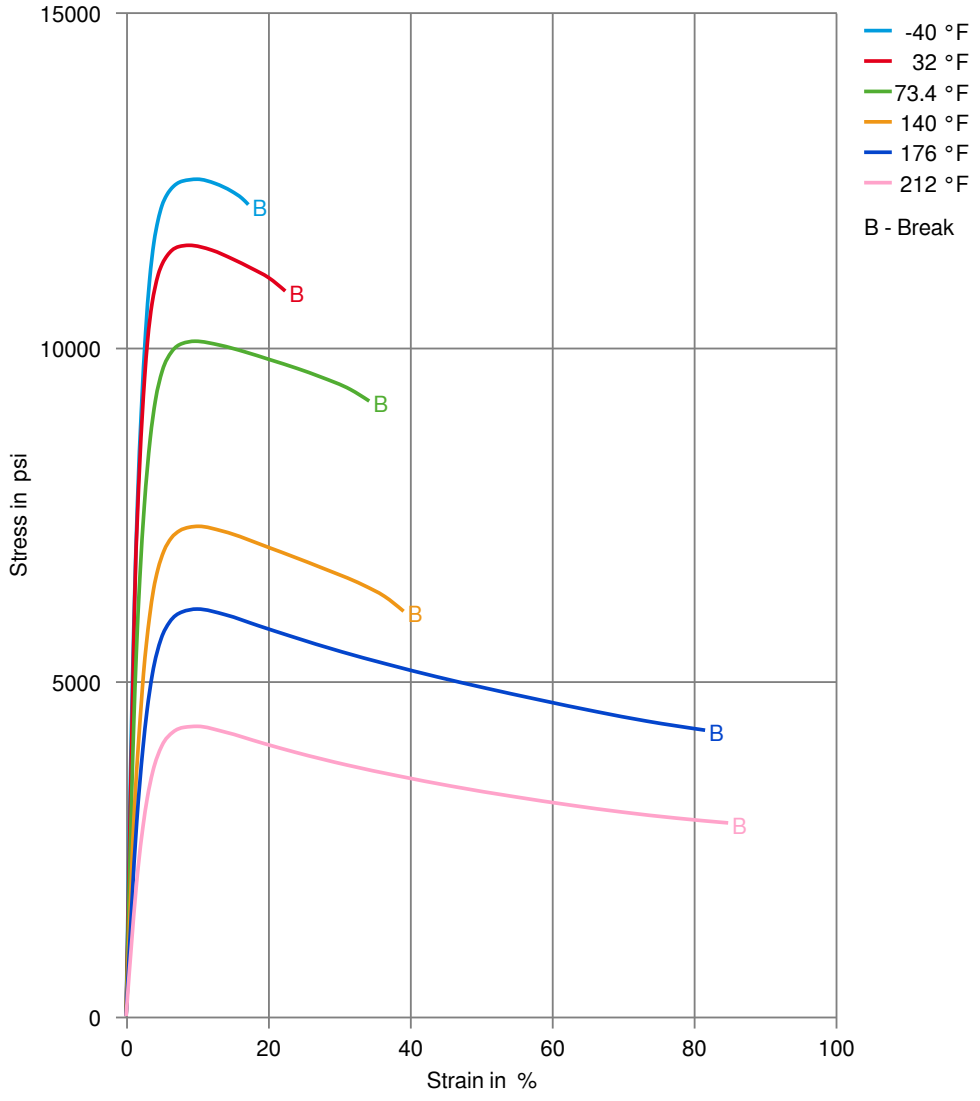
Processing Notes

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.

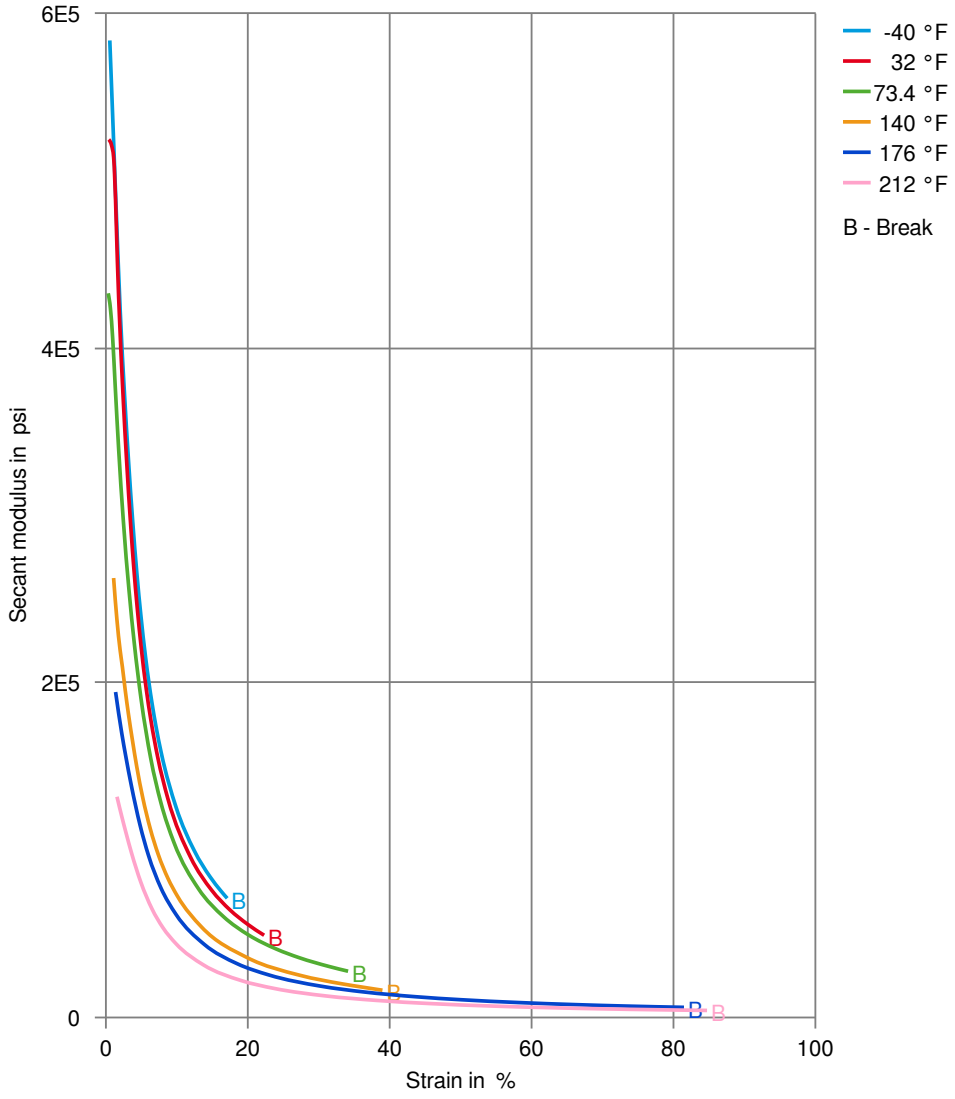
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Stress-strain



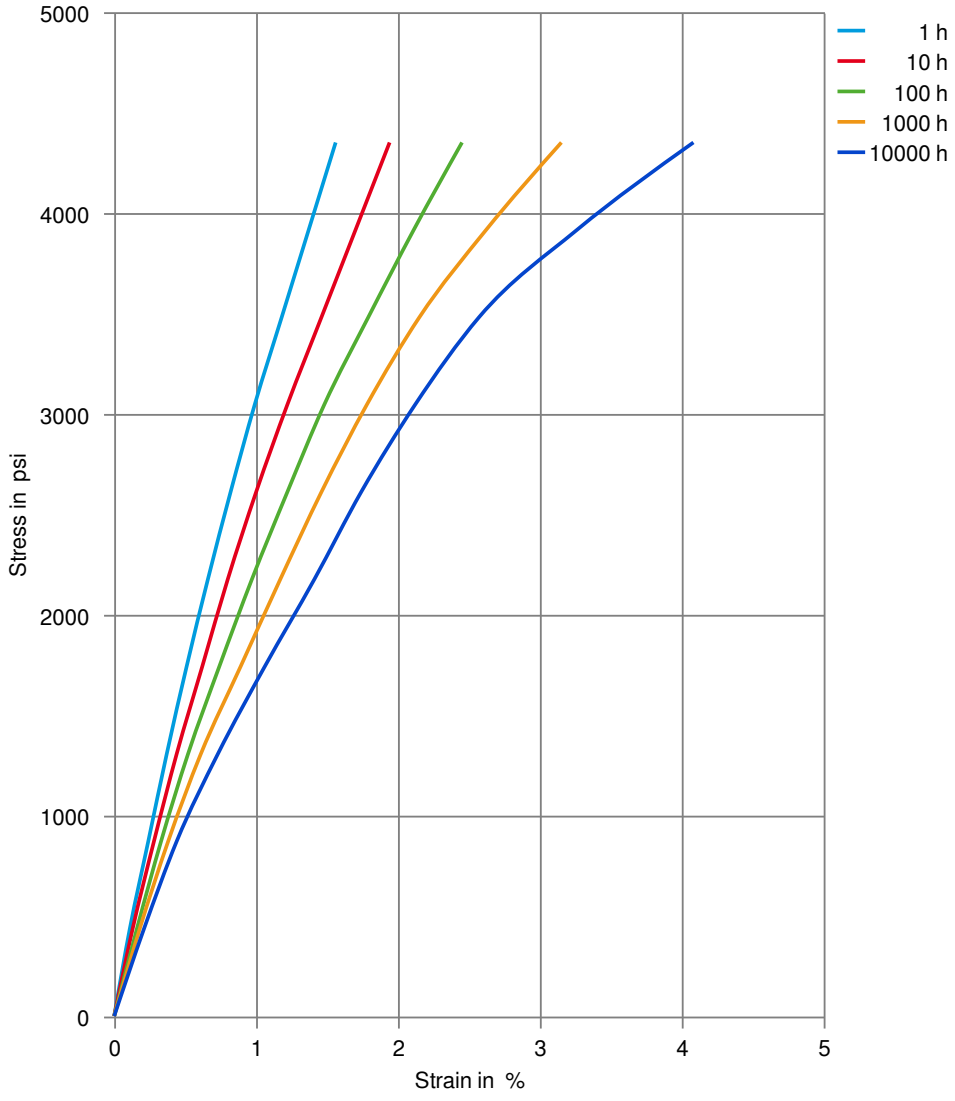
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Secant modulus-strain



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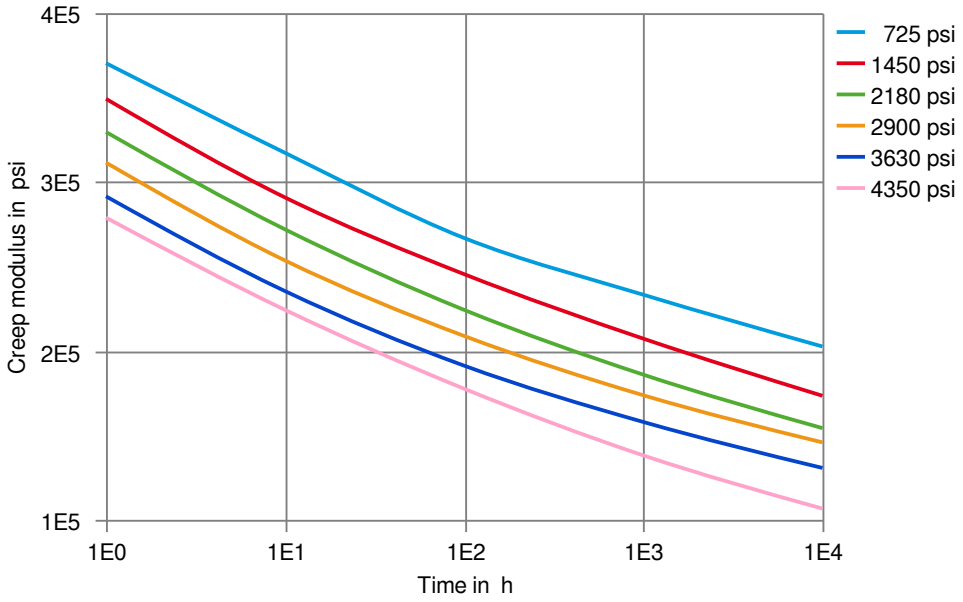
Stress-strain (isochronous) 73.4 °F



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Creep modulus-time 73.4 °F



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