

## HOSTAFORM® MT12R01 - POM

### Description

Improved flow and slip grade for medical technology applications

Hostaform® MT12R01 is a low melt viscosity and improved slip grade for fast cycling, thin walled injection molding.

Hostaform® MT12R01 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/m <sup>3</sup>	ISO 1183
Melt volume rate, MVR	12	cm <sup>3</sup> /10min	ISO 1133
MVR temperature	190	°C	ISO 1133
MVR load	2,16	kg	ISO 1133
Molding shrinkage, parallel	2,0	%	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	9	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	25	%	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	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	6,5	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30°C	6	kJ/m <sup>2</sup>	ISO 179/1eA
Ball indentation hardness, 30s	143	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	102	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	151	°C	ISO 306
Coeff. of linear therm expansion, parallel	1,1	E-4/°C	ISO 11359-2

### Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Drying time	3 - 4	h	-
Drying temperature	100 - 120	°C	-
Temperature	Value	Unit	Test Standard
Zone1 temperature	170 - 180	°C	-
Zone2 temperature	180 - 190	°C	-
Zone3 temperature	180 - 190	°C	-
Zone4 temperature	190 - 200	°C	-
Nozzle temperature	190 - 200	°C	-
Melt temperature	180 - 200	°C	-
Mold temperature	80 - 120	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	40	bar	-
Speed	Value	Unit	Test Standard
Injection speed	slow-medium	-	-

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### Other text information

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#### 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

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#### Product Categories

Medical technology, Tribological

#### Delivery Form

Pellets

#### Processing

Injection molding

#### Additives

Lubricants, Release agent

### Contact Information

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### General Disclaimer

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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. 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. The products mentioned herein are not intended for use in medical or dental implants.

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