

# HOSTAFORM<sup>®</sup> C 13021

Injection molding grade with moderate flow

Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 04-002 POM copolymer Easy flowing Injection molding type for precision molded parts and thin-walled molded parts with high rigidity, hardness and toughness; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation. Monomers and additives are listed in EU-Regulation (EU) 10/2011 FDA compliant according to 21 CFR 177.2470 UL-registration for all colours and a thickness more than 1.5 mm as UL 94 HB, temperature index UL 746 B electrical 110 °C, mechanical 90 °C. Burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm. Ranges of applications: automotive engineering, precision engineering, electric and electronical industry, domestic appliances. FDA = Food and Drug Administration (USA) UL = Underwriters Laboratories (USA) FMVSS = Federal Motor Vehicle Safety Standard (USA)

## Product information

Part Marking Code	POM	ISO 11469
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## Rheological properties

Melt volume-flow rate	12 cm <sup>3</sup> /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	2900 MPa	ISO 527-1/-2
Yield stress, 50mm/min	65 MPa	ISO 527-1/-2
Yield strain, 50mm/min	9 %	ISO 527-1/-2
Nominal strain at break	28 %	ISO 527-1/-2
Flexural Modulus	2750 MPa	ISO 178
Flexural Stress at 3.5%	72 MPa	ISO 178
Shear Modulus	1000 MPa	ISO 6721
Tensile creep modulus, 1h	2500 MPa	ISO 899-1
Tensile creep modulus, 1000h	1300 MPa	ISO 899-1
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, H 358/30	143 MPa	ISO 2039-1

## Thermal properties

Melting temperature, 10°C/min	166 °C	ISO 11357-1/-3
Temp. of deflection under load, 1.8 MPa	106 °C	ISO 75-1/-2
Vicat softening temperature, 50°C/h, 50N	151 °C	ISO 306
Coeff. of linear therm. expansion, parallel	110 E-6/K	ISO 11359-1/-2
Thermal conductivity of melt	0.155 W/(m K)	Internal
Spec. heat capacity of melt	2210 J/(kg K)	Internal

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## Flammability

Burning Behav. at 1.5mm nom. thickn.	HB class	UL 94
Thickness tested	1.5 mm	UL 94
Burning Behav. at thickness h	HB class	UL 94
Thickness tested	3.00 mm	UL 94
UL recognition	yes	UL 94

## Electrical properties

Relative permittivity, 100Hz	4	IEC 62631-2-1
Relative permittivity, 1MHz	4	IEC 62631-2-1
Dissipation factor, 100Hz	20 E-4	IEC 62631-2-1
Dissipation factor, 1MHz	50 E-4	IEC 62631-2-1
Volume resistivity	1E12 Ohm.m	IEC 62631-3-1
Surface resistivity	1E14 Ohm	IEC 62631-3-2
Electric strength	35 kV/mm	IEC 60243-1
Comparative tracking index	PLC 0 PLC	UL 746A

## Other properties

Humidity absorption, 2mm	0.2 %	Sim. to ISO 62
Water absorption, 2mm	0.65 %	Sim. to ISO 62
Density	1410 kg/m <sup>3</sup>	ISO 1183
Density of melt	1200 kg/m <sup>3</sup>	Internal

## Injection

Drying Temperature	100 - 120 °C	
Drying Time, Dehumidified Dryer	3 - 4 h	
Processing Moisture Content	0.15 %	
Melt Temperature Optimum	210 °C	Internal
Screw tangential speed	0.2 - 0.21 m/s	
Max. mould temperature	80 - 120 °C	
Back pressure	4 MPa	
Injection speed	slow-medium	
Ejection temperature	140 °C	Internal

## Characteristics

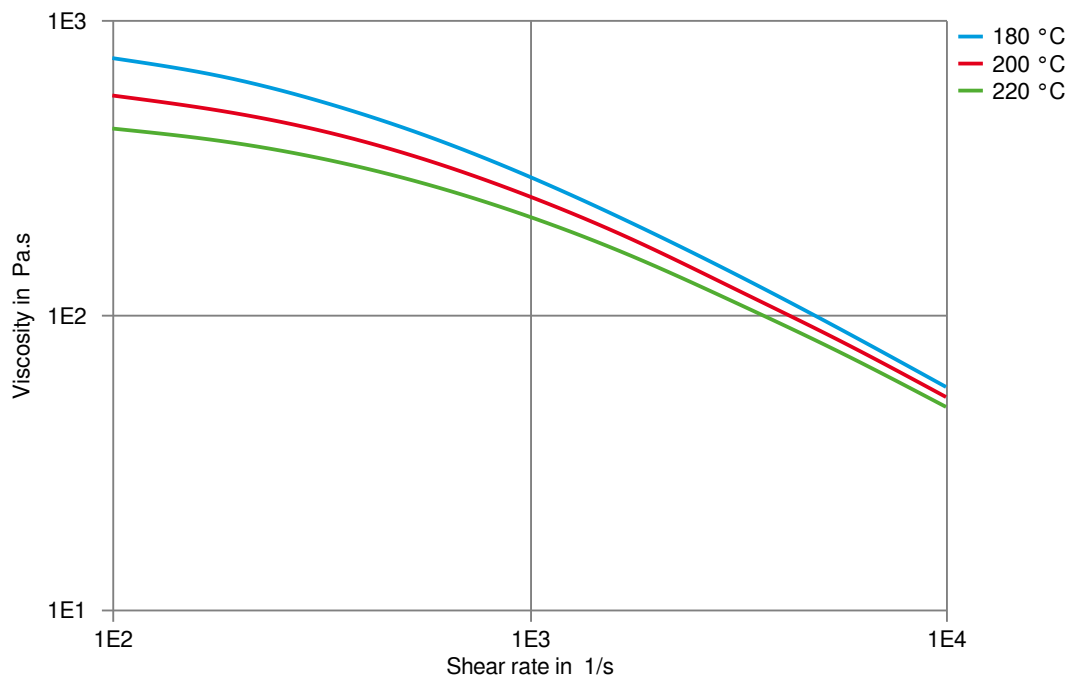
Additives Release agent

## Additional information

Injection molding Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.

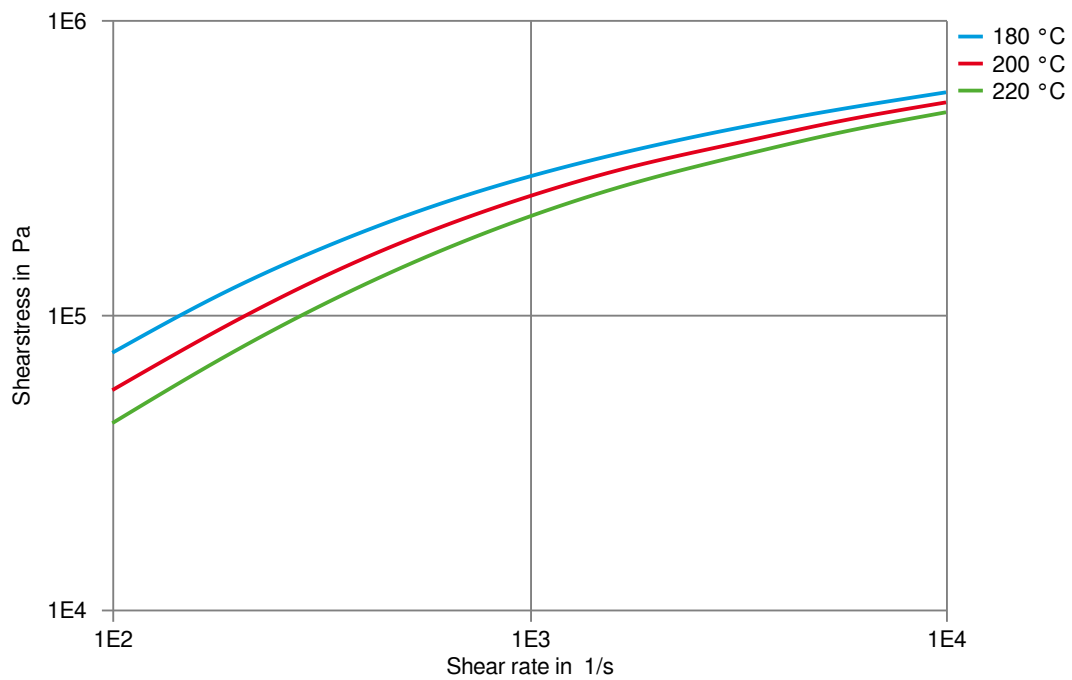
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## Viscosity-shear rate



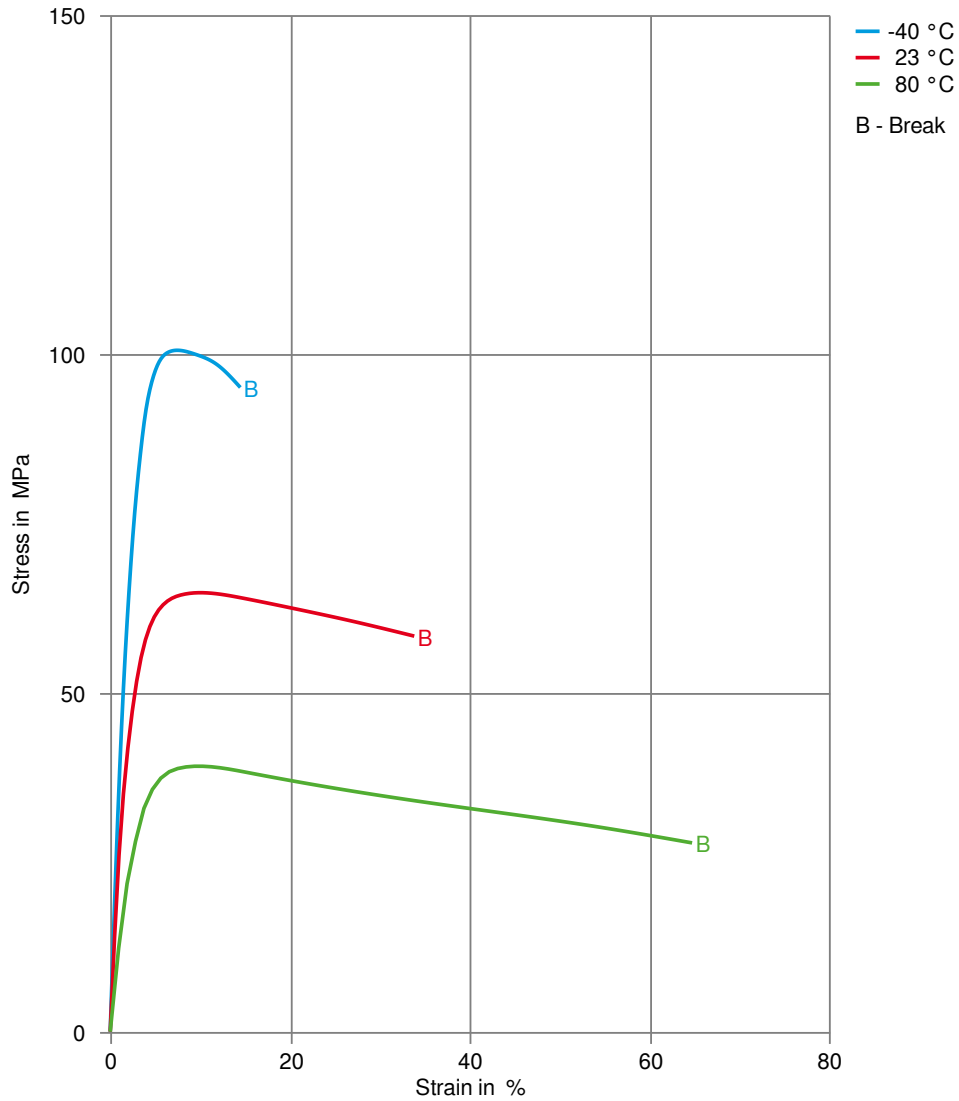
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## Shearstress-shear rate



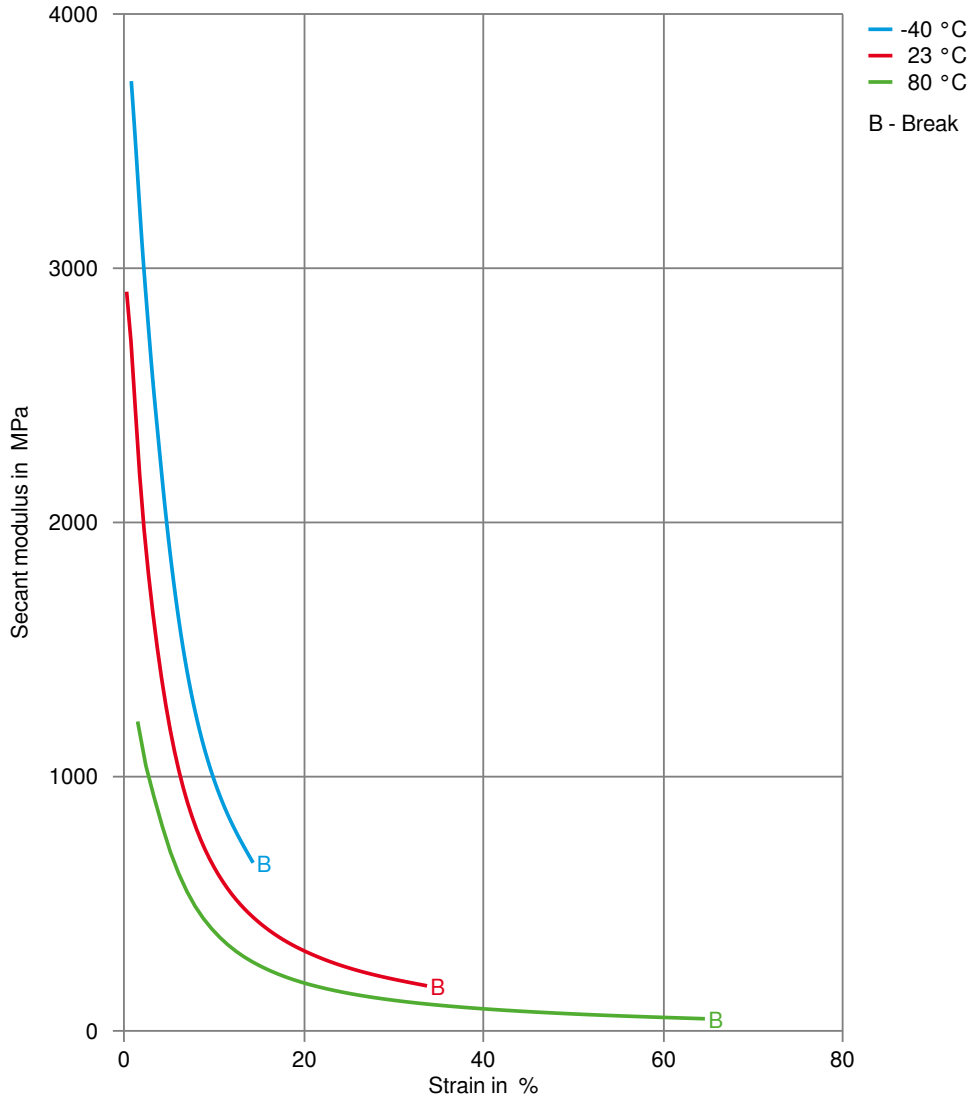
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## Stress-strain



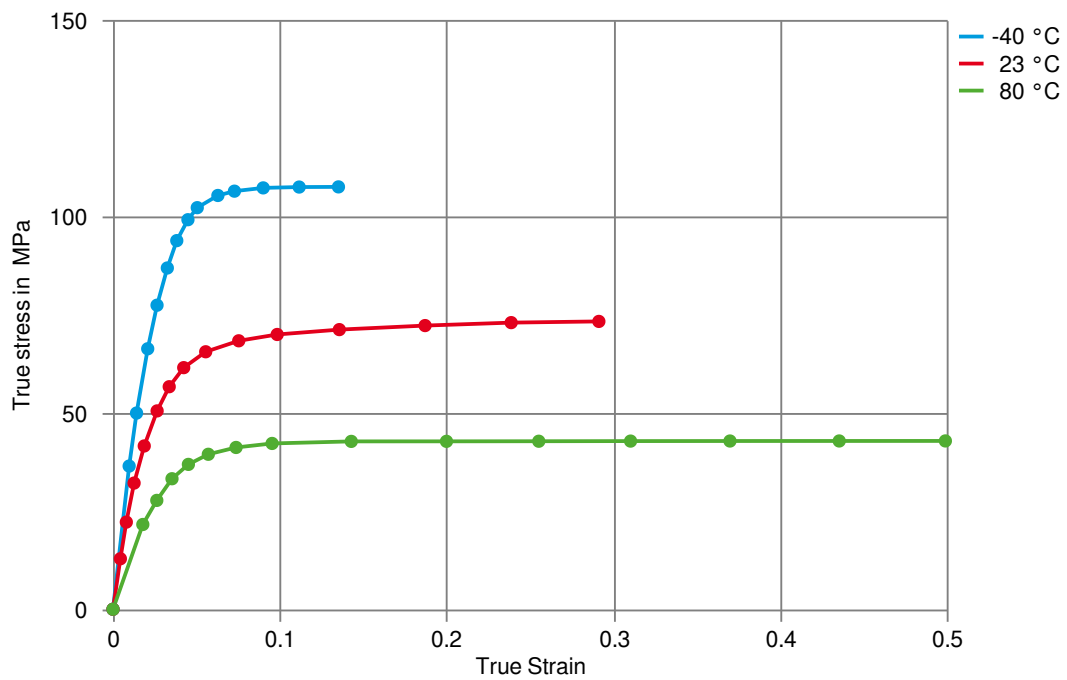
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## Secant modulus-strain



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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 or through regrind use, drying may be necessary to prevent splay and odor problems.
Longer pre-drying times/storage	The product can then be stored in standard conditions until processed.
Injection molding	Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.
Injection molding Preprocessing	<p>General drying is not necessary due to low moisture absorption of the resin.</p> <p>In case of bad storage conditions (water contact or condensed water) the use of a recirculating air dryer (100 to 120 °C / max. 40 mm layer / 3 to 6 hours) is recommended.</p> <p>Max. Water content 0,2 %</p>
Injection molding Postprocessing	Conditioning e.g. moisturizing is not necessary.

## Other Approvals

### Other Approvals

OEM	Specification	Additional Information
BMW	GS 93016	
Bosch	N28 BN22-O024	Colors
Continental	TST N 055 54.07	
Mercedes-Benz Group (Daimler)	DBL 5403	(5403.00)
Mercedes-Benz Group (Daimler)	DBL 5405	(5405.01)
Mercedes-Benz Group (Daimler)	DBL 5406	(5406.00)
Mercedes-Benz Group (Daimler)	DBL 5410	(5410.00)
Mercedes-Benz Group (Daimler)	DBL 5420	(5420.00)
Mercedes-Benz Group	DBL 5410	Natural



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(Daimler)		
Ford	WSK-M4D635-A2	Natural & Black 12
Renault		F 1605006/ 4901502
Renault	UB03f	PMR2020
Toyota	TSM5515G-1B	

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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