

HOSTAFORM® C 13031 - POM
Description

Injection molding grade with moderate flow, about 10% higher strength, rigidity and hardness than C 13021
 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 like C 13021, but with higher strength, rigidity and hardness over the entire permissible temperature range for
 HOSTAFORM; 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; burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness
 more than 1 mm. Ranges of applications: For molded parts with higher requirements to strength, rigidity und hardness, ranges of applications with
 fuel contact. FDA = Food and Drug Administration (USA) UL = Underwriters Laboratories (USA) FMVSS = Federal Motor Vehicle Safety Standard
 (USA)

Physical properties	Value	Unit	Test Standard
Density	1410	kg/m ³	ISO 1183
Melt volume rate, MVR	12	cm ³ /10min	ISO 1133
MVR temperature	190	°C	ISO 1133
MVR load	2.16	kg	ISO 1133
Molding shrinkage, parallel (flow)	2.0	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	1.8	%	ISO 294-4, 2577
Water absorption, 23 °C-sat	0.65	%	Sim. to ISO 62
Humidity absorption, 23 °C/50%RH	0.2	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	3050	MPa	ISO 527-1, -2
Tensile stress at yield, 50mm/min	68	MPa	ISO 527-1, -2
Tensile strain at yield, 50mm/min	8	%	ISO 527-1, -2
Tensile nominal strain at break, 50mm/min	28	%	ISO 527-1, -2
Tensile creep modulus, 1h	2750	MPa	ISO 899-1
Tensile creep modulus, 1000h	1450	MPa	ISO 899-1
Flexural modulus, 23 °C	3000	MPa	ISO 178
Flexural stress at 3.5% strain	78	MPa	ISO 178
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	6.7	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30 °C	6	kJ/m ²	ISO 179/1eA
Compressive stress at 1% strain	31	MPa	ISO 604
Ball indentation hardness, 30s	156	MPa	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	170	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	107	°C	ISO 75-1, -2
DTUL at 0.45 MPa	161	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	1.1	E-4/°C	ISO 11359-2
Flammability @1.6mm nom. thickn.	HB	class	UL 94
thickness tested (1.6)	1.5	mm	UL 94
Flammability at thickness h	HB	class	UL 94
thickness tested (h)	3.00	mm	UL 94
UL recognition (h)	UL	-	UL 94

Electrical properties	Value	Unit	Test Standard
Dielectric constant (Dk), 100Hz	4	-	IEC 60250
Dielectric constant (Dk), 1MHz	4	-	IEC 60250
Dissipation factor, 100Hz	20	E-4	IEC 60250
Dissipation factor, 1MHz	50	E-4	IEC 60250
Volume resistivity, 23 °C	1E12	Ohm*m	IEC 62631-3-1
Surface resistivity, 23 °C	1E14	Ohm	IEC 62631-3-2
Electric strength, 23 °C (AC)	35	kV/mm	IEC 60243-1

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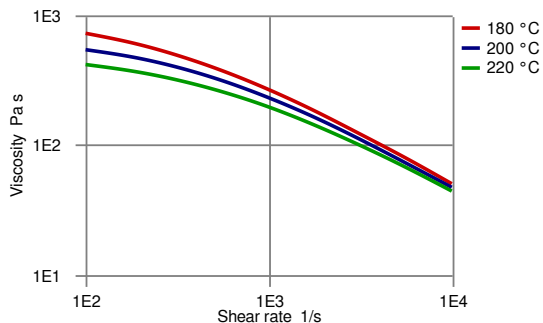
Comparative tracking index	PLC 0	-	UL 746
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Rheological calculation properties

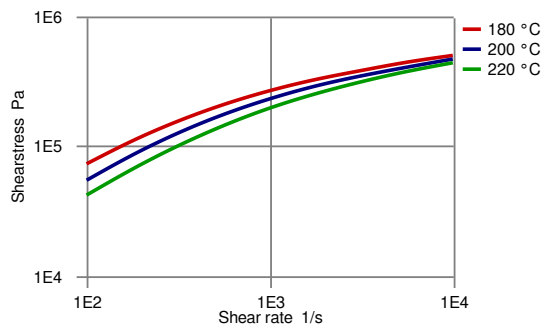
	Value	Unit	Test Standard
Thermal conductivity of melt	0.155	W/(m K)	Internal

Diagrams

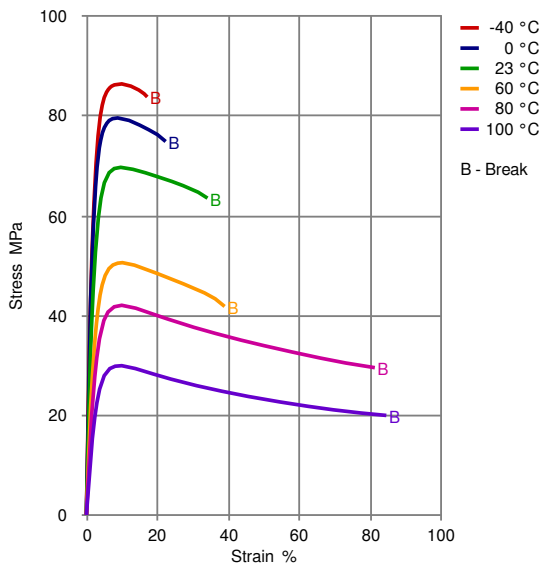
Viscosity-shear rate



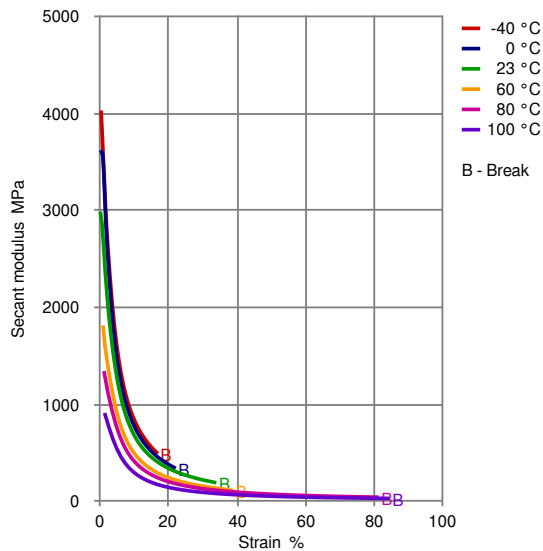
Shear stress-shear rate

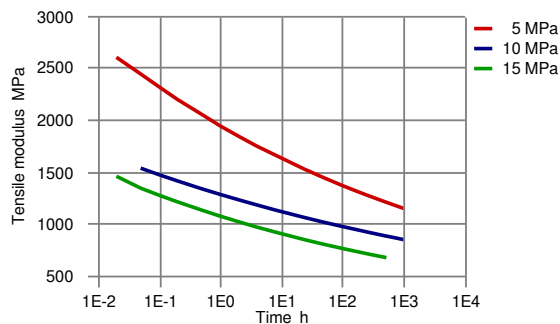
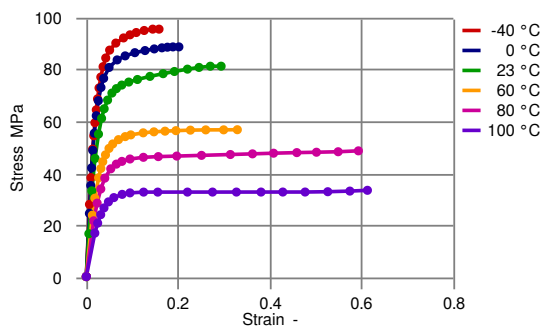


Stress-strain



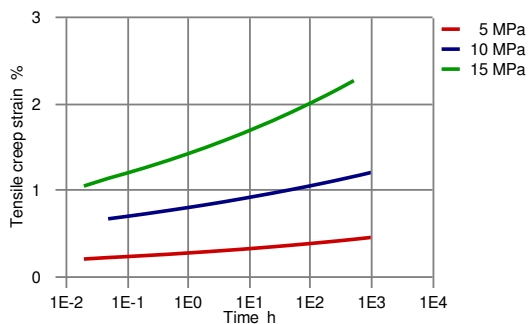
Secant modulus-strain





-40 °C yield at 0.09542 strain, 93.411 stress
 0 °C yield at 0.08486 strain, 85.275 stress
 23 °C yield at 0.09271 strain, 75.157 stress
 60 °C yield at 0.09720 strain, 54.751 stress
 80 °C yield at 0.09536 strain, 45.432 stress
 100 °C yield at 0.09536 strain, 32.342 stress

Creep strain-time 80 °C



Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	0.15	%
Drying time	3 - 4	h

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Drying temperature	100 - 120	°C
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Temperature	Value	Unit
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Hopper temperature	20 - 30	°C
Feeding zone temperature	60 - 80	°C
Zone1 temperature	170 - 180	°C
Zone2 temperature	180 - 190	°C
Zone3 temperature	190 - 200	°C
Zone4 temperature	190 - 210	°C
Nozzle temperature	190 - 210	°C
Melt temperature	190 - 220	°C
Mold temperature	80 - 120	°C
Hot runner temperature	190 - 210	°C

Pressure	Value	Unit
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Back pressure max.	40	bar
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Speed	Value
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Injection speed	slow-medium
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Screw Speed	Value	Unit
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Screw speed diameter, 25mm	150	RPM
Screw speed diameter, 40mm	100	RPM
Screw speed diameter, 55mm	70	RPM

Other text information

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

General drying is not necessary due to low moisture absorption of the resin.

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.

Max. Water content 0,2 %

Injection Molding Postprocessing

Conditioning e.g. moisturizing is not necessary.

Characteristics

Special Characteristics	Auto spec approved, Chemical resistant, Fuel resistant, Hydrolysis resistant
Product Categories	Unfilled
Processing	Injection molding
Regulatory	Drinking water approved, FDA food contact compliant

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Delivery Form	Pellets
Additives	Release agent

Other Approvals

OEM	Specification	Additional Information
Bosch	N28 BN22-O025	Natural & Black
Stellantis - Chrysler	CPN 4270	Natural
Continental	TST N 055 54.11	
Continental	TST N 055 54.11	(TST N 055 54.11-001)
Continental	TST N 055 54.30	
Mercedes-Benz Group (Daimler)		Fuel (Natural & Black)
Ford	WSK-M4D635-A2	Natural & Black 12
GM	GMW22P-POM-C3	Natural
Li Auto	Q/LiA5310020	2021 (V2)
Stellantis - PSA Group	FTM69 0008	
Stellantis - PSA Group	01994_14_00057	
Renault	UB03f	PMR2020
VW Group	TL52636-A	
VW Group	TL52636-C	

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General Disclaimer

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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