

**HOSTAFORM® C 9021 - POM**
**Description**

General purpose injection molding grade

Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 03-002 POM copolymer Standard- Injection molding type 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) FMVSS = Federal Motor Vehicle Safety Standard (USA) UL = Underwriters Laboratories (USA)

Physical properties	Value	Unit	Test Standard
Density	1410	kg/m <sup>3</sup>	ISO 1183
Melt volume rate, MVR	8	cm <sup>3</sup> /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	1.9	%	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	2850	MPa	ISO 527-1, -2
Tensile stress at yield, 50mm/min	64	MPa	ISO 527-1, -2
Tensile strain at yield, 50mm/min	9	%	ISO 527-1, -2
Tensile nominal strain at break, 50mm/min	30	%	ISO 527-1, -2
Tensile creep modulus, 1h	2500	MPa	ISO 899-1
Tensile creep modulus, 1000h	1300	MPa	ISO 899-1
Flexural modulus, 23°C	2700	MPa	ISO 178
Flexural stress at 3.5% strain	72	MPa	ISO 178
Charpy impact strength, 23°C	220 <sup>[P]</sup>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30°C	220	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
Compressive stress at 1% strain	24	MPa	ISO 604
Compressive stress at 6% strain	86	MPa	ISO 604
Ball indentation hardness, 30s	144	MPa	ISO 2039-1

P: Partial Break

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	166	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	104	°C	ISO 75-1, -2
DTUL at 0.45 MPa	160	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	1.1	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	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
Dielectric constant (Dk), 2GHz	3	-	IEC 61189-2-721
Dielectric constant (Dk), 5GHz	2.9	-	IEC 61189-2-721
Dielectric constant (Dk), 10GHz	3.2	-	IEC 61189-2-721

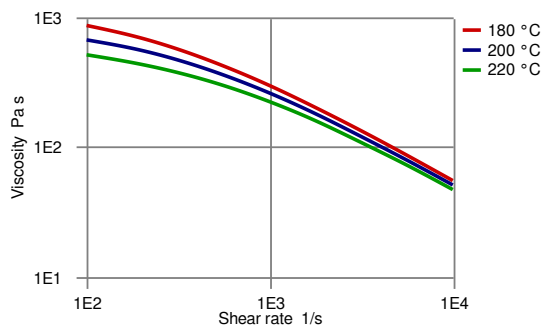
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Dissipation factor, 100Hz	20	E-4	IEC 60250
Dissipation factor, 1MHz	50	E-4	IEC 60250
Dissipation factor, 2GHz	466	E-4	IEC 61189-2-721
Dissipation factor, 5GHz	205	E-4	IEC 61189-2-721
Dissipation factor, 10GHz	144	E-4	IEC 61189-2-721
Volume resistivity, 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
Comparative tracking index	PLC 0	-	UL 746

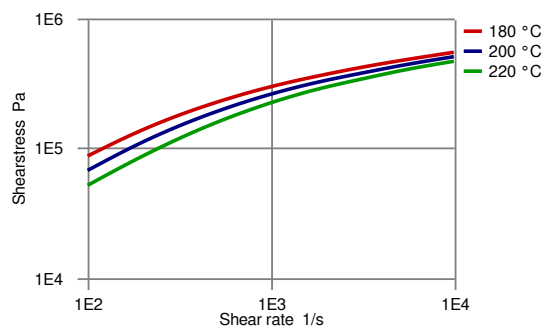
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	1200	kg/m <sup>3</sup>	Internal
Thermal conductivity of melt	0.155	W/(m K)	Internal
Spec. heat capacity melt	2210	J/(kg K)	Internal
Eff. thermal diffusivity	4.85E-8	m <sup>2</sup> /s	Internal
Ejection temperature	140	°C	Internal

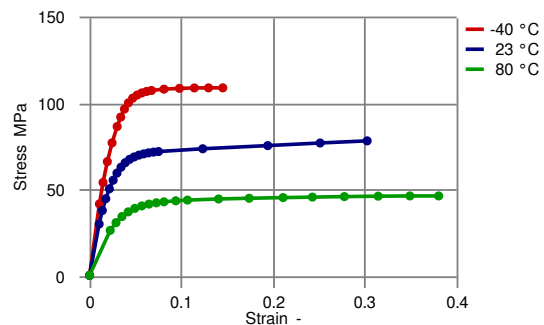
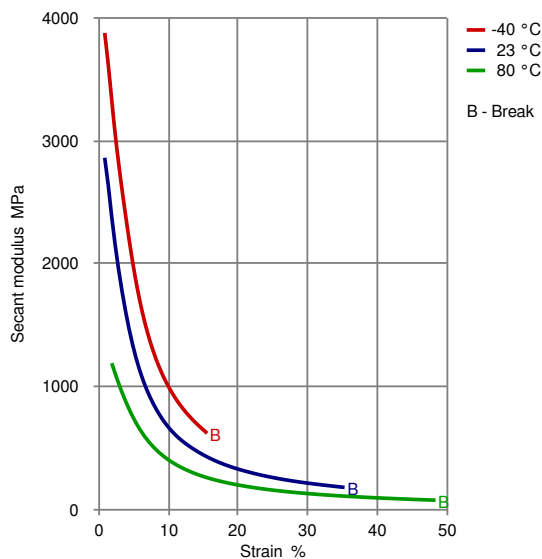
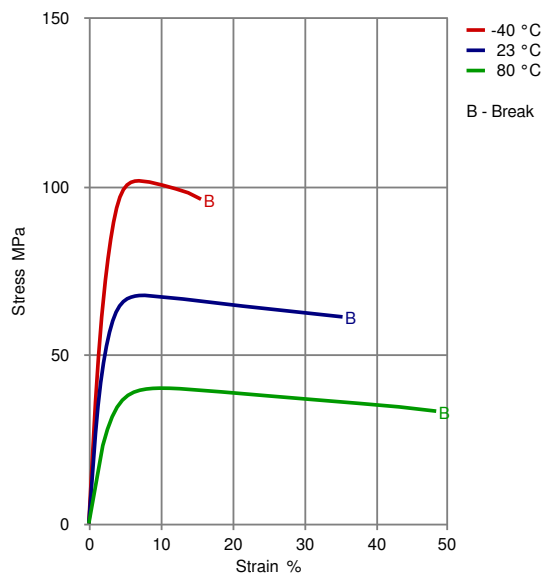
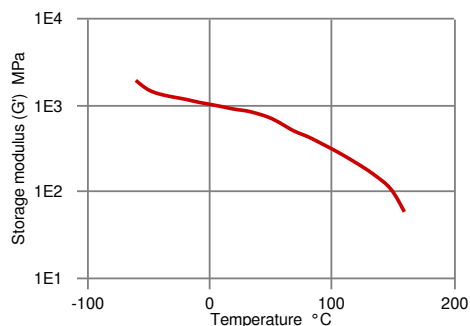
## Diagrams

### Viscosity-shear rate

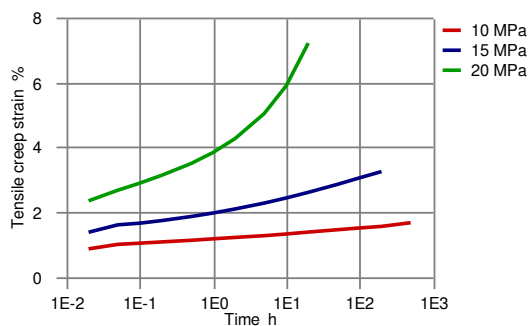
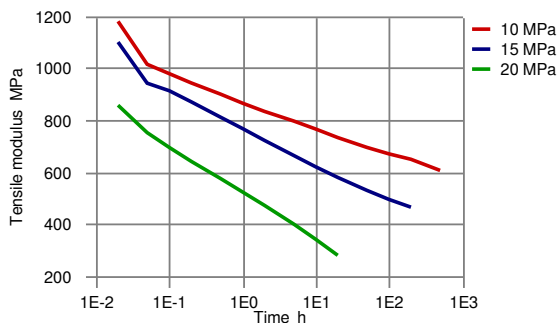
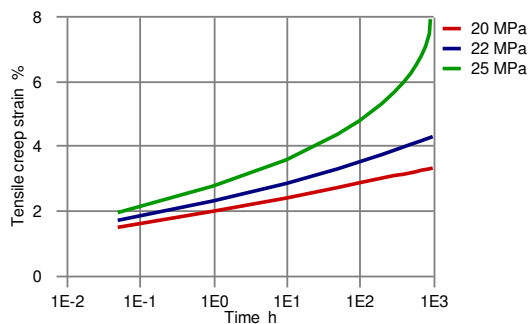
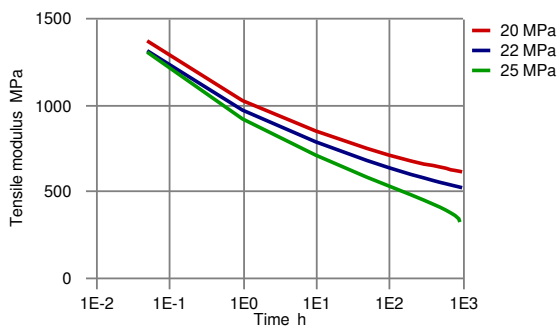


### Shear stress-shear rate





-40 °C yield at 0.06764 strain, 107.1492 stress  
 23 °C yield at 0.07529 strain, 71.762 stress  
 80 °C yield at 0.09422 strain, 43.218 stress  
 Poisson's ratio used is 0.399



Typical injection moulding processing conditions

Pre Drying

Necessary low maximum residual moisture content  
 Drying time  
 Drying temperature

Value Unit

0.15 %  
 3 - 4 h  
 100 - 120 °C

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Temperature	Value	Unit
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
Back pressure max.	40	bar

Speed	Value
Injection speed	slow-medium

Screw Speed	Value	Unit
Screw speed diameter, 25mm	150	RPM
Screw speed diameter, 40mm	100	RPM
Screw speed diameter, 55mm	70	RPM

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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 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.

#### Film extrusion

Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

#### Film Extrusion 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

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layer / 3 to 6 hours) is recommended.

Max. Water content 0,2 %

### Film Extrusion Postprocessing

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Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C

Annealing time 10 min/mm thickness

### Other extrusion

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Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

### Other Extrusion Preprocessing

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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 %

### Other Extrusion Postprocessing

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Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C

Annealing time 10 min/mm thickness

### Sheet extrusion

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Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

### Sheet Extrusion Preprocessing

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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 %

### Sheet Extrusion Postprocessing

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Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C

Annealing time 10 min/mm thickness

## HOSTAFORM® C 9021 - POM

### Characteristics

<b>Special Characteristics</b>	Auto spec approved, Chemical resistant, Fuel resistant, Hydrolysis resistant
<b>Product Categories</b>	Unfilled
<b>Processing</b>	Blow molding, Film extrusion, Injection molding, Other extrusion, Profile extrusion, Sheet extrusion
<b>Regulatory</b>	Drinking water approved, FDA food contact compliant
<b>Delivery Form</b>	Pellets
<b>Additives</b>	Release agent

### Other Approvals

OEM	Specification	Additional Information
BJEV	Q-BJEV 01.59	
BMW	GS 93016	
Bosch	N28 BN22-O010	Colors
Stellantis - Chrysler	CPN 1532	Natural
Continental	SN 57914-7	
Continental	TST N 055 54.07	
Mercedes-Benz Group (Daimler)		Door lock parts
Ford	WSK-M4D635-A2	Natural & Black 14
GM	GMW22P-POM-C2	Natural
Nissan	POM-INx-1	
Stellantis - PSA Group	DT00102.AS POM - 003	
Toyota	TSM5515-1B	
VW Group	TL52636-A	
VW Group	TL52636-C	

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