

**HOSTAFORM® C 9021 GV1/30 - POM**
**Description**

Injection molding grade, reinforced with ca. 26 % glass fibers

Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 02-003, GF26 POM copolymer Injection molding type, reinforced with ca 26 % glass fibers; high resistance to thermal and oxidative degradation; reduced thermal expansion and shrinkage. UL-registration for all colours and a thickness more than 1.57 mm as UL 94 HB, temperature index UL 746 B electrical 105 °C, mechanical 95 °C (tensile impact) and 100 °C (tensile). Burning rate ISO 3795 and FMVSS 302 < 100 mm/min and a thickness more than 1 mm thickness. Ranges of applications: For molded parts with very high strength and rigidity as well as higher hardness. FMVSS = Federal Motor Vehicle Safety Standard (USA) UL = Underwriters Laboratories (USA)

<b>Physical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1600</b>	kg/m <sup>3</sup>	ISO 1183
Melt volume rate, MVR	<b>4</b>	cm <sup>3</sup> /10min	ISO 1133
MVR temperature	<b>190</b>	°C	ISO 1133
MVR load	<b>2.16</b>	kg	ISO 1133
Molding shrinkage, parallel (flow)	<b>0.6</b>	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	<b>1.0</b>	%	ISO 294-4, 2577
Water absorption, 23 °C-sat	<b>0.9</b>	%	Sim. to ISO 62
Humidity absorption, 23 °C/50%RH	<b>0.17</b>	%	ISO 62
<b>Mechanical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Tensile modulus	<b>9200</b>	MPa	ISO 527-1, -2
Tensile stress at break, 5mm/min	<b>135</b>	MPa	ISO 527-1, -2
Tensile strain at break, 5mm/min	<b>2.5</b>	%	ISO 527-1, -2
Tensile creep modulus, 1h	<b>7700</b>	MPa	ISO 899-1
Tensile creep modulus, 1000h	<b>5400</b>	MPa	ISO 899-1
Flexural modulus, 23 °C	<b>7800</b>	MPa	ISO 178
Flexural strength, 23 °C	<b>165</b>	MPa	ISO 178
Charpy impact strength, 23 °C	<b>30</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -30 °C	<b>35</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23 °C	<b>8</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -30 °C	<b>8</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Ball indentation hardness, 30s	<b>200</b>	MPa	ISO 2039-1
<b>Thermal properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Melting temperature, 10 °C/min	<b>166</b>	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	<b>160</b>	°C	ISO 75-1, -2
DTUL at 8.0 MPa	<b>125</b>	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	<b>0.4</b>	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	<b>0.8</b>	E-4/°C	ISO 11359-2
Flammability @1.6mm nom. thickn.	<b>HB</b>	class	UL 94
thickness tested (1.6)	<b>1.6</b>	mm	UL 94
Flammability at thickness h	<b>HB</b>	class	UL 94
thickness tested (h)	<b>3.18</b>	mm	UL 94
UL recognition (h)	<b>UL</b>	-	UL 94
<b>Electrical properties</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Dielectric constant (Dk), 100Hz	<b>4.3</b>	-	IEC 60250
Dielectric constant (Dk), 1MHz	<b>4.3</b>	-	IEC 60250
Dissipation factor, 100Hz	<b>30</b>	E-4	IEC 60250
Dissipation factor, 1MHz	<b>60</b>	E-4	IEC 60250
Volume resistivity, 23 °C	<b>1E12</b>	Ohm*m	IEC 62631-3-1
Surface resistivity, 23 °C	<b>1E14</b>	Ohm	IEC 62631-3-2
Electric strength, 23 °C (AC)	<b>40</b>	kV/mm	IEC 60243-1
Comparative tracking index	<b>PLC 0</b>	-	UL 746

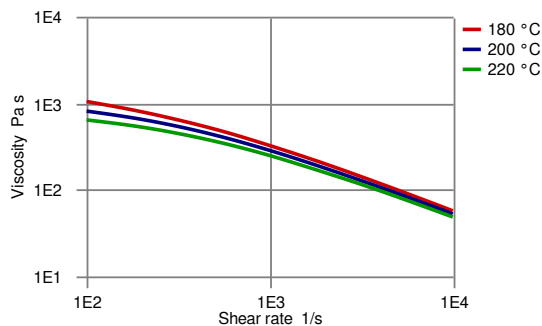
# HOSTAFORM® C 9021 GV1/30 - POM

## Rheological calculation properties

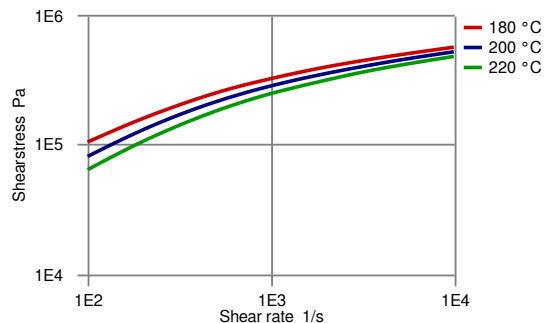
	Value	Unit	Test Standard
Density of melt	1350	kg/m <sup>3</sup>	Internal
Thermal conductivity of melt	0.215	W/(m K)	Internal
Spec. heat capacity melt	1810	J/(kg K)	Internal
Eff. thermal diffusivity	6.51E-8	m <sup>2</sup> /s	Internal
Ejection temperature	140	°C	Internal

## Diagrams

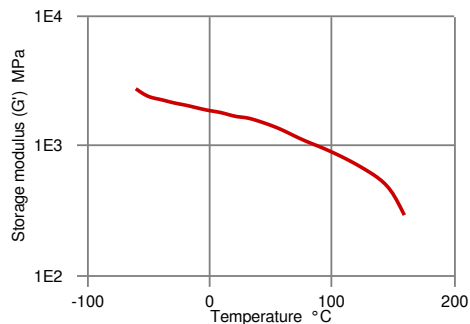
### Viscosity-shear rate



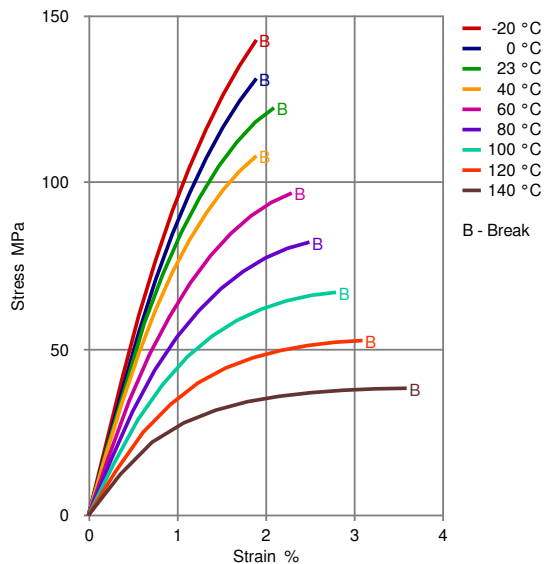
### Shear stress-shear rate



### Dynamic Shear modulus-temperature



### Stress-strain

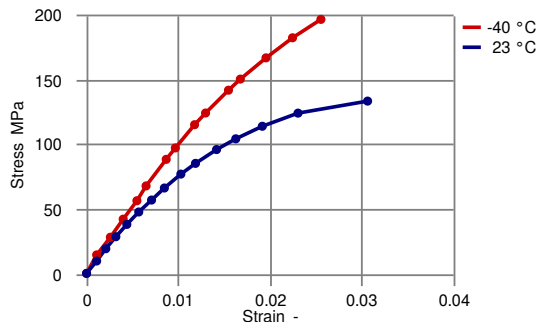
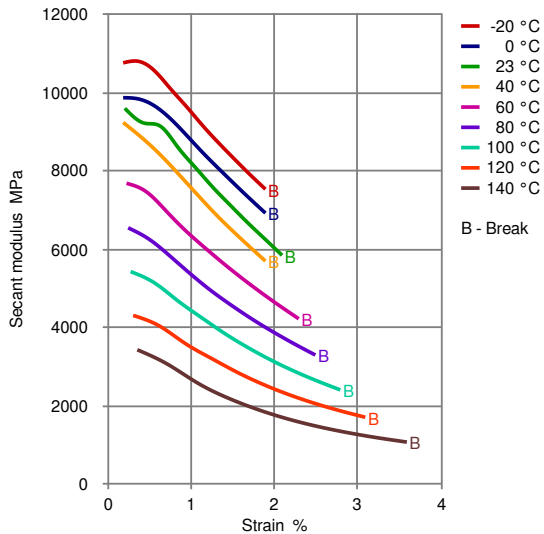


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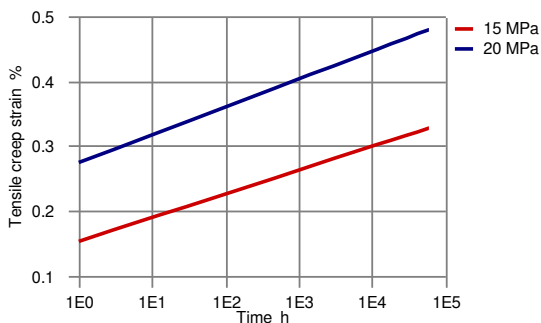
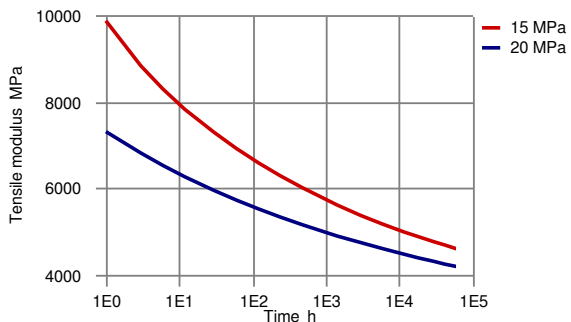
Secant modulus-strain

True Stress-strain



Creep modulus-time 85 °C

Creep strain-time 85 °C



Typical injection moulding processing conditions

Pre Drying

	Value	Unit
Necessary low maximum residual moisture content	0.15	%
Drying time	3 - 4	h
Drying temperature	100 - 120	°C

## HOSTAFORM® C 9021 GV1/30 - POM

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 - 210	°C
Mold temperature	80 - 120	°C
Hot runner temperature	190 - 210	°C

Pressure	Value	Unit
Back pressure max.	20	bar

Speed	Value
Injection speed	slow

Screw Speed	Value	Unit
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

<b>Special Characteristics</b>	Auto spec approved
<b>Product Categories</b>	Glass reinforced
<b>Processing</b>	Injection molding
<b>Regulatory</b>	Drinking water approved
<b>Delivery Form</b>	Pellets

**Additives**

Release agent

**Other Approvals**

OEM	Specification	Additional Information
BMW	GS 93016	
Bosch	N28 BN22-X010	Natural & Black
Continental	TST N 055 54.10	
Mercedes-Benz Group (Daimler)	DBL 5403	(5401.00)
Mercedes-Benz Group (Daimler)	DBL 5406	(5406.00)
Mercedes-Benz Group (Daimler)	DBL 5410	(5410.00)
Mercedes-Benz Group (Daimler)	DBL 5420	(5420.00)
GM	GMW17968P-POM-GF25	Natural
Toyota	TSM5606-1	

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