
HOSTAFORM® C 9021 GV1/30 | POM | Glass Reinforced

Description

Chemical abbreviation according to ISO 1043-1: POM
Molding compound ISO 9988- 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)

Physical properties	Value	Unit	Test Standard
Density	1600	kg/m ³	ISO 1183
Melt volume rate (MVR)	4	cm ³ /10min	ISO 1133
MVR test temperature	190	°C	ISO 1133
MVR test load	2.16	kg	ISO 1133
Water absorption (23°C-sat)	0.9	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	9200	MPa	ISO 527-2/1A
Tensile stress at break (5mm/min)	135	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	2.5	%	ISO 527-2/1A
Tensile creep modulus (1h)	7700	MPa	ISO 899-1
Tensile creep modulus (1000h)	5400	MPa	ISO 899-1
Flexural modulus (23°C)	7800	MPa	ISO 178
Charpy impact strength @ 23°C	30	kJ/m ²	ISO 179/1eU
Charpy impact strength @ -30°C	35	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	8	kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	8	kJ/m ²	ISO 179/1eA

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	166	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	160	°C	ISO 75-1/-2
DTUL @ 8.0 MPa	125	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	0.4	E-4/°C	ISO 11359-2
Coeff.of linear therm. expansion (normal)	0.8	E-4/°C	ISO 11359-2
Flammability @ 1.6mm nom. thickn.	HB	class	UL94
thickness tested (1.6)	1.57	mm	UL94
UL recognition (1.6)	UL	-	UL94
Flammability at thickness h	HB	class	UL94

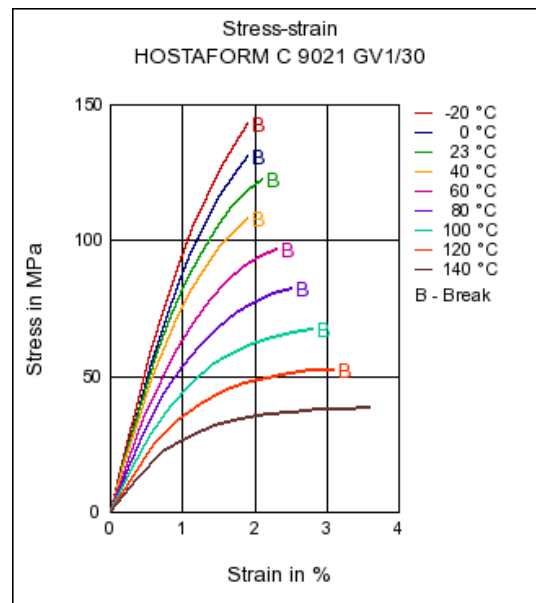
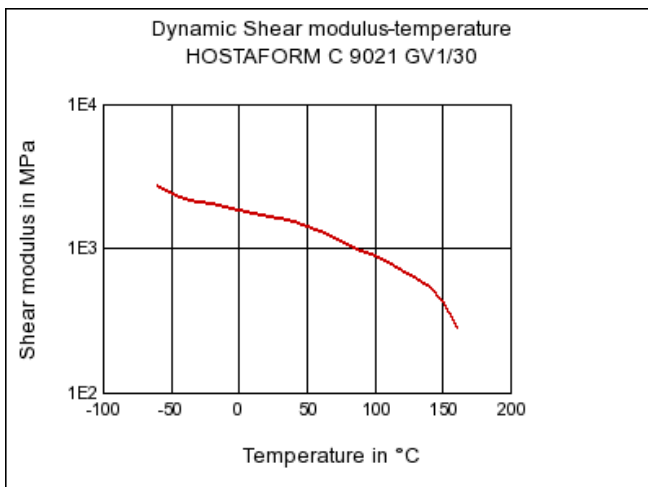
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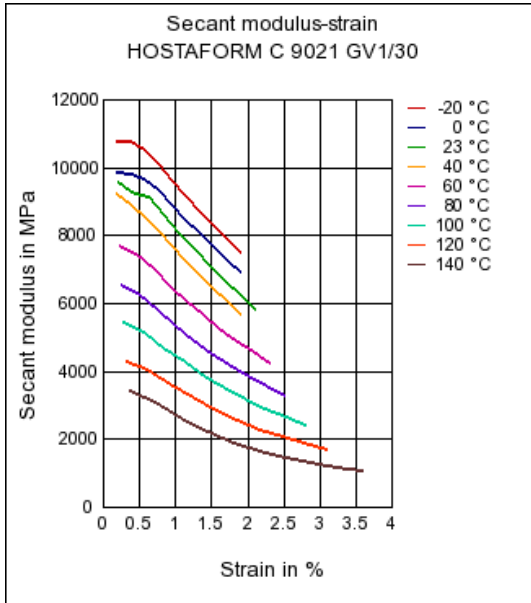
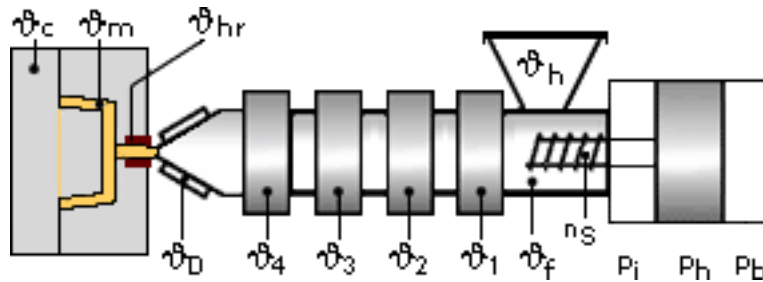
Thermal properties	Value	Unit	Test Standard
thickness tested (h)	3.18	mm	UL94
UL recognition (h)	UL	-	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	4.3	-	IEC 60250
Relative permittivity - 1 MHz	4.3	-	IEC 60250
Dissipation factor - 100 Hz	30	E-4	IEC 60250
Dissipation factor - 1 MHz	60	E-4	IEC 60250
Volume resistivity	1E12	Ohm*m	IEC 60093
Surface resistivity	1E14	Ohm	IEC 60093
Electric strength	40	kV/mm	IEC 60243-1
Comparative tracking index CTI	600	-	IEC 60112

Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	9988	-	Internal

Rheological Calculation properties	Value	Unit	Test Standard
Density of melt	1350	kg/m ³	Internal
Thermal conductivity of melt	0.215	W/(m K)	Internal
Specific heat capacity of melt	1810	J/(kg K)	Internal
Eff. thermal diffusivity	6.51E-8	m ² /s	Internal
Ejection temperature	164	°C	Internal

Dynamic Shear modulus-temperature
Stress-strain


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Secant modulus-strain

Typical injection moulding processing conditions

Pre Drying:
Necessary low maximum residual moisture content: 0.15%

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.

The product can then be stored in standard conditions until processed.

Drying time: 3 - 4 h
Drying temperature: 100 - 120 °C
Temperature:

	$\vartheta_{\text{Manifold}}$	ϑ_{Mold}	ϑ_{Melt}	$\vartheta_{\text{Nozzle}}$	ϑ_{Zone4}	ϑ_{Zone3}	ϑ_{Zone2}	ϑ_{Zone1}	ϑ_{Feed}	$\vartheta_{\text{Hopper}}$
min (°C)	190	80	190	190	190	190	180	170	60	20
max (°C)	210	120	210	210	210	200	190	180	80	30

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Pressure:

	Inj press	Hold press	Back pressure
min (bar)	600	600	0
max (bar)	1200	1200	20

Speed:
Injection speed: slow
Screw speed

Screw diameter (mm)	16	25	40	55	75
Screw speed (RPM)	-	150	100	70	-

Injection Molding

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

Melt temperature 190-230 °C
 Mould temperature 80-120 °C

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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.

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