

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
Humidity absorption (23°C/50%RH)	0.17	%	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
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
Vicat softening temperature B50 (50°C/h 50N)	158	°C	ISO 306
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

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Thermal properties	Value	Unit	Test Standard
UL recognition (1.6)	UL	-	UL94
Flammability at thickness h	HB	class	UL94
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

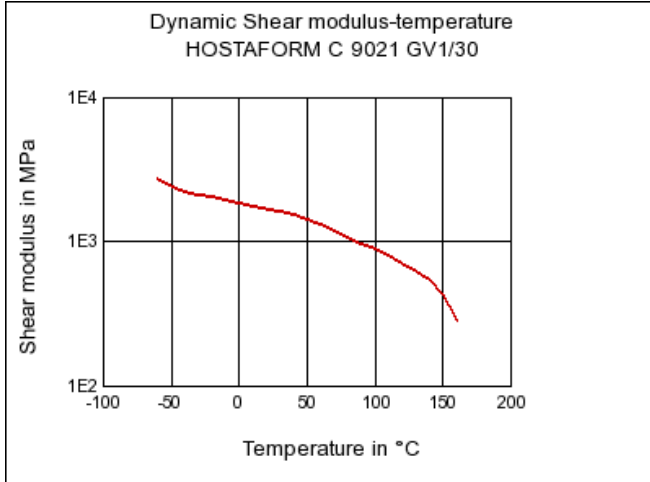
Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	9988	-	Internal
Injection molding melt temperature	195	°C	ISO 294
Injection molding mold temperature	85	°C	ISO 294
Injection molding flow front velocity	200	mm/s	ISO 294
Injection molding hold pressure	90	MPa	ISO 294

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

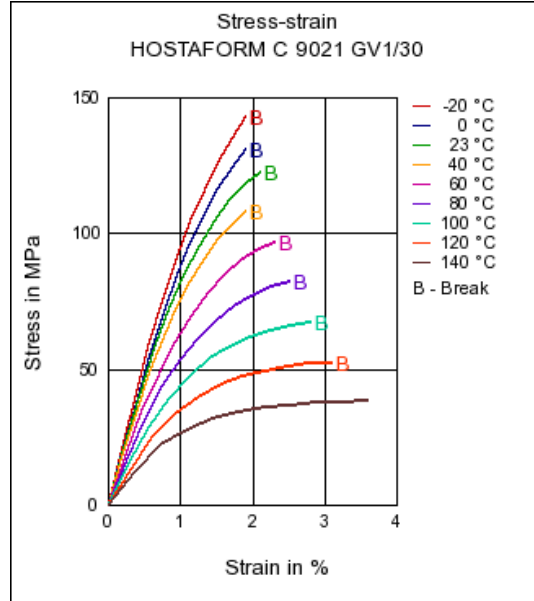
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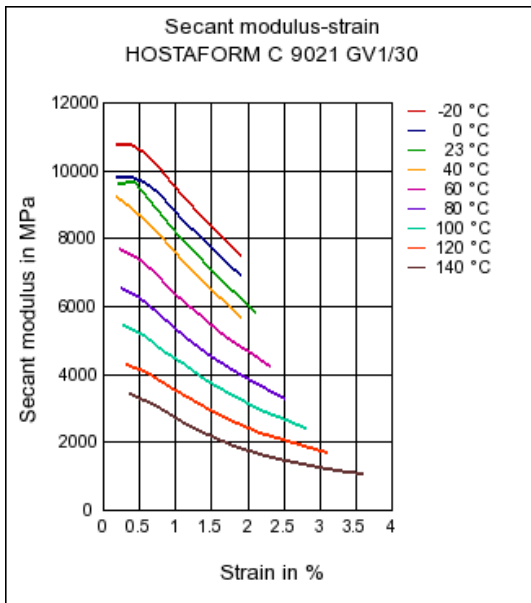
Dynamic Shear modulus-temperature



Stress-strain

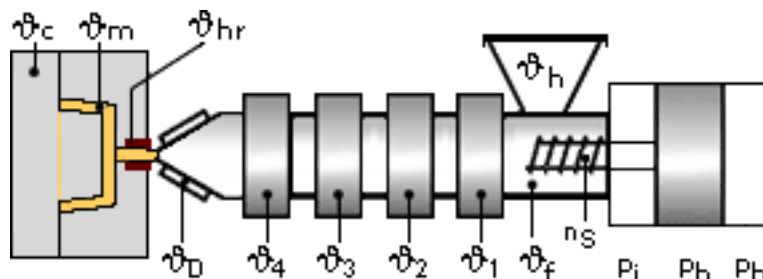


Secant modulus-strain



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Typical injection moulding processing conditions



Maximum residual moisture content: 0.1500%

Processing Temperatures:

	ϕ _{Cavity}	ϕ _{Melt}	ϕ _{Hot Runner}	ϕ _{Die}	ϕ ₄	ϕ ₃	ϕ ₂	ϕ ₁	ϕ _{Feeding}	ϕ _{Hopper}
min (°C)	80	190	190	190	190	190	180	170	60	20
max (°C)	120	210	210	210	210	200	190	180	80	30

Processing Pressures:

	Injection Pressure	Holding Pressure	Back Pressure
min (bar)	600	600	0
max (bar)	1200	1200	20

Injection speed: slow

Screw speed:

Screw diameter (mm)	25	40	55<
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Injection Molding

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

Melt temperature	190-230 °C
Mould temperature	60-120 °C

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*starting 01.01.2007 0,14€/minute + local landline rates

**0,06€/Call + local landline rates

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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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