

HOSTAFORM® C 9021 SW | POM | Tribological

Description

Chemical abbreviation according to ISO 1043-1: POM
Molding compound ISO 9988- POM-K, M-GNS, 02-002, K10

POM copolymer

Injection molding type, special modified with anti-friction additives for prevention of squeaking noise; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation.

UL-registration in natural and black and a thickness more than 1.5 mm as UL 94 HB.

Burning rate ISO 3795 and FMVSS 302 < 100 mm/min for a thickness more than 1,5 mm.

Ranges of applications: For sliding combinations with low wear and low coefficient of friction, prevents squeaking noise.

UL = Underwriters Laboratories (USA)

FMVSS = Federal Motor Vehicle Safety Standard (USA)

Physical properties	Value	Unit	Test Standard
Density	1420	kg/m ³	ISO 1183
Melt volume rate (MVR)	6.5	cm ³ /10min	ISO 1133
MVR test temperature	190	°C	ISO 1133
MVR test load	2.16	kg	ISO 1133
Mold shrinkage - parallel	2	%	ISO 294-4
Mold shrinkage - normal	1.8	%	ISO 294-4
Water absorption (23°C-sat)	1.2	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	2850	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	53	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	7	%	ISO 527-2/1A
Nominal strain at break (50mm/min)	16	%	ISO 527-2/1A
Tensile creep modulus (1h)	2400	MPa	ISO 899-1
Tensile creep modulus (1000h)	1200	MPa	ISO 899-1
Charpy impact strength @ 23°C	90	kJ/m ²	ISO 179/1eU
Charpy impact strength @ -30°C	85	kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	4	kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	4	kJ/m ²	ISO 179/1eA
Ball indentation hardness 30 sec value	135	N/mm ²	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	166	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	80	°C	ISO 75-1/-2
Vicat softening temperature B50 (50°C/h 50N)	140	°C	ISO 306
Coeff.of linear therm. expansion (parallel)	1.2	E-4/°C	ISO 11359-2
Flammability @ 1.6mm nom. thickn.	HB	class	UL94

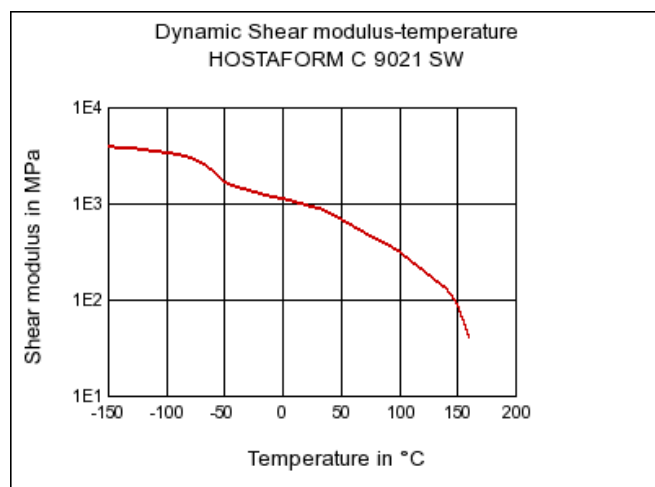
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Thermal properties	Value	Unit	Test Standard
thickness tested (1.6)	1.57	mm	UL94
UL recognition (1.6)	UL	-	UL94
Flammability at thickness h	HB	class	UL94
thickness tested (h)	3.18	mm	UL94
UL recognition (h)	UL	-	UL94

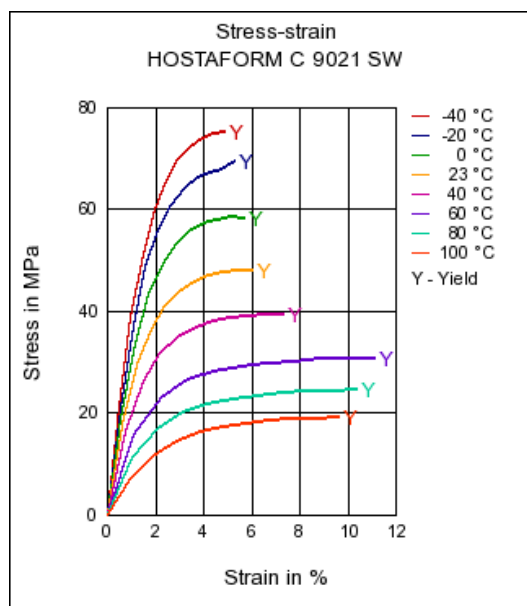
Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	4.1	-	IEC 60250
Relative permittivity - 1 MHz	4.1	-	IEC 60250
Dissipation factor - 100 Hz	35	E-4	IEC 60250
Dissipation factor - 1 MHz	75	E-4	IEC 60250
Volume resistivity	1E12	Ohm*m	IEC 60093
Surface resistivity	1E14	Ohm	IEC 60093
Comparative tracking index CTI	600	-	IEC 60112

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

Dynamic Shear modulus-temperature

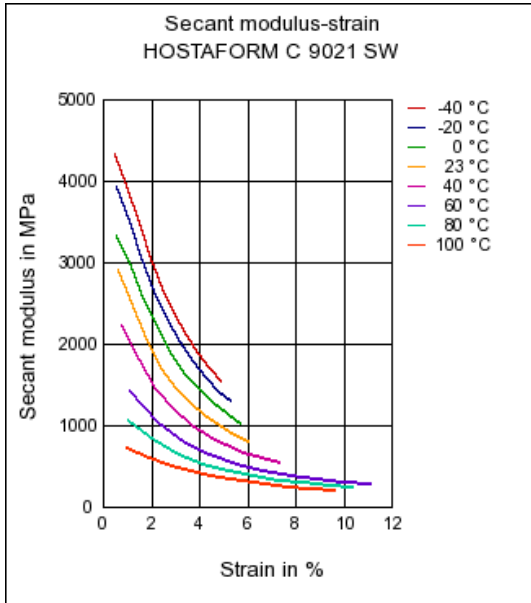


Stress-strain

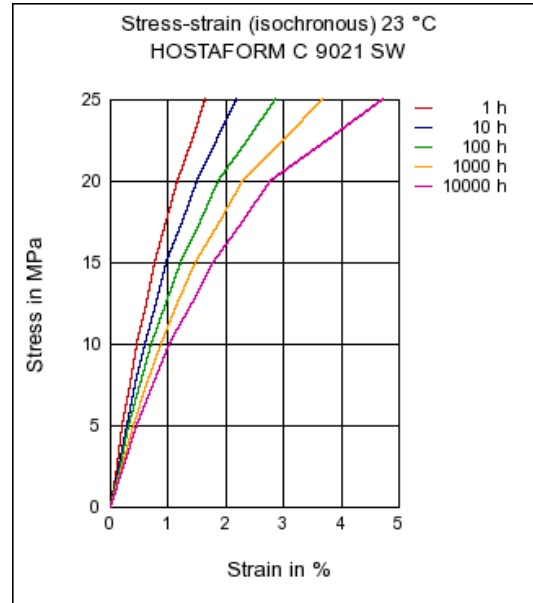


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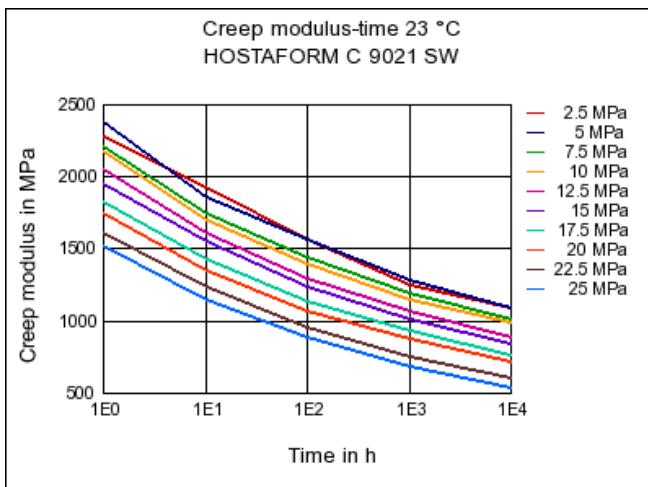
Secant modulus-strain



Stress-strain (isochronous)

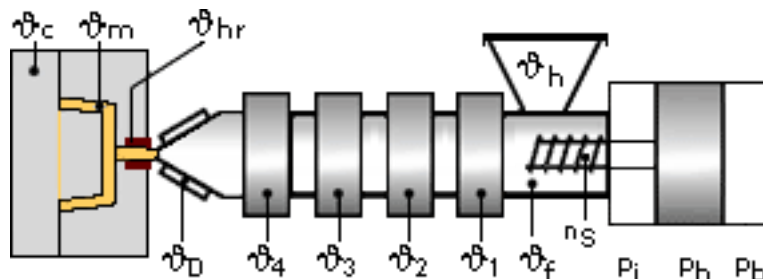


Creep modulus-time



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Typical injection moulding processing conditions



Pre Drying:

Necessary low maximum residual moisture content: 0.15%

It is normally not necessary to dry HOSTAFORM. However, should there be surface moisture (condensate) on the molding compound as a result of incorrect storage, drying is required. A circulating air drying cabinet can be used for this purpose if the granules

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

Drying time: 3 - 4 h

Drying temperature: 100 - 120 °C

Temperature:

	ϕ _{Manifold}	ϕ _{Mold}	ϕ _{Melt}	ϕ _{Nozzle}	ϕ _{Zone4}	ϕ _{Zone3}	ϕ _{Zone2}	ϕ _{Zone1}	ϕ _{Feed}	ϕ _{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

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	60-120 °C

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General Disclaimer

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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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