HOSTAFORM® C 9021 | POM | Unfilled

Description

Chemical abbreviation according to ISO 1043-1: POM
Molding compound ISO 9988- 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/m³	ISO 1183
Melt volume rate (MVR)	**8**	cm³/10min	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)	**0.65**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus (1mm/min)	**2850**	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	**64**	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	**9**	%	ISO 527-2/1A
Nominal strain at break (50mm/min)	**30**	%	ISO 527-2/1A
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
Charpy impact strength @ 23°C	**180P**	kJ/m²	ISO 179/1eU
Charpy impact strength @ -30°C	**160**	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	**6.5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength @ -30°C	**6**	kJ/m²	ISO 179/1eA

Celanese

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Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**166**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**104**	°C	ISO 75-1/-2
DTUL @ 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	UL94
thickness tested (1.6)	**1.5**	mm	UL94
UL recognition (1.6)	**UL**	-	UL94
Flammability at thickness h	**HB**	class	UL94
thickness tested (h)	**3**	mm	UL94
UL recognition (h)	**UL**	-	UL94

Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	**4**	-	IEC 60250
Relative permittivity - 1 MHz	**4**	-	IEC 60250
Dissipation factor - 100 Hz	**20**	E-4	IEC 60250
Dissipation factor - 1 MHz	**50**	E-4	IEC 60250
Volume resistivity	**1E12**	Ohm*m	IEC 60093
Surface resistivity	**1E14**	Ohm	IEC 60093
Electric strength	**35**	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	**1200**	kg/m³	Internal
Thermal conductivity of melt	**0.155**	W/(m K)	Internal
Specific heat capacity of melt	**2210**	J/(kg K)	Internal
Eff. thermal diffusivity	**4.85E-8**	m²/s	Internal
Ejection temperature	**140**	°C	Internal

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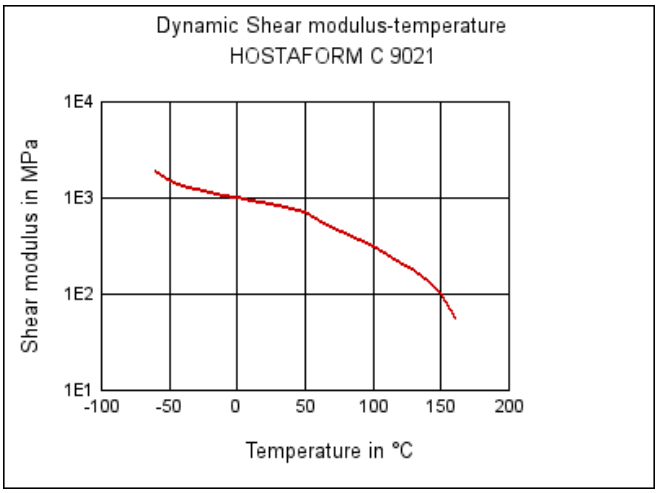
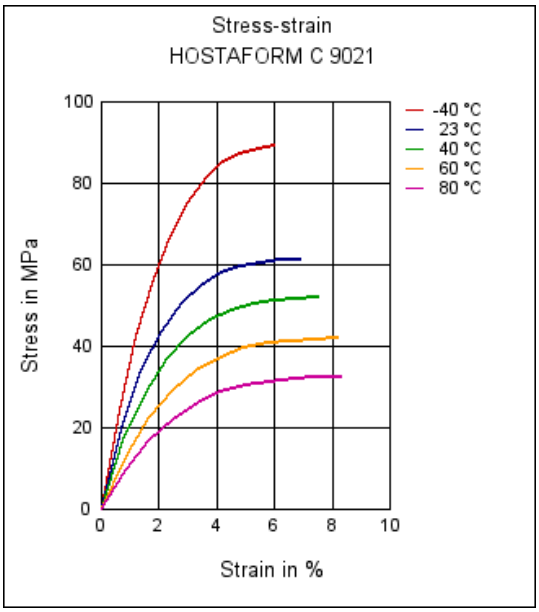
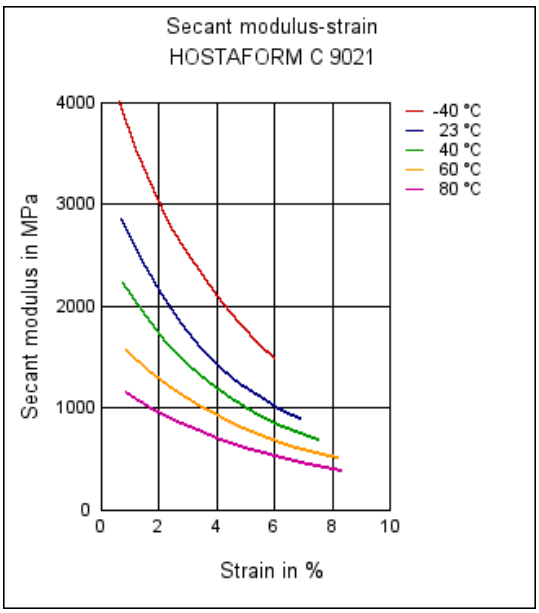
Dynamic Shear modulus-temperature



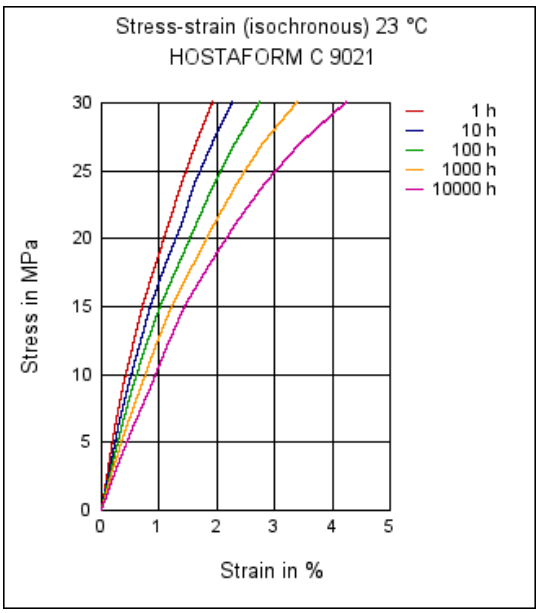
Stress-strain



Secant modulus-strain



Stress-strain (isochronous)



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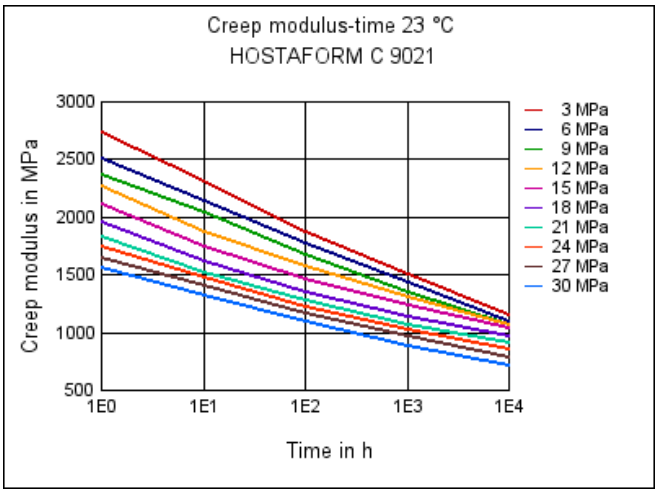
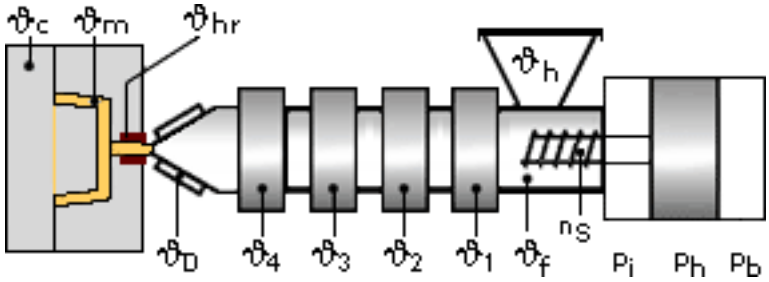
Creep modulus-time



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: 120 - 140 °C

Temperature:

	ϑManifold	ϑMold	ϑMelt	ϑNozzle	ϑZone4	ϑZone3	ϑZone2	ϑZone1	ϑFeed	ϑHopper
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	40

Above pressures, including back pressure, are given as specific or plastic pressures. The back pressure on Hostaform® and Celcon® POM materials should be as low as possible, just enough to remove air from the pellets during feeding.

Speed:

Injection speed: slow-medium

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 190-210 °C
Mould temperature 80-120 °C

Film Extrusion

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

Melt temperature 180-190 °C

Other Extrusion

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

Melt temperature 180-190 °C

Sheet Extrusion

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

Melt temperature 180-190 °C

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