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## HOSTAFORM® C 27021 | POM | Unfilled

### Description

Chemical abbreviation according to ISO 1043-1: POM  
 Molding compound ISO 9988- POM-K, M-GNR, 05-002

POM copolymer

Very easy flowing Injection molding type with high rigidity and hardness; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation.

Fulfills EG-directive 2002/72/EU as well as the recommendation XXXIII for consumer goods of the BgVV,  
 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: thin-walled molded parts with unfavourable flow-path-wallthickness relation; multicavity moulds; complicated precision molded parts; short cycle time.

FDA = Food and Drug Administration (USA)  
 BgVV = Bundesinstitut für gesundheitlichen Verbraucherschutz und Veterinärmedizin  
 FMVSS = Federal Motor Vehicle Safety Standard (USA)  
 UL = Underwriters Laboratories (USA)

Physical properties	Value	Unit	Test Standard
Density	1410	kg/m <sup>3</sup>	ISO 1183
Melt volume rate (MVR)	24	cm <sup>3</sup> /10min	ISO 1133
MVR test temperature	190	°C	ISO 1133
MVR test load	2.16	kg	ISO 1133
Mold shrinkage - parallel	1.9	%	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)	2900	MPa	ISO 527-2/1A
Tensile stress at yield (50mm/min)	65	MPa	ISO 527-2/1A
Tensile strain at yield (50mm/min)	7.5	%	ISO 527-2/1A
Nominal strain at break (50mm/min)	17	%	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)	2800	MPa	ISO 178
Charpy impact strength @ 23°C	120	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength @ -30°C	120	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength @ 23°C	5.5	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength @ -30°C	5.5	kJ/m <sup>2</sup>	ISO 179/1eA



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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	106	°C	ISO 75-1/-2
Coeff.of linear therm. expansion (parallel)	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

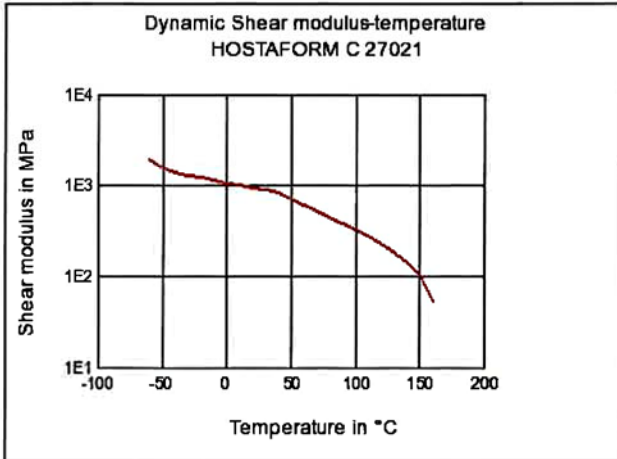
Electrical properties	Value	Unit	Test Standard
Relative permittivity - 100 Hz	4	-	IEC 60250
Relative permittivity - 1 MHz	4	-	IEC 60250
Dissipation factor - 100 Hz	25	E-4	IEC 60250
Dissipation factor - 1 MHz	50	E-4	IEC 60250
Volume resistivity	1E12	Ohm*m	IEC 60093
Surface resistivity	1E14	Ohm	IEC 60093
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

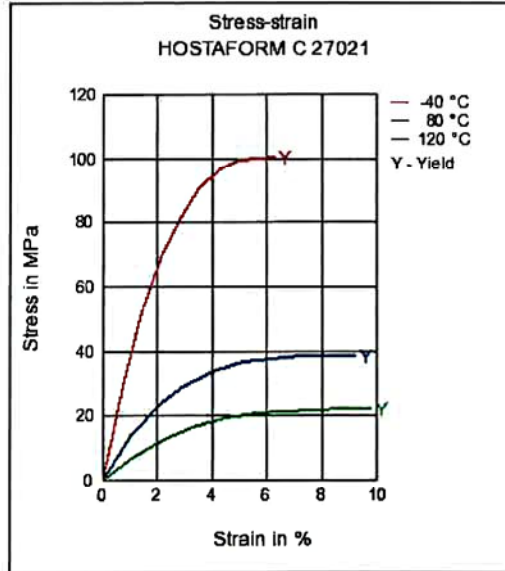
Rheological Calculation properties	Value	Unit	Test Standard
Density of melt	1200	kg/m³	Internal
Thermal conductivity of melt	0.155	W/(m K)	Internal
Specific heat capacity of melt	2210	J/(kg K)	Internal
Ejection temperature	165	°C	Internal

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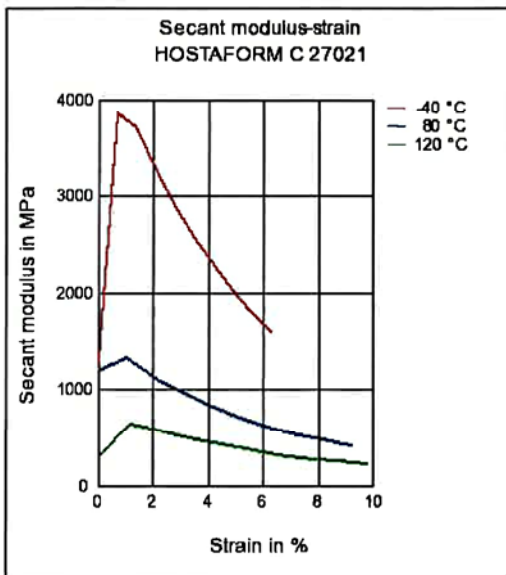
**Dynamic Shear modulus-temperature**



**Stress-strain**



**Secant modulus-strain**







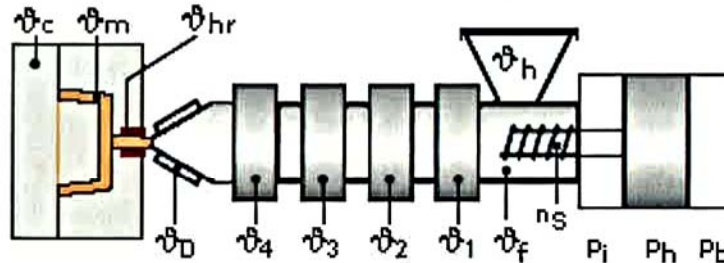
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**Typical Injection moulding processing conditions**



**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:**

	ϕManifold	ϕMold	ϕMelt	ϕNozzle	ϕZone4	ϕZone3	ϕZone2	ϕZone1	ϕFeed	ϕHopper
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	40

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



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### General Disclaimer

**NOTICE TO USERS:** Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values.

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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Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards.

We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed (+49 (0) 69 30516299 for Europe and +1 859-372-3244 for the Americas) for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.

The products mentioned herein are not intended for use in medical or dental implants.

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