

Description

Chemical abbreviation according to ISO 1043-1: POM
Molding compound ISO 9988- POM-K, M-GNR, 04-002

POM copolymer

Easy flowing Injection molding type for precision molded parts and thin-walled molded parts 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.

Fulfills EG-directive 2002/72/EU as well as the recommendation XXXIII for consumer goods of the BgVV, corresponding to FDA-regulation for food contact.

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

Physical properties

	Value Unit	Test Standard
Density	1410 kg/m ³	ISO 1183
Melt volume rate (MVR)	12 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)	0.65 %	ISO 62
Humidity absorption (23°C/50%RH)	0.2 %	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)	8.5 %	ISO 527-2/1A
Nominal strain at break (50mm/min)	25 %	ISO 527-2/1A
Tensile creep modulus (1h)	2500 MPa	ISO 899-1
Tensile creep modulus (1000h)	1300 MPa	ISO 899-1
Charpy impact strength @ 23°C	150 kJ/m ²	ISO 179/1eU
Charpy impact strength @ -30°C	140 kJ/m ²	ISO 179/1eU
Charpy notched impact strength @ 23°C	6.5 kJ/m ²	ISO 179/1eA
Charpy notched impact strength @ -30°C	6 kJ/m ²	ISO 179/1eA
Notched impact strength (Izod) @ 23°C	kJ/m ²	ISO 180/1A
Ross flex	cycles	Internal

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
Vicat softening temperature B50 (50°C/h 50N)	151 °C	ISO 306
Coeff.of linear therm. expansion (parallel)	1.1 E-4/°C	ISO 11359-2
Limiting oxygen index (LOI)	%	ISO 4589
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

Processing properties

	Value Unit	Test Standard
Powder	-	ASTM D638

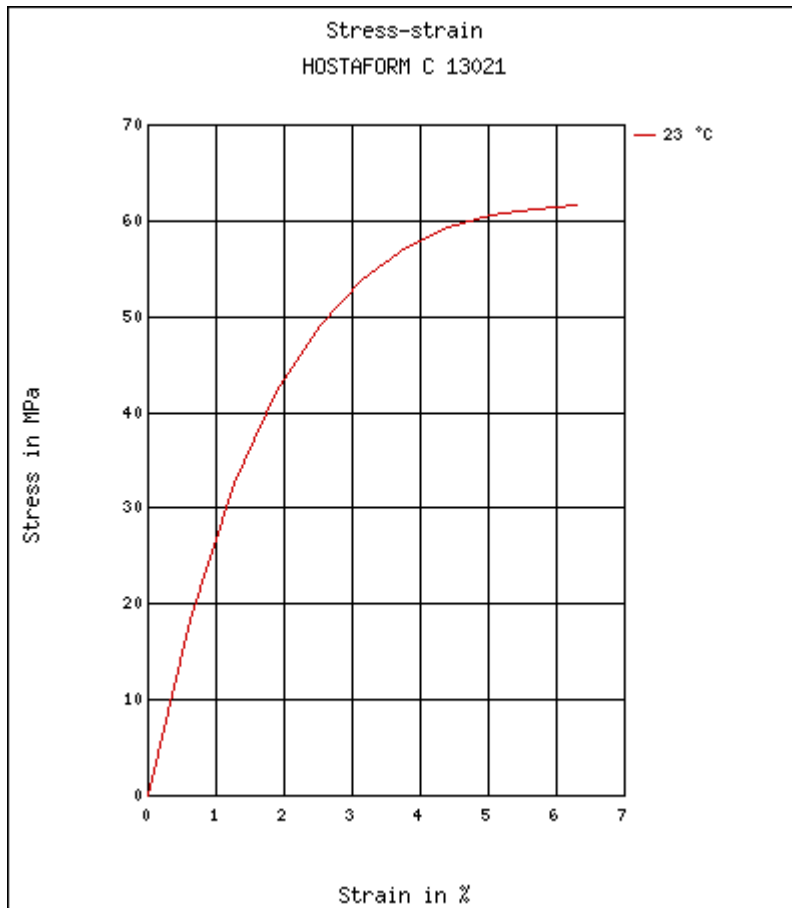
Test specimen production

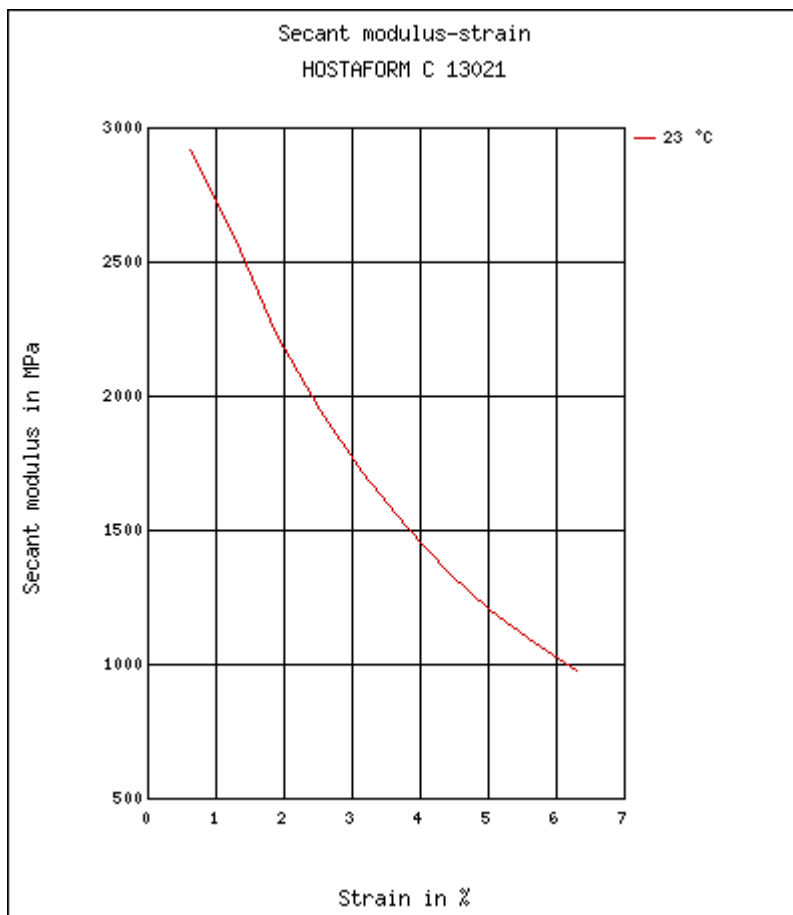
	Value Unit	Test Standard
Processing conditions acc. ISO	9988 -	Internal
Injection molding melt temperature	195 °C	ISO 294
Injection molding mold temperature	85 °C	ISO 294
Injection molding flow front velocity	200 mm/s	ISO 294
Injection molding hold pressure	90 MPa	ISO 294

Rheological Calculation properties

	Value Unit	Test Standard
Density of melt	1200 kg/m ³	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

MULTI-POINT DATA





Other Processing

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

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. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. 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 +1 908 598-4169 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.