Ticona
Engineering Polymers

HOSTAFORM® C 13021 | POM | Unfilled

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.

Fulfils 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 f•r gesundheitlichen Verbraucherschutz und Veterin rmedizin
UL = Underwriters Laboratories (USA)
FMVSS = Federal Motor Vehicle Safety Standard (USA)

Physical properties	Value	Unit	Test Standard
Density	**1410**	kg/m³	ISO 1183
Melt volume rate (MVR)	**12**	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
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/m²	ISO 179/1eU
Charpy impact strength @ -30°C	**140**	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	**6.5**	kJ/m²	ISO 179/1eA

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Mechanical properties	Value	Unit	Test Standard
Charpy notched impact strength @ -30°C	**6**	kJ/m²	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	**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
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
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/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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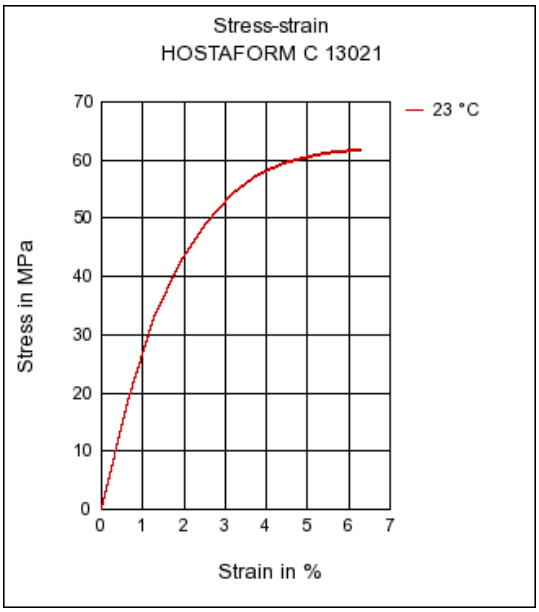
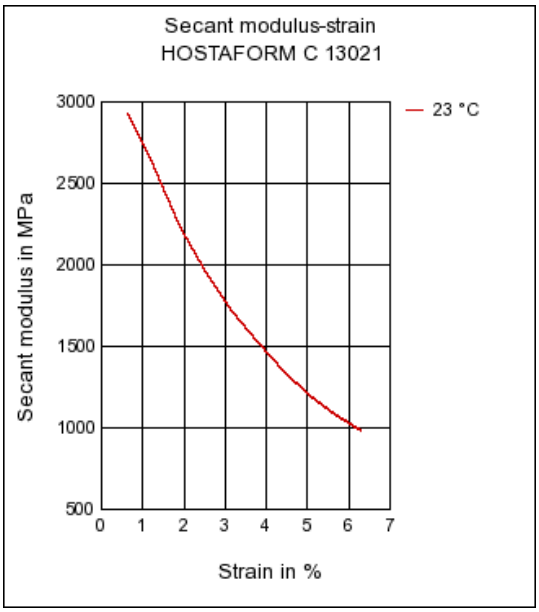
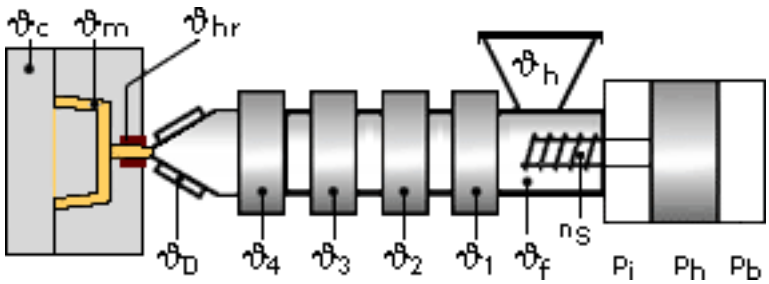
Stress-strain



Secant modulus-strain



Typical injection moulding processing conditions



Maximum residual moisture content: 0.1500%

Processing Temperatures:

	ϑ Cavity	ϑ Melt	ϑ Hot Runner	ϑ Die	ϑ 4	ϑ 3	ϑ 2	ϑ 1	ϑ Feeding	ϑ 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	40

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Injection speed: slow - medium

Screw speed:

Screw diameter (mm)	25	40	55
Screw speed (rpm)	120	100	70

Pre-drying conditions:

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 granul

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

Drying time: 3 - 4 h

Drying temperature: 120 - 140 °C

Special information:

No special information available.

Injection Molding

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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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Contact Information

Americas

Ticona
Product Information Service
8040 Dixie Highway
Florence, KY 41042
USA
Tel.: +1-800-833-4882
Tel.: +1-859-372-3244
email: prodinfo@ticona.com
Ticona on the web: www.ticona.com

Customer Service
Tel.: +1-800-526-4960
Tel.: +1-859-372-3214
Fax: +1-859-372-3125

Europe

Ticona GmbH
Information Service
Tel.: +49 (0) 180-5842662 (Germany)*
+49 (0) 69-30516299 (Europe)
Fax: +49 (0) 180-2021202 (Germany & Europe)**
email: infoservice@ticona.de
Internet: www.ticona.com

*starting 01.01.2007 0,14€/minute + local landline rates
**0,06€/Call + local landline rates

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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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