

HOSTAFORM® C 13021 - POM

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. 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 electrical industry, domestic appliances. FDA = Food and Drug Administration (USA) 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 temperature	190	°C	ISO 1133
MVR load	2,16	kg	ISO 1133
Molding shrinkage, parallel	2,0	%	ISO 294-4, 2577
Molding shrinkage, normal	1,8	%	ISO 294-4, 2577
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	2900	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	65	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	9	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	28	%	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	200	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30 °C	200	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
Ball indentation hardness, 30s	143	MPa	ISO 2039-1

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	166	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	106	°C	ISO 75-1, -2
Vicat softening temperature, 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	UL 94
thickness tested (1.6)	1,5	mm	UL 94
UL recognition (1.6)	UL	-	UL 94
Flammability at thickness h	HB	class	UL 94
thickness tested (h)	3,00	mm	UL 94
UL recognition (h)	UL	-	UL 94

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	4	-	IEC 60250
Relative permittivity, 1MHz	4	-	IEC 60250
Dissipation factor, 100Hz	20	E-4	IEC 60250
Dissipation factor, 1MHz	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	600	-	IEC 60112

Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	9988	-	Internal
Injection Molding, melt temperature	205	°C	ISO 294
Injection Molding, mold temperature	≥90	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

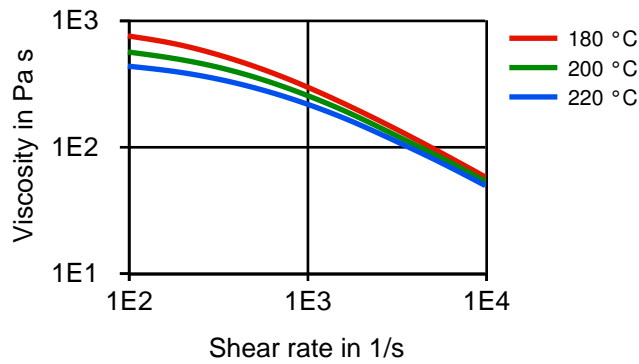
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Injection Molding, pressure at hold 90 MPa ISO 294

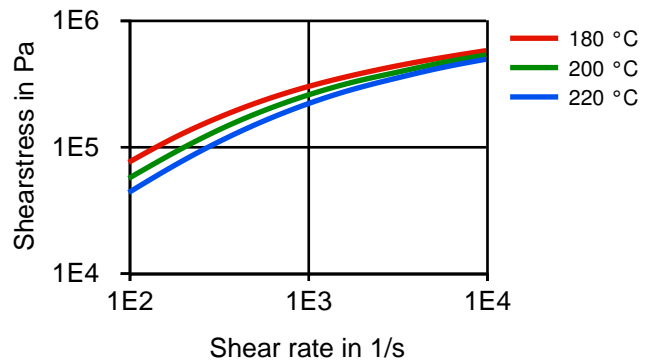
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	1200	kg/m ³	Internal
Thermal conductivity of melt	0,155	W/(m K)	Internal
Spec. heat capacity melt	2210	J/(kg K)	Internal
Ejection temperature	140	°C	Internal

Diagrams

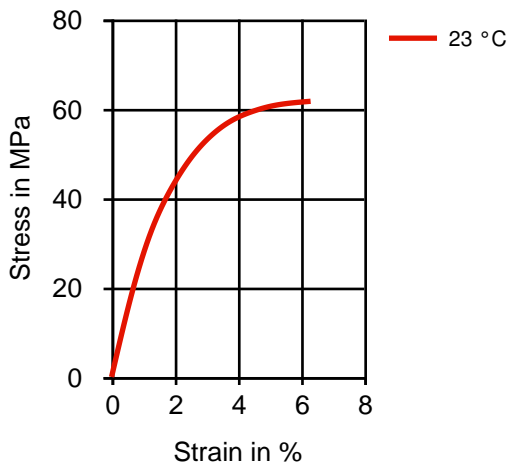
Viscosity-shear rate



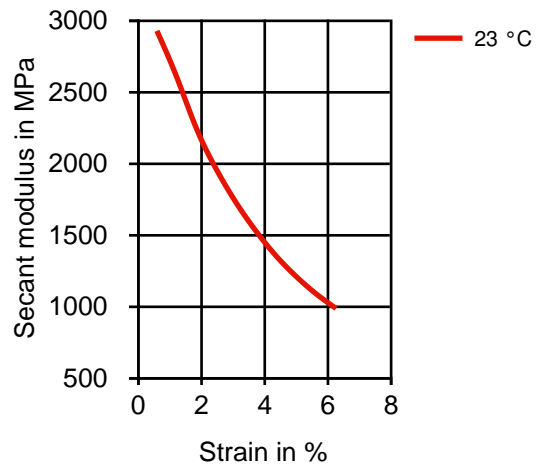
Shearstress-shear rate



Stress-strain



Secant modulus-strain



Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0,15	%	-
Drying time	3 - 4	h	-
Drying temperature	100 - 120	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 30	°C	-
Feeding zone temperature	60 - 80	°C	-
Zone1 temperature	170 - 180	°C	-
Zone2 temperature	180 - 190	°C	-
Zone3 temperature	190 - 200	°C	-
Zone4 temperature	190 - 210	°C	-
Die temperature	190 - 210	°C	-
Melt temperature	190 - 210	°C	-
Cavity temperature	80 - 120	°C	-
Hot runner temperature	190 - 210	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	40	bar	-

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Speed	Value	Unit	Test Standard
Injection speed	slow-medium	-	-
Screw Speed	Value	Unit	Test Standard
Screw speed diameter, 25mm	150	RPM	-
Screw speed diameter, 40mm	100	RPM	-
Screw speed diameter, 55mm	70	RPM	-

Other text information

Pre-drying

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.

Longer pre-drying times/storage

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

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

Characteristics

Product Categories

Unfilled

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General Disclaimer

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