HOSTAFORM® C 27021 - POM

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. 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: thin-walled molded parts with unfavourite flow-path-wall thickness relation; multicavity moulds; complicated precision molded parts; short cycle time. 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	**24**	cm³/10min	ISO 1133
MVR temperature	**190**	°C	ISO 1133
MVR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel	**1.9**	%	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	**7.5**	%	ISO 527-2/1A
Tensile 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	**170**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**170**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**5.5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**5.5**	kJ/m²	ISO 179/1eA
Ball indentation hardness, 30s	**147**	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	**25**	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

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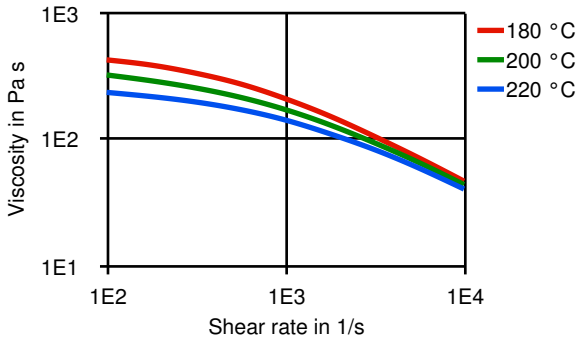
Test specimen production	Value	Unit	Test Standard
Processing conditions acc. ISO	**9988**	-	Internal
Injection Molding, melt temperature	**205**	°C	ISO 294
Injection Molding, mold temperature	**90**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294
Injection Molding, pressure at hold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

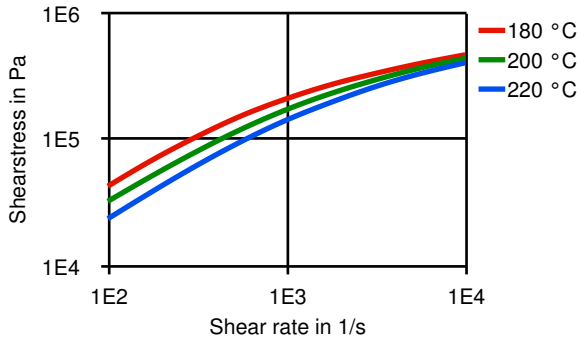
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	**1200**	kg/m³	Internal
Thermal conductivity of melt	**0.155**	W/(m K)	Internal
Spec. heat capacity melt	**2210**	J/(kg K)	Internal
Ejection temperature	**140**	°C	Internal

Diagrams

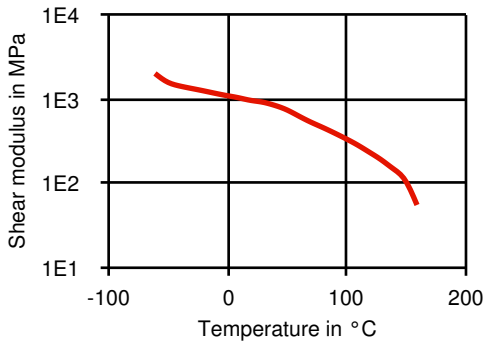
Viscosity-shear rate



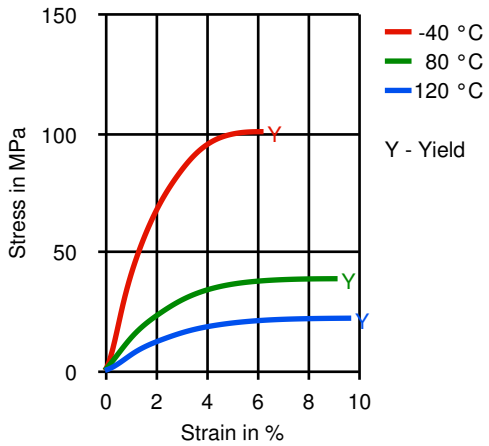
Shearstress-shear rate



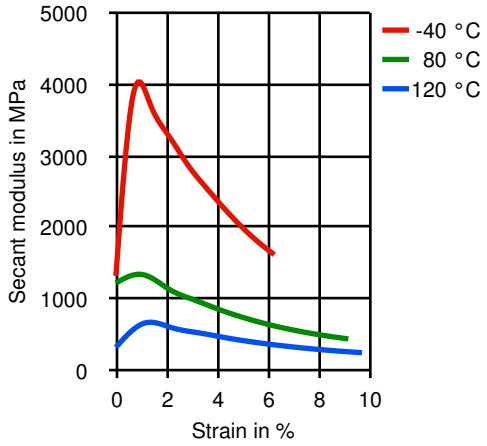
Dynamic Shear modulus-temperature



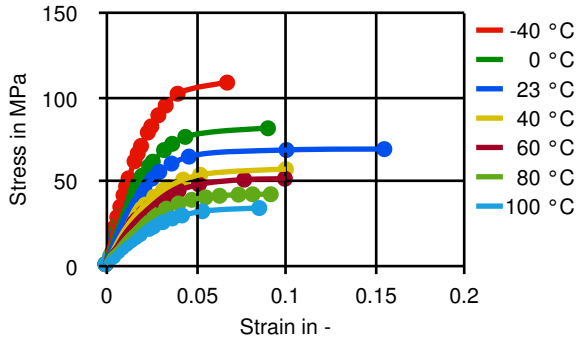
Stress-strain



Secant modulus-strain



True Stress-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	-
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

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Characteristics

Product Categories	Delivery Form
Unfilled	Pellets

Processing	Additives
Injection molding	Release agent

Contact Information

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