Celanese
The chemistry inside innovation™

HOSTAFORM® C 9021 K - POM

Description

Injection molding type like C 9021, with special chalk modified
Chemical abbreviation according to ISO 1043-1: POM Molding compound ISO 29988- POM-K, M-GNR, 03-002, K5 POM copolymer Injection molding type, with special chalk modified; good wear properties; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high resistance to thermal and oxidative degradation. UL-registration in natural and a thickness more than 1.57 mm as UL 94 HB, temperature index UL 746 B electrical 105 °C, mechanical 90 °C (tensile impact) and 80 °C (tensile). Burning rate ISO 3795 and FMVSS 302 < 100 mm/min for a thickness more than 1 mm. Ranges of applications: for unlubricated or once-only-lubricant sliding Parts. FMVSS = Federal Motor Vehicle Safety Standard (USA) UL = Underwriters Laboratories (USA)

Physical properties	Value	Unit	Test Standard
Density	**1440**	kg/m³	ISO 1183
Melt volume rate, MVR	**7.5**	cm³/10min	ISO 1133
MVR temperature	**190**	°C	ISO 1133
MVR load	**2.16**	kg	ISO 1133
Molding shrinkage, parallel (flow)	**2.1**	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	**1.8**	%	ISO 294-4, 2577
Water absorption, 23°C-sat	**0.65**	%	Sim. to ISO 62
Humidity absorption, 23°C/50%RH	**0.2**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile modulus	**3000**	MPa	ISO 527-1, -2
Tensile stress at yield, 50mm/min	**60**	MPa	ISO 527-1, -2
Tensile strain at yield, 50mm/min	**8**	%	ISO 527-1, -2
Tensile nominal strain at break, 50mm/min	**22**	%	ISO 527-1, -2
Tensile creep modulus, 1h	**2500**	MPa	ISO 899-1
Tensile creep modulus, 1000h	**1400**	MPa	ISO 899-1
Flexural modulus, 23°C	**2900**	MPa	ISO 178
Charpy impact strength, 23°C	**100**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**100**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	**5**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**5**	kJ/m²	ISO 179/1eA
Ball indentation hardness, 30s	**145**	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	**100**	°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	UL 94
thickness tested (1.6)	**1.6**	mm	UL 94
Flammability at thickness h	**HB**	class	UL 94
thickness tested (h)	**3.18**	mm	UL 94
UL recognition (h)	**UL**	-	UL 94

Electrical properties	Value	Unit	Test Standard
Dielectric constant (Dk), 100Hz	**4.2**	-	IEC 60250
Dielectric constant (Dk), 1MHz	**4.2**	-	IEC 60250
Dissipation factor, 100Hz	**25**	E-4	IEC 60250
Dissipation factor, 1MHz	**60**	E-4	IEC 60250
Volume resistivity, 23°C	**1E12**	Ohm*m	IEC 62631-3-1
Surface resistivity, 23°C	**1E14**	Ohm	IEC 62631-3-2
Electric strength, 23°C (AC)	**35**	kV/mm	IEC 60243-1
Comparative tracking index	**PLC 0**	-	UL 746

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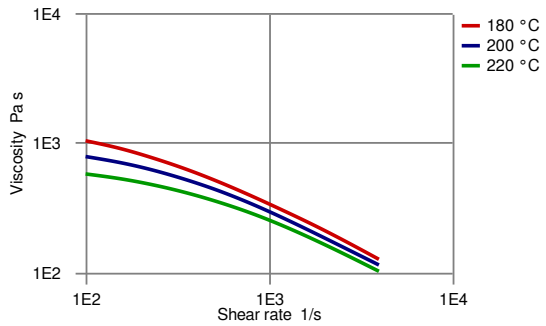
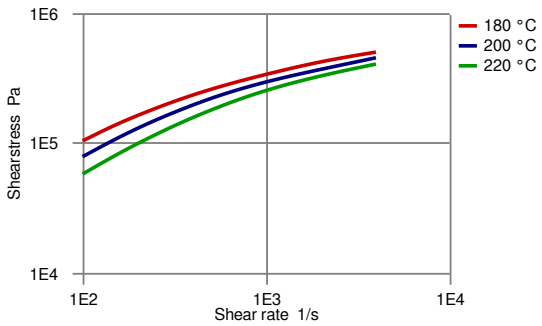
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	**1230**	kg/m³	Internal
Thermal conductivity of melt	**0.195**	W/(m K)	Internal
Spec. heat capacity melt	**2060**	J/(kg K)	Internal
Ejection temperature	**140**	°C	Internal

Diagrams

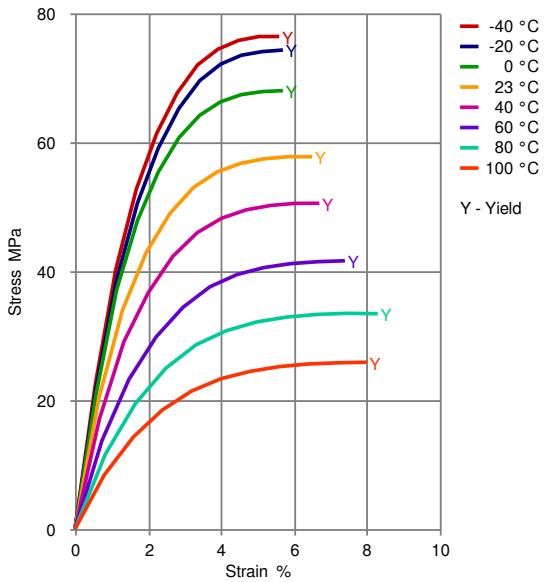
Viscosity-shear rate



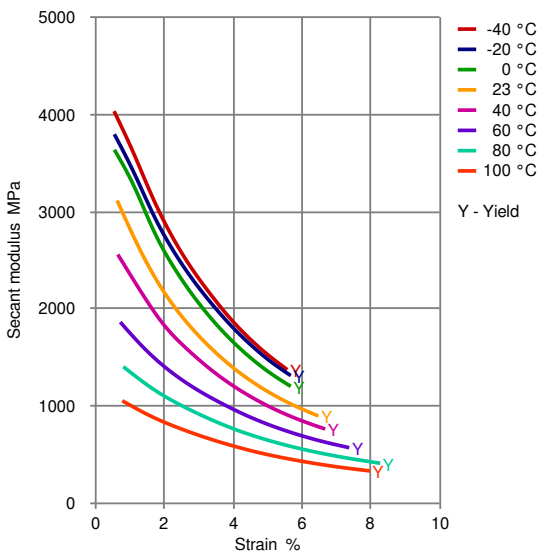
Shear stress-shear rate



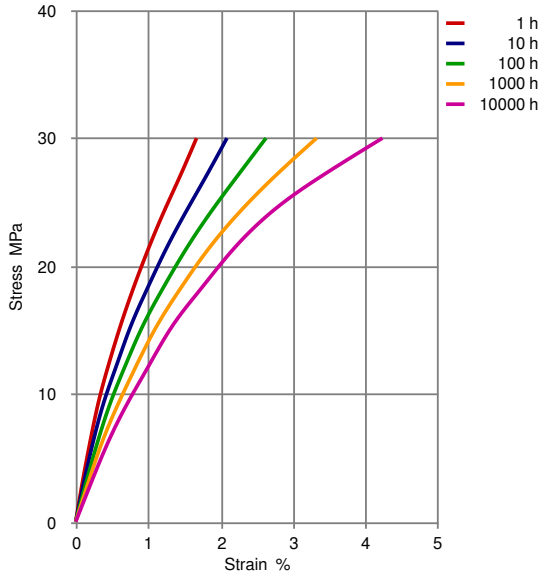
Stress-strain



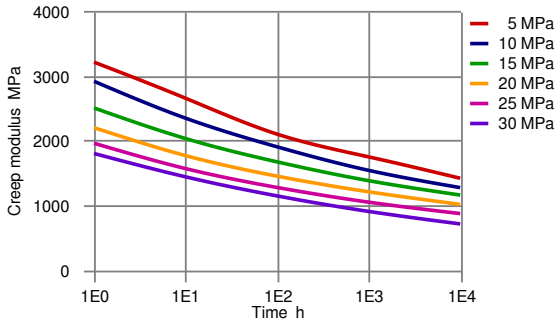
Secant modulus-strain



CAMPUS Stress-strain (isochronous) 23°C



CAMPUS Creep modulus-time 23°C



Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	**0.15**	%
Drying time	**3 - 4**	h
Drying temperature	**100 - 120**	°C

Temperature	Value	Unit
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
Nozzle temperature	**190 - 210**	°C
Melt temperature	**190 - 210**	°C
Mold temperature	**80 - 120**	°C
Hot runner temperature	**190 - 210**	°C

Pressure	Value	Unit
Back pressure max.	**20**	bar

Speed	Value
Injection speed	**slow**

Screw Speed	Value	Unit
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.

Injection Molding Preprocessing

General drying is not necessary due to low moisture absorption of the resin.

In case of bad storage conditions (water contact or condensed water) the use of a recirculating air dryer (100 to 120 °C / max. 40 mm layer / 3 to 6 hours) is recommended.

Max. Water content 0,2 %

Injection Molding Postprocessing

Conditioning e.g. moisturizing is not necessary.

Characteristics

Special Characteristics	Auto spec approved, Chemical resistant, Fuel resistant, Hydrolysis resistant, Platable, Wear resistant
Product Categories	Tribological
Processing	Injection molding, Other extrusion
Regulatory	Drinking water approved, FDA food contact compliant
Delivery Form	Pellets
Additives	Release agent

Other Approvals

OEM	Specification	Additional Information
BMW	GS 93016	
Bosch	N28 BN22-X016	Natural
Continental	TST N 055 54.09	

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General Disclaimer

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