

HOSTAFORM® C 2521 - POM

Description

Stiff-flowing grade for injection molding and extrusion
 Chemical abbreviation according to ISO 1043-1: POM
 Molding compound ISO 29988- POM-K, M-GNR, 01-002

POM copolymer

Stiff-flowing type for injection molding and extrusion with high impact toughness and good tracking resistance over a high range of temperature; 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
 Burning rate ISO 3795 and FMVSS 302 < 75 mm/min for a thickness more than 1 mm.

Ranges of applications: injection molding thick-walled, void-free molded parts; extrusion e.g. for boards and pipes.
 FDA = Food and Drug Administration (USA)
 FMVSS = Federal Motor Vehicle Safety Standard (USA)

Physical properties	Value	Unit	Test Standard
Density	1410	kg/m ³	ISO 1183
Melt flow rate, MFR	2.8	g/10min	ISO 1133
MFR temperature	190	°C	ISO 1133
MFR load	2.16	kg	ISO 1133
Melt volume rate, MVR	2.5	cm ³ /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	2600	MPa	ISO 527-1, -2
Tensile stress at yield, 50mm/min	62	MPa	ISO 527-1, -2
Tensile strain at yield, 50mm/min	9	%	ISO 527-1, -2
Tensile nominal strain at break, 50mm/min	32	%	ISO 527-1, -2
Tensile creep modulus, 1h	2300	MPa	ISO 899-1
Tensile creep modulus, 1000h	1100	MPa	ISO 899-1
Flexural modulus, 23°C	2500	MPa	ISO 178
Flexural stress at 3.5% strain	66	MPa	ISO 178
Charpy impact strength, 23°C	250 ^[P]	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	250	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	8.5	kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	7	kJ/m ²	ISO 179/1eA
Ball indentation hardness, 30s	144	MPa	ISO 2039-1

P: Partial Break

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	165	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	101	°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)	1.5	mm	UL 94
Flammability at thickness h	HB	class	UL 94
thickness tested (h)	3.00	mm	UL 94
UL recognition (h)	UL	-	UL 94

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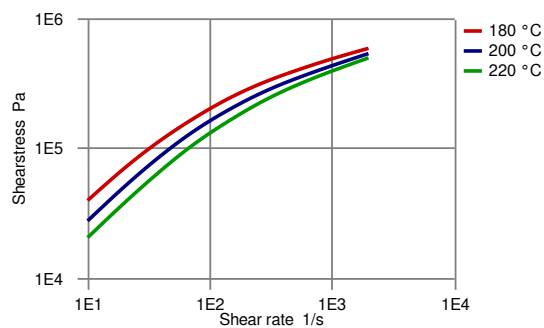
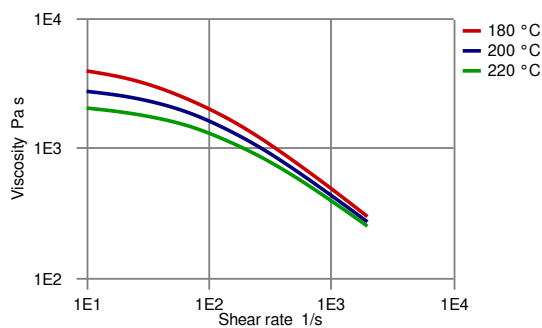
Electrical properties	Value	Unit	Test Standard
Dielectric constant (Dk), 100Hz	4	-	IEC 60250
Dielectric constant (Dk), 1MHz	4	-	IEC 60250
Dissipation factor, 100Hz	15	E-4	IEC 60250
Dissipation factor, 1MHz	50	E-4	IEC 60250
Volume resistivity, 23 °C	1E12	Ohm*m	IEC 62631-3-1
Surface resistivity, 23 °C	1E14	Ohm	IEC 62631-3-2
Electric strength, 23 °C (AC)	35	kV/mm	IEC 60243-1
Comparative tracking index	PLC 0	-	UL 746

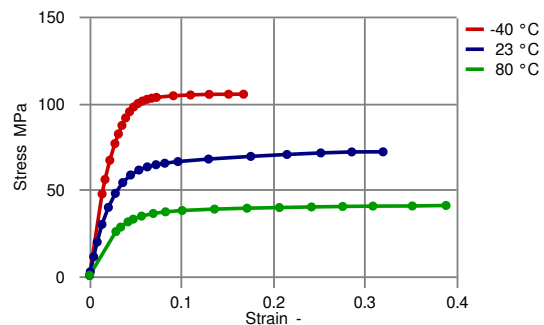
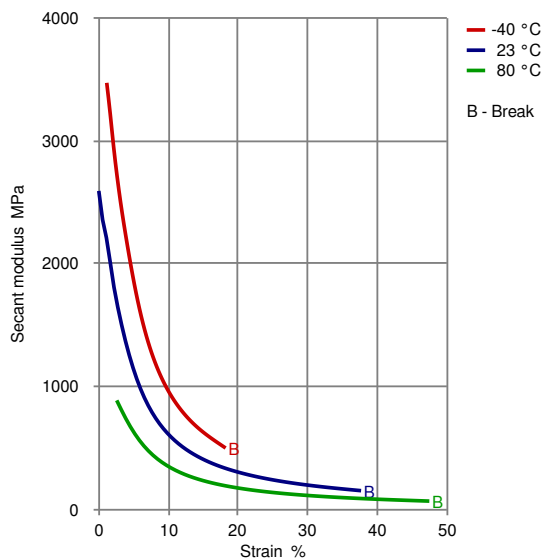
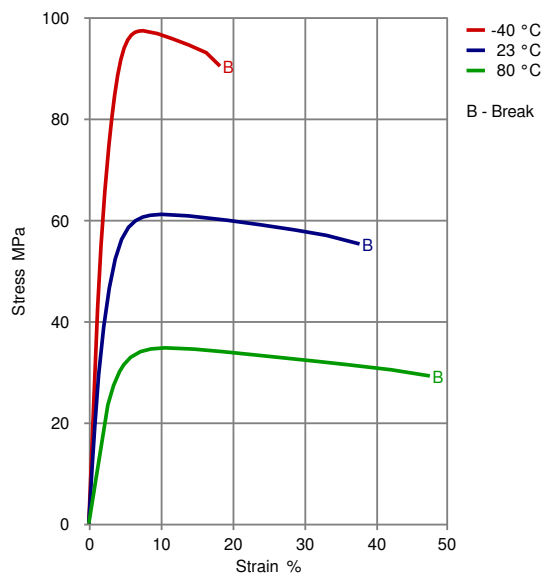
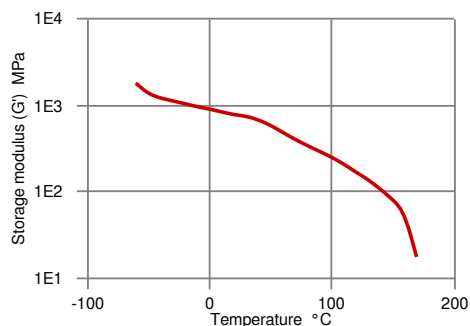
Rheological calculation properties	Value	Unit	Test Standard
Density of melt	1200	kg/m ³	Internal
Thermal conductivity of melt	0.155	W/(m K)	Internal
Spec. heat capacity melt	2210	J/(kg K)	Internal
Ejection temperature	140	°C	Internal

Diagrams

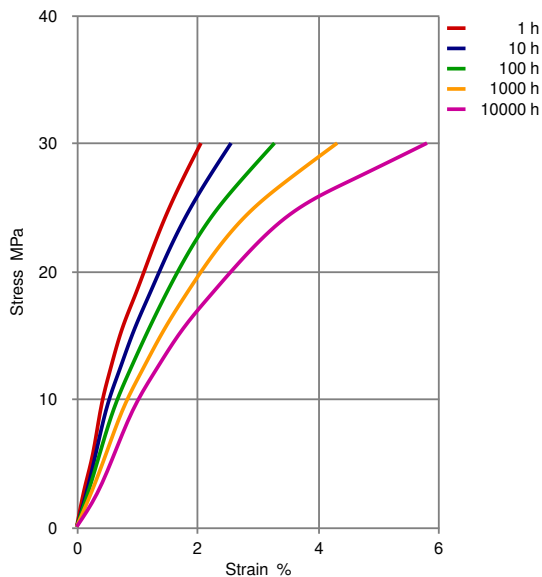
Viscosity-shear rate

Shear stress-shear rate





-40°C yield at 0.07304 strain, 103.168 stress
 23°C yield at 0.09652 strain, 65.955 stress
 80°C yield at 0.10111 strain, 37.606 stress



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 - 220	°C
Mold temperature	80 - 120	°C
Hot runner temperature	190 - 210	°C
Pressure	Value	Unit
Back pressure max.	40	bar
Speed	Value	
Injection speed	slow-medium	
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.

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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.

Film extrusion

Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

Film Extrusion 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 %

Film Extrusion Postprocessing

Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C
Annealing time 10 min/mm thickness

Other extrusion

Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

Other Extrusion 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 %

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Other Extrusion Postprocessing

Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C
Annealing time 10 min/mm thickness

Profile extrusion

Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

Profile Extrusion 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 %

Profile Extrusion Postprocessing

Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C
Annealing time 10 min/mm thickness

Sheet extrusion

Standard extruders with grooved feed zone and short compression screws (minimum 25 D) will fit.

Melt temperature 180-190 °C

Sheet Extrusion 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 %

Sheet Extrusion Postprocessing

Conditioning e.g. moisturizing is not necessary.

In case of very thick wall thickness profiles after-annealing it is recommended to reduce internal stress.

Annealing temperature 130-140 °C
Annealing time 10 min/mm thickness

Blow molding

Standard extruders with plasticating screws (20 to 25 D) will fit.

Melt temperature 180-190 °C
Mould-surface temperature 60-100 °C

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Blow 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 %

Blow Molding Postprocessing

Conditioning e.g. moisturizing is not necessary.

Characteristics

Special Characteristics	Auto spec approved, Chemical resistant, Fuel resistant, Hydrolysis resistant
Product Categories	Unfilled
Processing	Blow molding, Extrusion, Film extrusion, Injection molding, Other extrusion, Profile extrusion, Sheet 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-O004	Colors
Continental	TST N 055 54.07	
Mercedes-Benz Group (Daimler)	DBL 5403	(5403.00)
Mercedes-Benz Group (Daimler)	DBL 5405	(5405.01)
Mercedes-Benz Group (Daimler)	DBL 5410	(5410.00)
Mercedes-Benz Group (Daimler)	DBL 5420	(5420.00)
Ford	WSK-M4D635-A1	Natural & Black 12
Nissan	POM-IVx-1	
Toyota	TSM5515G-1A	

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