Celanese
The chemistry inside innovation™

HOSTAFORM® C 52021 LS - POM

Description

POM copolymer Extremely easy flowing Injection molding type for very thin-walled precision molded parts with unfavourite flow-path-wall thickness relation; permits processing at reduced temperature and also shorter cycle times; for mechanical lower requirements; good chemical resistance to solvents, fuel and strong alkalis as well as good hydrolysis resistance; high esistance to thermal and oxidative degradation. With UV Additives Ranges of applications: For very thin-walled precision molded parts with unfavourite flow-path-wall thickness relation; permits processing at reduced temperature and also shorter cycle times.

Physical properties	Value	Unit	Test Standard
Density	**1410**	kg/m³	ISO 1183
Melt volume rate, MVR	**39**	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	**3000**	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	**65**	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	**7**	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	**15**	%	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	**150**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**150**	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	**148**	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

Electrical properties	Value	Unit	Test Standard
Relative permittivity, 100Hz	**4**	-	IEC 60250
Relative permittivity, 1MHz	**4**	-	IEC 60250
Dissipation factor, 100Hz	**30**	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

Rheological calculation properties	Value	Unit	Test Standard
Density of melt	**1200**	kg/m³	Internal
Thermal conductivity of melt	**0.19**	W/(m K)	Internal
Spec. heat capacity melt	**2060**	J/(kg K)	Internal
Ejection temperature	**140**	°C	Internal

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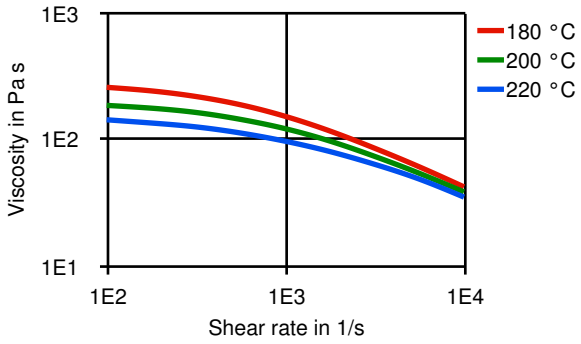
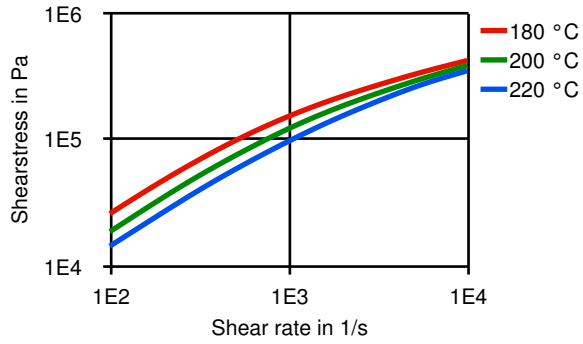
Diagrams

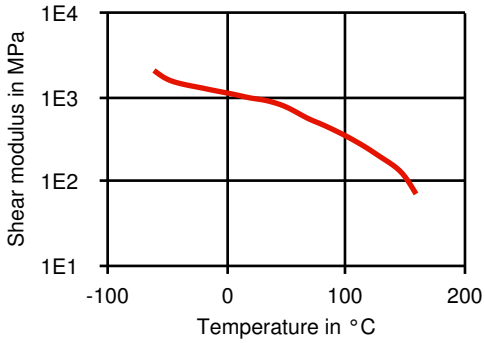
Viscosity-shear rate



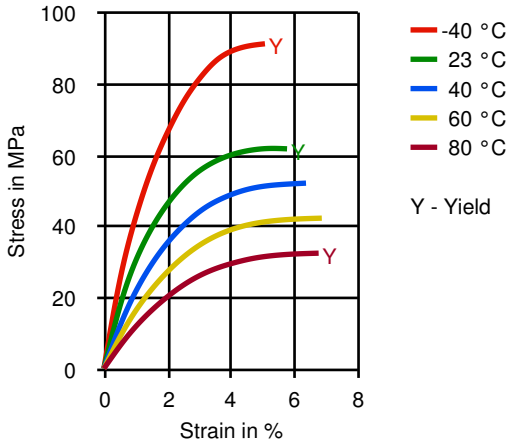
Shearstress-shear rate



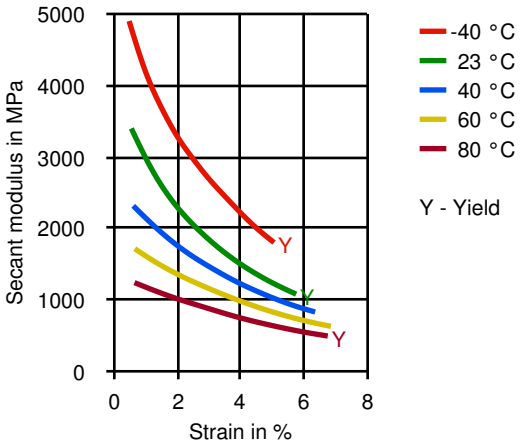
Dynamic Shear modulus-temperature



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	-

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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	-
Nozzle temperature	**190 - 210**	°C	-
Melt temperature	**190 - 210**	°C	-
Mold 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.

Characteristics

Special Characteristics	Delivery Form
UV resistant	Pellets
Processing	**Additives**
Injection molding	Release agent