Celanese
The chemistry inside innovation™

HOSTAFORM® C 9021 10/9005 - POM

Description

Hostaform® C 9021 10/9005 is a nominal 9 melt flow rate acetal copolymer which is capable of being permanently marked by a laser. Parts molded from Hostaform® C 9021 10/9005 can be laser marked with barcodes, identification numbers, designs, 2-D symbology, etc.

Physical properties	Value	Unit	Test Standard
Density	**1410**	kg/m³	ISO 1183
Melt volume rate, MVR	**8**	cm³/10min	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	**2850**	MPa	ISO 527-2/1A
Tensile stress at yield, 50mm/min	**64**	MPa	ISO 527-2/1A
Tensile strain at yield, 50mm/min	**9**	%	ISO 527-2/1A
Tensile nominal strain at break, 50mm/min	**25**	%	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	**2700**	MPa	ISO 178
Charpy impact strength, 23°C	**180**[P]	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**160**	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**	kJ/m²	ISO 179/1eA

P: Partial Break

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10°C/min	**166**	°C	ISO 11357-1/-3
DTUL at 1.8 MPa	**104**	°C	ISO 75-1, -2
Vicat softening temperature, 50°C/h 50N	**150**	°C	ISO 306
Coeff. of linear therm expansion, parallel	**1.1**	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	**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

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
Eff. thermal diffusivity	**4.85E-8**	m²/s	Internal

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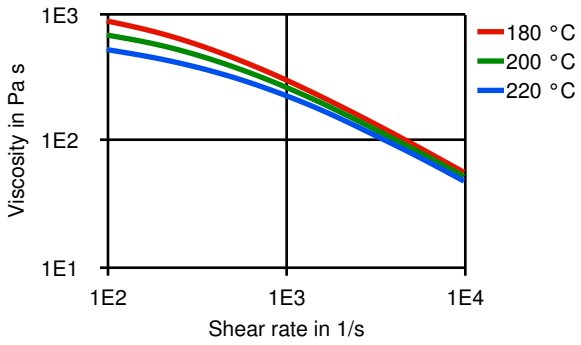
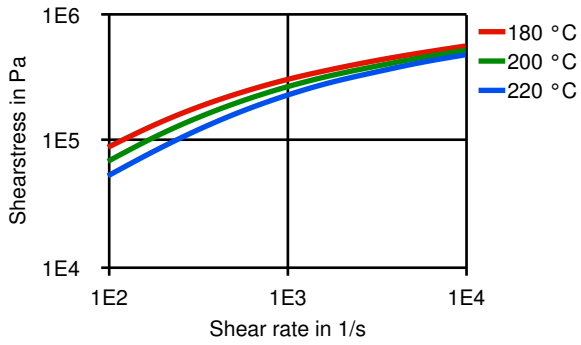
Ejection temperature	**140**	°C	Internal

Diagrams

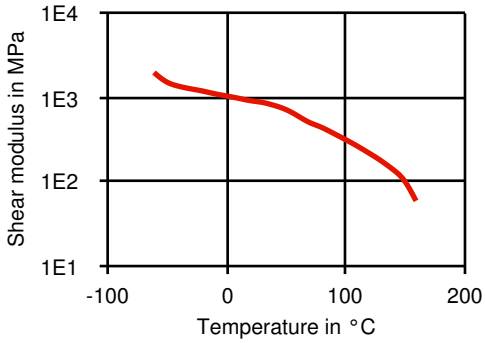
Viscosity-shear rate



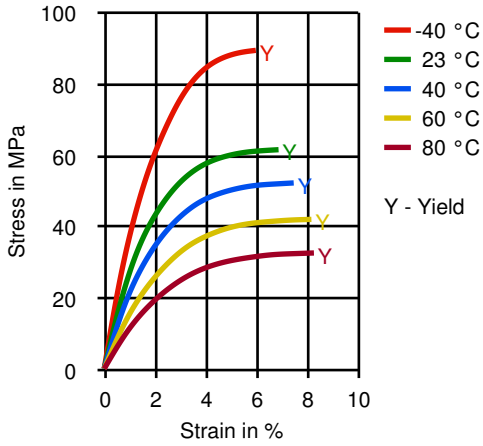
Shearstress-shear rate



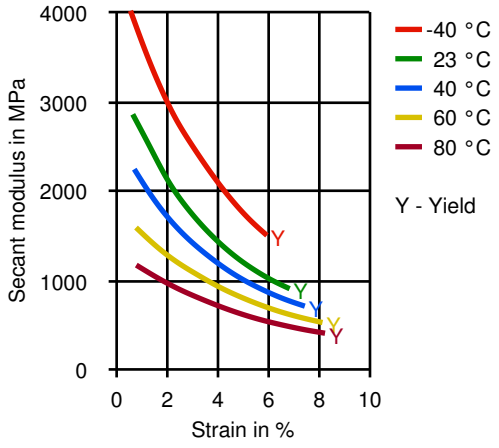
Dynamic Shear modulus-temperature



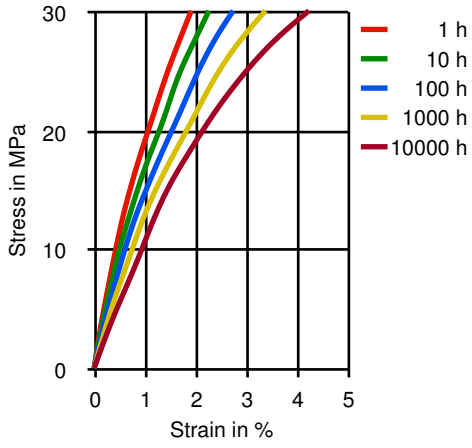
Stress-strain



Secant modulus-strain



Stress-strain (isochronous) 23°C



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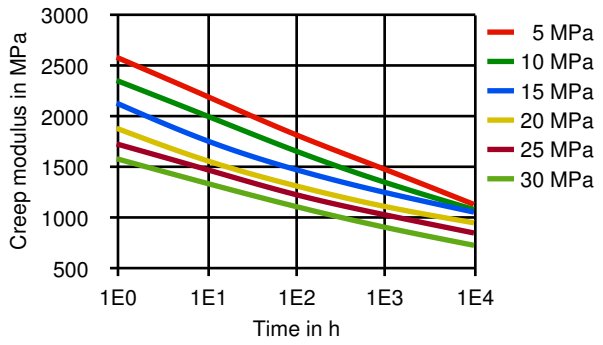
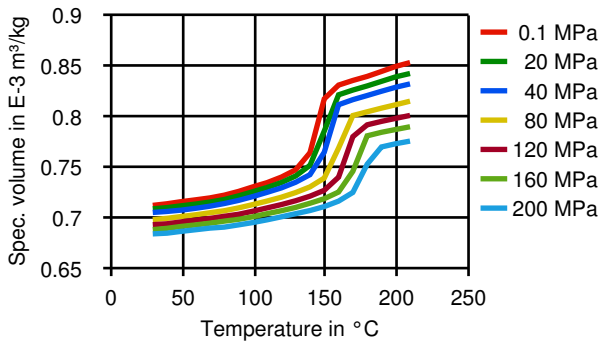
Creep modulus-time 23 °C



Moldflow Specific volume-temperature (pvT)



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	-
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.

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

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Special Characteristics	Delivery Form
Laser markable	Pellets

Product Categories	Additives
Unfilled	Release agent

Processing

Injection molding

General Disclaimer

NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products. The products mentioned herein are not intended for use in medical or dental implants.

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