

POM for Consumers and Cosmetics. Low Emissions, low Extractables, FDA approval POM copolymer

Easy flow injection molding grade with very low emissions and migrations; designed for consumer packaging.

Emission according to VDA 275 < 2 mg/kg (natural grades)

Monomers and additives are listed in EU-Regulation (EU) 10/2011 FDA compliant according to 21 CFR 177.2470 FDA = Food and Drug Administration (USA)

#### Rheological properties

| Melt volume-flow rate        | 24 cm <sup>3</sup> /10min | ISO 1133        |
|------------------------------|---------------------------|-----------------|
| Temperature                  | 190 °C                    |                 |
| Load                         | 2.16 kg                   |                 |
| Moulding shrinkage, parallel | 1.9 %                     | ISO 294-4, 2577 |
| Moulding shrinkage, normal   | 1.8 %                     | ISO 294-4, 2577 |
|                              |                           |                 |

## Typical mechanical properties

| Tensile Modulus                       | 2900 | MPa   | ISO 527-1/-2 |
|---------------------------------------|------|-------|--------------|
| Yield stress, 50mm/min                | 65   | MPa   | ISO 527-1/-2 |
| Yield strain, 50mm/min                | 7.5  | %     | ISO 527-1/-2 |
| Nominal strain at break               | 17   | %     | ISO 527-1/-2 |
| Flexural Modulus                      | 2800 | MPa   | ISO 178      |
| Tensile creep modulus, 1h             | 2500 | MPa   | ISO 899-1    |
| Tensile creep modulus, 1000h          | 1300 | MPa   | ISO 899-1    |
| 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, H 358/30   | 147  | MPa   | ISO 2039-1   |

#### Thermal properties

| Melting temperature, 10°C/min               | 166   | °C       | ISO 11357-1/-3 |
|---|-------|----------|----------------|
| Temp. of deflection under load, 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 | 110   | E-6/K    | ISO 11359-1/-2 |
| Thermal conductivity of melt                | 0.155 | W/(m K)  | Internal       |
| Spec. heat capacity of melt                 | 2210  | J/(kg K) | Internal       |

#### Flammability

| Burning Behav. at 1.5mm nom. thickn. | HB   | class | UL 94 |
|--------------------------------------|------|-------|-------|
| Thickness tested                     | 1.5  | mm    | UL 94 |
| Burning Behav. at thickness h        | HB   | class | UL 94 |
| Thickness tested                     | 3.00 | mm    | UL 94 |
| UL recognition                       | yes  |       | UL 94 |

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Internal

## HOSTAFORM® C 27021 XAP® C

### **Electrical properties**

| Relative permittivity, 100Hz | 4     |       | IEC 62631-2-1 |
|------------------------------|-------|-------|---------------|
| Relative permittivity, 1MHz  | 4     |       | IEC 62631-2-1 |
| Dissipation factor, 100Hz    | 25    | E-4   | IEC 62631-2-1 |
| Dissipation factor, 1MHz     | 50    | E-4   | IEC 62631-2-1 |
| Volume resistivity           | 1E12  | Ohm.m | IEC 62631-3-1 |
| Surface resistivity          | 1E14  | Ohm   | IEC 62631-3-2 |
| Electric strength            | 35    | kV/mm | IEC 60243-1   |
| Comparative tracking index   | PLC 0 | PLC   | UL 746A       |

### Other properties

| Humidity absorption, 2mm | 0.2 %                  | Sim. to ISO 62 |
|--------------------------|------------------------|----------------|
| Water absorption, 2mm    | 0.65 %                 | Sim. to ISO 62 |
| Density                  | 1410 kg/m³             | ISO 1183       |
| Density of melt          | 1200 kg/m <sup>3</sup> | Internal       |

### Injection

| Drying Temperature              | 100 - 120   | °C  |
|---------------------------------|-------------|-----|
| Drying Time, Dehumidified Dryer | 3 - 4       | h   |
| Processing Moisture Content     | 0.15        | %   |
| Screw tangential speed          | 0.2 - 0.21  | m/s |
| Max. mould temperature          | 80 - 120    | °C  |
| Back pressure                   | 4           | MPa |
| Injection speed                 | slow-medium |     |
| Ejection temperature            | 140         | °C  |

#### Characteristics

Additives Release agent

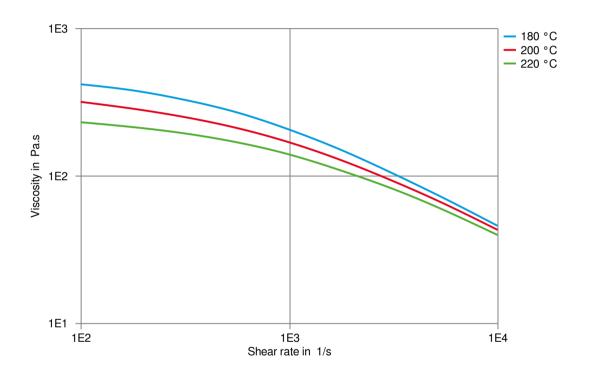
#### Additional information

Injection molding Standard injection moulding machines with three phase (15 to 25 D) plasticating screws will fit.

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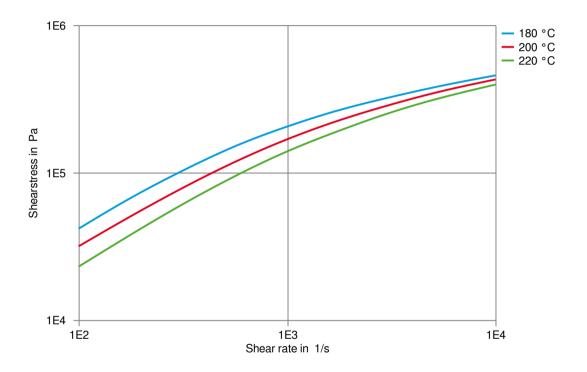
### Viscosity-shear rate



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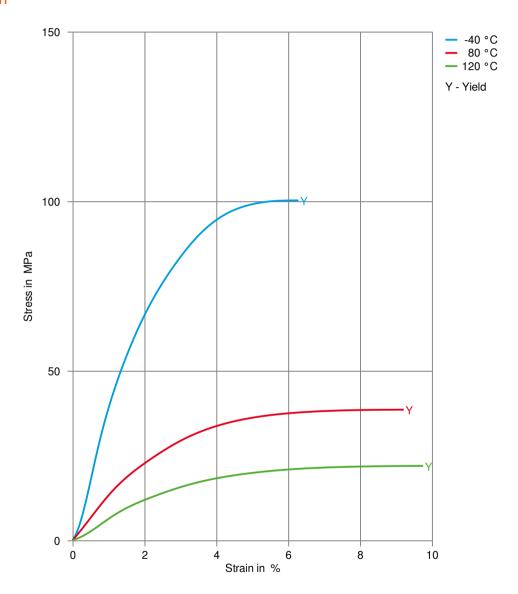
#### Shearstress-shear rate



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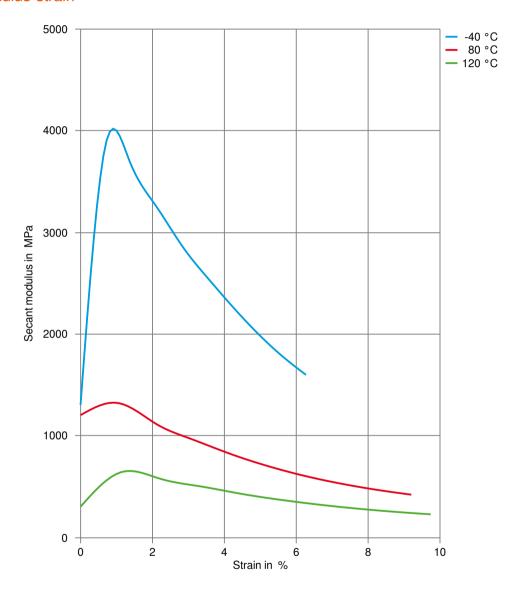
#### Stress-strain



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#### Secant modulus-strain



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**Processing Texts** 

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

To achive low emission values pre drying using a recirculating air dryer (100 to

120 °C / max. 40 mm layer / 3 to 6 hours) is recommended.

Max. Water content 0,1 %

Injection molding Postprocessing Conditioning e.g. moisturizing is not necessary.

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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. Colourants or other additives may cause significant variations in data values. Properties of moulded 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. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, 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 e

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