

PERFORMANCE CHEMICALS

SABIC™ POM 460S

Polyoxymethylene

PRODUCT DESCRIPTION:

SABIC™ POM 460S is an extremely easy flowing grade suitable for injection molding applications for very thin-walled precision molded parts with critical flow-path-wall thickness relation; the grade permits processing at reduced temperature, shorter cycle times suitable for many parts.

CHARACTERISTICS:

SABIC™ POM 460S has the following:

- High stiffness and hardness.
- Good chemical resistance to solvent.
- High resistance to thermal and oxidative degradation.
- Fuel and strong alkalis as well as good hydrolysis resistance.

TYPICAL DATA:

| PHYSICAL PROPERTIES | Unit | Typical Value ⁽¹⁾ | Test Method |
|---|------------------------|------------------------------|-------------------|
| Density | kg/m ³ | 1410 | ISO 1183 |
| Melt volume rate (MVR) | cm ³ /10min | 39 | ISO 1133 |
| MVR test temperature | °C | 190 | ISO 1133 |
| MVR test load | kg | 2.16 | ISO 1133 |
| Mold shrinkage - parallel | % | 1.9 | ISO 294-4 |
| Mold shrinkage - normal | % | 1.8 | ISO 294-4 |
| Water absorption (23°C-sat) | % | 0.65 | ISO 62 |
| THERMAL PROPERTIES | Unit | Typical Value ⁽¹⁾ | Test Method |
| Melting temperature (10°C/min) | °C | 166 | ISO 11357-1,-2,-3 |
| DTUL @ 1.8 MPa | °C | 106 | ISO 75-1/-2 |
| Coeff.of linear therm. expansion (parallel) | E-4/°C | 1.1 | ISO 11359-2 |
| MECHANICAL PROPERTIES | Unit | Typical Value ⁽¹⁾ | Test Method |
| Tensile modulus (1mm/min) | MPa | 3000 | ISO 527-2/1A |
| Tensile stress at yield (50mm/min) | MPa | 65 | ISO 527-2/1A |
| Tensile strain at yield (50mm/min) | % | 7 | ISO 527-2/1A |
| Nominal strain at break (50mm/min) | % | 15 | ISO 527-2/1A |
| Tensile creep modulus (1h) | MPa | 2500 | ISO 899-1 |
| Tensile creep modulus (1000h) | MPa | 1300 | ISO 899-1 |
| Flexural modulus (23°C) | MPa | 2800 | ISO 178 |
| Charpy impact strength @ 23°C | kJ/m ² | 100 | ISO 179/1eU |
| Charpy impact strength @ -30°C | kJ/m ² | 100 | ISO 179/1eU |
| Charpy notched impact strength @ 23°C | kJ/m ² | 5.0 | ISO 179/1eA |
| Charpy notched impact strength @ -30°C | kJ/m ² | 5.0 | ISO 179/1eA |
| ELECTRICAL PROPERTIES | Unit | Typical Value ⁽¹⁾ | Test Method |
| Relative permittivity - 100 Hz | - | 4 | IEC 60250 |
| Relative permittivity - 1 MHz | - | 4 | IEC 60250 |
| Dissipation factor - 100 Hz | E-4 | 30 | IEC 60250 |
| Dissipation factor - 1 MHz | E-4 | 50 | IEC 60250 |
| Volume resistivity | Ohm*m | 1E12 | IEC 60093 |
| Surface resistivity | Ohm | 1E14 | IEC 60093 |
| Electric strength | kV/mm | 35 | IEC 60243-1 |
| Comparative tracking index CTI | - | 600 | IEC 60112 |

(1) Typical values; not to be construed as specification limits.

PROCESS GUIDELINES:

Injection Molding

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

Melt Temperature 190 – 230 °C

Mould Temperature 80 – 120 °C

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