# PPSU MG

## POLYPHENYLSULFONE MEDICAL GRADE

### Material description

PPSU MG (medical grade) is an amorphous thermoplastic and belongs to the group of high-performance plastics. Due to its mechanical properties, combined with good chemical resistance and high hydrolysis resistance, PPSU MG is excellently suited for applications in medical technology. PPSU MG can be used over a wide temperature range and can be steam sterilised repeatedly. The material is available in a wide range of colours.

### Conformities

RoHS, REACH, USP Class VI, ISO 10993-5

| Physical properties | Test method | Value | Unit |
|---|---|---|---|
| Density | DIN EN ISO 1183-1 | 1.29 | g/cm3 |
| Water absorbtion | DIN EN ISO 62 | 0.6 | % |
| Sliding friction | | ◔ | |
| Abrasion resistance | | ◔ | |

| Mechanical properties | Test method | Value | Unit |
|---|---|---|---|
| Yield stress | DIN EN ISO 527 | 77 | MPa |
| Elongation at break | DIN EN ISO 527 | 30 | % |
| Tensile modulus of elasticity | DIN EN ISO 527 | 2500 | MPa |
| Notched impact strength | DIN EN ISO 179 | 10 | kJ/m2 |
| Shore Hardness D | DIN EN ISO 868 | 85 | |

| Thermal properties | Test method | Value | Unit |
|---|---|---|---|
| Thermal conductivity | DIN 52612-2 | 0.35 | W/(m*K) |
| Coefficient of thermal expansion | DIN 53752 | 55 | $10^{-6*K}$-1 |
| Operating temperature short term | | 210 | °C |
| Operating temperature long term | | -50 bis 180 | °C |
| Heat deflection temperature | DIN EN ISO 75 / A | 205 | °C |
| Flammability | UL 94, 3 mm | V0 | |

| Electrical properties | Test method | Value | Unit |
|---|---|---|---|
| Volume resistivity | IEC 60093 | $10^{15}$ | Ω * cm |
| Surface resistivity | IEC 60093 | $10^{15}$ | Ω * cm |
| Dielectric strength | IEC 60243 | 15 | kV/mm |
| Comparative tracking index (CTI) | IEC 60112 | < 100 | CTI |

These technical data have been determined as average values by our suppliers from many individual measurements. In all measurements, the test specimens were tested in the dry state. We pass on the data with reservation. The table does not claim to be complete or correct. Material technology is subject to constant further development. No rights or guarantees can be derived from it. Own tests are necessary because the environmental and operating conditions (humidity, temperature, mechanical forces, radiation and chemicals, etc.) set limits in the application.

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