

# FORTRON® MT9140L4

## Polyphenylene sulfide

FORTRON® MT9140L4 SF3001 (natural) is a 40% glass fiber reinforced injection molding grade that exhibits excellent heat and chemical resistance, inherent flame retardancy, and high hardness and rigidity at elevated temperatures.

FORTRON® MT9140L4 SF3001 (natural) is a special grade developed for medical industry applications and complies with:

- Food Contact Substance Notification (FCN) No. 40 of the Food and Drug Administration (FDA) and is listed in the Drug Master File (DMF 14844) and the Device Master File (MAF 1097)
- the corresponding EU and national registry regulatory requirements
- biocompatibility in tests corresponding to USP 23 Class VI/ISO 10993
- low residual monomers
- no animal products

Components made of this grade may be used for medical and food handling applications.

### Product information

Resin Identification	PPS-GF40	ISO 1043
Part Marking Code	>PPS-GF40<	ISO 11469

### Rheological properties

Moulding shrinkage range, parallel	0.2 - 0.6 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.4 - 0.6 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile stress at break, 5mm/min	190 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.8 %	ISO 527-1/-2
Flexural modulus	14000 MPa	ISO 178
Flexural strength	280 MPa	ISO 178
Charpy impact strength, 23°C	48 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 23°C	9 kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, 23°C	10 kJ/m <sup>2</sup>	ISO 180/1A
Izod impact strength, 23°C	32 kJ/m <sup>2</sup>	ISO 180/1U
Hardness, Rockwell, M-scale	100	ISO 2039-2

### Thermal properties

Melting temperature, 10°C/min	280 °C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90 °C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	270 °C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	200 °C	ISO 75-1/-2

### Physical/Other properties

Water absorption, 2mm	0.02 %	Sim. to ISO 62
Density	1650 kg/m <sup>3</sup>	ISO 1183

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### Injection

Drying Recommended	yes
Drying Temperature	130 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.02 %
Melt Temperature Optimum	330 °C
Min. melt temperature	310 °C
Max. melt temperature	340 °C
Screw tangential speed	0.2 - 0.3 m/s
Mold Temperature Optimum	150 °C
Min. mould temperature	140 °C
Max. mould temperature	160 °C
Hold pressure range	30 - 70 MPa
Back pressure	3 MPa
Ejection temperature	213 °C

### Characteristics

Additives Release agent

### Additional information

Processing Notes

### Pre-Drying

FORTRON should in principle be predried. Because of the necessary low maximum residual moisture content the use of dry air dryers is recommended. The dew point should be  $\leq -30^{\circ}\text{C}$ . The time between drying and processing should be as short as possible.

### Storage

For subsequent storage the material should be stored dry in the dryer until processed ( $\leq 60$  h).