Celanese
The chemistry inside innovation™

# FORTRON® MT9140L6

## Polyphenylene sulfide

FORTRON® MT9140L6 SF3001 (natural) is a 40% glass fiber reinforced injection molding grade with a low melt viscosity.

FORTRON® MT9140L6 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

It exhibits excellent heat and chemical resistance, inherent flame retardancy and shows high hardness and rigidity at elevated temperatures.
Fortron MT9140L6 is used for thin walled parts with long flow lengths.
Components made of this grade may be used for medical, dental, pharmaceutical, and certain food handling applications.

## Product information

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

## Rheological properties

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

## Typical mechanical properties

| | | | |
|---|---|---|---|
| Tensile stress at break, 5mm/min | 27600 | psi | ISO 527-1/-2 |
| Tensile strain at break, 5mm/min | 1.8 | % | ISO 527-1/-2 |
| Flexural modulus | 2.03E6 | psi | ISO 178 |
| Flexural strength | 40600 | psi | ISO 178 |
| Charpy impact strength, 23°C | 22.8 | ftlb/in² | ISO 179/1eU |
| Charpy notched impact strength, 23°C | 4.28 | ftlb/in² | ISO 179/1eA |
| Izod notched impact strength, 23°C | 4.76 | ftlb/in² | ISO 180/1A |
| Izod impact strength, 23°C | 15.2 | ftlb/in² | ISO 180/1U |
| Hardness, Rockwell, M-scale | 100 | | ISO 2039-2 |

## Thermal properties

| | | | |
|---|---|---|---|
| Melting temperature, 10°C/min | 536 | °F | ISO 11357-1/-3 |
| Glass transition temperature, 10°C/min | 194 | °F | ISO 11357-1/-3 |
| Temperature of deflection under load, 1.8 MPa | 518 | °F | ISO 75-1/-2 |
| Temperature of deflection under load, 8 MPa | 392 | °F | ISO 75-1/-2 |

## Physical/Other properties

| | | | |
|---|---|---|---|
| Water absorption, 2mm | 0.02 | % | Sim. to ISO 62 |
| Density | 0.0596 | lb/in³ | ISO 1183 |

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## Injection

| | | |
|---|---|---|
| Drying Recommended | yes | |
| Drying Temperature | 266 | °F |
| Drying Time, Dehumidified Dryer | 2 - 4 | h |
| Processing Moisture Content | ≤0.02 | % |
| Melt Temperature Optimum | 626 | °F |
| Min. melt temperature | 590 | °F |
| Max. melt temperature | 644 | °F |
| Max. screw tangential speed | 0.2 - 0.3 | m/s |
| Mold Temperature Optimum | 302 | °F |
| Min. mold temperature | 284 | °F |
| Max. mold temperature | 320 | °F |
| Hold pressure range | 4350 - 10200 | psi |
| Back pressure | 435 | psi |
| Ejection temperature | 423 | °F |

## Characteristics

| | |
|---|---|
| Processing | Injection Molding |
| Additives | Release agent |
| Special characteristics | Flame retardant, Heat stabilized or stable to heat, High Flow, Chemical resistant |

## 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 =< - 30° 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 (<= 60 h).



Revised: 2026-09-08 Source: Celanese Materials Database

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