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

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

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

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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	415	°F

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Flame retardant, Heat stabilized or stable to heat, 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).

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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. Colorants or other additives may cause significant variations in data values. Properties of molded 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 equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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