Celanese
The chemistry inside innovation™

FORTRON® MT9140L6 - PPS

Description

40% Glass reinforced, medical & food handling applications, easy flow, strong & tough
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.

Physical properties	Value	Unit	Test Standard
Density	**103**	lb/ft³	ISO 1183
Molding shrinkage, parallel (flow)	**0.2 - 0.6**	%	ISO 294-4, 2577
Molding shrinkage, transverse normal	**0.4 - 0.6**	%	ISO 294-4, 2577
Water absorption, 23 °C-sat	**0.02**	%	Sim. to ISO 62

Mechanical properties	Value	Unit	Test Standard
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, 23 °C	**2.03E6**	psi	ISO 178
Flexural strength, 23 °C	**40600**	psi	ISO 178
Charpy impact strength, 23 °C	**22.8**	ft-lb/in²	ISO 179/1eU
Charpy notched impact strength, 23 °C	**4.28**	ft-lb/in²	ISO 179/1eA
Izod impact notched, 23 °C	**4.76**	ft-lb/in²	ISO 180/1A
Izod impact unnotched, 23 °C	**15.2**	ft-lb/in²	ISO 180/1U
Rockwell hardness (M-Scale)	**100**	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature, 10 °C/min	**536**	°F	ISO 11357-1/-3
Glass transition temperature, 10 °C/min	**194**	°F	ISO 11357-1,-2,-3
DTUL at 1.8 MPa	**518**	°F	ISO 75-1, -2
DTUL at 8.0 MPa	**392**	°F	ISO 75-1, -2

Typical injection moulding processing conditions

Pre Drying	Value	Unit
Necessary low maximum residual moisture content	**0.02**	%
Drying time	**3 - 4**	h
Drying temperature	**266 - 284**	°F

Temperature	Value	Unit
Hopper temperature	**68 - 86**	°F
Feeding zone temperature	**140 - 176**	°F
Zone1 temperature	**554 - 572**	°F
Zone2 temperature	**590 - 608**	°F
Zone3 temperature	**626 - 644**	°F
Zone4 temperature	**626 - 644**	°F
Nozzle temperature	**590 - 626**	°F

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Melt temperature	**626**	°F
Mold temperature	**284 - 320**	°F
Hot runner temperature	**626 - 644**	°F

Pressure	Value	Unit
Back pressure max.	**30**	bar

Speed	Value
Injection speed	**fast**

Screw Speed	Value	Unit
Screw speed diameter, 25mm	**120**	RPM
Screw speed diameter, 40mm	**75**	RPM
Screw speed diameter, 55mm	**50**	RPM

Other text information

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.

Longer pre-drying times/storage

For subsequent storage the material should be stored dry in the dryer until processed (<= 60 h).

Characteristics

Special Characteristics	Chemical resistant, Flame retardant, Heat resistant, High flow
Product Categories	Medical technology
Processing	Injection molding
Regulatory	FDA food contact compliant, Medical grade
Delivery Form	Pellets
Additives	Release agent