FORTRON® MT9140L4 | PPS | Medical Technology

Description

Fortron MT 9140L4 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.
Components made of this grade may be used for medical and food handling applications. Fortron MT 9140L4 is in compliance with ISO 10993, USP Class VI, and is included in the Fortron Drug and Device Master Files at the FDA. The grade complies with the FDA Food Contact Notification (FCN-No. 40) for repeat-use applications.

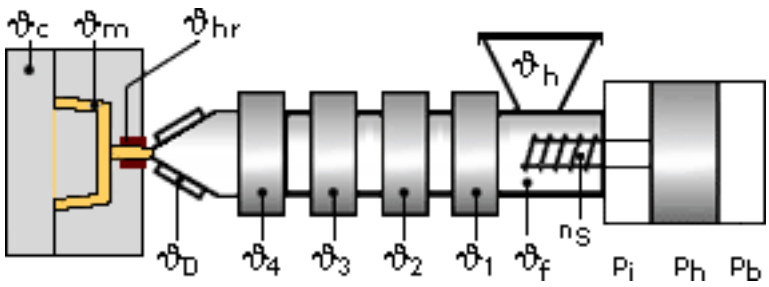
Physical properties	Value	Unit	Test Standard
Density	**1650**	kg/m³	ISO 1183
Mold shrinkage - parallel	**0.2 to 0.6**	%	ISO 294-4
Mold shrinkage - normal	**0.4 to 0.6**	%	ISO 294-4
Water absorption (23°C-sat)	**0.02**	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile stress at break (5mm/min)	**190**	MPa	ISO 527-2/1A
Tensile strain at break (5mm/min)	**1.8**	%	ISO 527-2/1A
Flexural modulus (23°C)	**14000**	MPa	ISO 178
Flexural strength (23°C)	**280**	MPa	ISO 178
Charpy impact strength @ 23°C	**48**	kJ/m²	ISO 179/1eU
Charpy notched impact strength @ 23°C	**9**	kJ/m²	ISO 179/1eA
Unnotched impact str (Izod) @ 23°C	**32**	kJ/m²	ISO 180/1U
Notched impact strength (Izod) @ 23°C	**10**	kJ/m²	ISO 180/1A
Rockwell hardness	**100**	M-Scale	ISO 2039-2

Thermal properties	Value	Unit	Test Standard
Melting temperature (10°C/min)	**280**	°C	ISO 11357-1,-2,-3
Glass transition temperature (10°C/min)	**90**	°C	ISO 11357-1,-2,-3
DTUL @ 1.8 MPa	**270**	°C	ISO 75-1/-2
DTUL @ 8.0 MPa	**200**	°C	ISO 75-1/-2

Test specimen production	Value	Unit	Test Standard
Injection molding melt temperature	**310 - 340**	°C	ISO 294
Injection molding mold temperature	**135 - 160**	°C	ISO 294

Typical injection moulding processing conditions



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Pre Drying:

Necessary low maximum residual moisture content: 0.02%

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.

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

Drying time: 3 - 4 h

Drying temperature: 130 - 140 °C

Temperature:

	Manifold	Mold	Melt	Nozzle	Zone4	Zone3	Zone2	Zone1	Feed	Hopper
min (°C)	330	140	330	310	330	330	310	290	60	20
max (°C)	340	160	340	330	340	340	320	300	80	30

Pressure:

	Inj press	Hold press	Back pressure
min (bar)	500	300	0
max (bar)	1000	700	30

Speed:

Injection speed: fast

Screw speed

Screw diameter (mm)	16	25	40	55	75
Screw speed (RPM)	-	120	75	50	-

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General Disclaimer

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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. 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.
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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 (+49 (0) 69 30516299 for Europe, +1 859-372-3244 for the Americas and +86 21 3861 9266 for Asia) for additional technical information. Visit our web site for the appropriate Safety Data Sheets (SDS) before attempting to process our products. Feel free to call Customer Services for additional assistance.
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