

FORTRON® 1120L4 - PPS

Description

Fortron 1120L4 is a 20% glass fiber reinforced injection molding grade exhibiting excellent heat and chemical resistance, inherent flame retardancy, high hardness and stiffness at elevated temperatures.

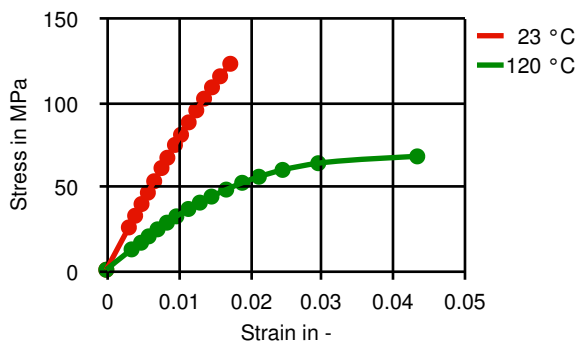
Physical properties	Value	Unit	Test Standard
Density	1480	kg/m ³	ISO 1183
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	0.7	%	ISO 294-4, 2577
Water absorption, 23°C-sat	0.02	%	ISO 62

Mechanical properties	Value	Unit	Test Standard
Tensile stress at break, 5mm/min	120	MPa	ISO 527-2/1A
Tensile strain at break, 5mm/min	1.5	%	ISO 527-2/1A
Flexural modulus, 23°C	8000	MPa	ISO 178
Flexural strength, 23°C	170	MPa	ISO 178
Izod impact notched, 23°C	7	kJ/m ²	ISO 180/1A
Izod impact unnotched, 23°C	35	kJ/m ²	ISO 180/1U
Rockwell hardness (M-Scale)	100	M-Scale	ISO 2039-2

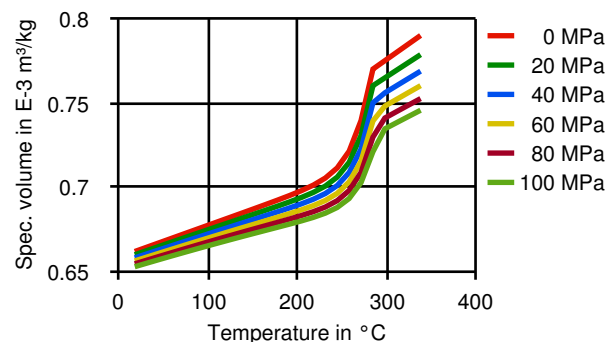
Thermal properties	Value	Unit	Test Standard
DTUL at 1.8 MPa	255	°C	ISO 75-1, -2
Coeff. of linear therm expansion, parallel	0.26	E-4/°C	ISO 11359-2
Coeff. of linear therm expansion, normal	0.53	E-4/°C	ISO 11359-2
Flammability @1.6mm nom. thickn.	V-0	class	UL 94

Diagrams

True Stress-strain



Moldflow Specific volume-temperature (pvT)



Typical injection moulding processing conditions

Pre Drying	Value	Unit	Test Standard
Necessary low maximum residual moisture content	0.02	%	-
Drying time	3 - 4	h	-
Drying temperature	130 - 140	°C	-
Temperature	Value	Unit	Test Standard
Hopper temperature	20 - 30	°C	-
Feeding zone temperature	60 - 80	°C	-
Zone1 temperature	290 - 300	°C	-
Zone2 temperature	310 - 320	°C	-
Zone3 temperature	330 - 340	°C	-
Zone4 temperature	330 - 340	°C	-

FORTRON® 1120L4 - PPS

Nozzle temperature	310 - 330	°C	-
Melt temperature	330 - 340	°C	-
Mold temperature	140 - 160	°C	-
Hot runner temperature	330 - 340	°C	-
Pressure	Value	Unit	Test Standard
Back pressure max.	30	bar	-
Speed	Value	Unit	Test Standard
Injection speed	fast	-	-
Screw Speed	Value	Unit	Test Standard
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 $\leq -30^{\circ}\text{C}$. 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).

Injection molding

On injection molding machines with 15-25 D long three-section screws, as are usual in the trade, the FORTRON is processable. A shut-off nozzle is preferred to a free-flow nozzle.

Melt temperature 320-340 degC

Mold wall temperature at least 140 degC

A medium injection rate is normally preferred. All mold cavities must be effectively vented.

Characteristics

Product Categories

Glass reinforced

Contact Information

Americas

8040 Dixie Highway

Florence, KY 41042 USA

Product Information Service

t: +1-800-833-4882

t: +1-859-372-3244

Customer Service

t: +1-800-526-4960

t: +1-859-372-3214

e: info-engineeredmaterials-am@celanese.com

Asia

4560 Jinke Road

Zhang Jiang Hi Tech Park

Shanghai 201203 PRC

Customer Service

t: +86 21 3861 9266

f: +86 21 3861 9599

e: info-engineeredmaterials-asia@celanese.com

Europe

Am Unisys-Park 1

65843 Sulzbach, Germany

Product Information Service

t: +49-800-86427-531

t: +49-(0)-69-45009-1011

e: info-engineeredmaterials-eu@celanese.com

General Disclaimer

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. 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

FORTRON® 1120L4 - PPS

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. The products mentioned herein are not intended for use in medical or dental implants.

Trademark

© 2014 Celanese or its affiliates. All rights reserved. (Published 27.July.2016). Celanese®, registered C-ball design and all other trademarks identified herein with ®, TM, SM, unless otherwise noted, are trademarks of Celanese or its affiliates. Fortron is a registered trademark of Fortron Industries LLC.