

# FORTRON® 1120L4

## Polyphenylene sulfide

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.

### Product information

Resin Identification	PPS-GF20	ISO 1043
Part Marking Code	>PPS-GF20<	ISO 11469

### Rheological properties

Moulding shrinkage, parallel	0.3 %	ISO 294-4, 2577
Moulding shrinkage, normal	0.7 %	ISO 294-4, 2577

### Typical mechanical properties

Tensile modulus	8550 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	120 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.8 %	ISO 527-1/-2
Flexural modulus	8000 MPa	ISO 178
Flexural strength	170 MPa	ISO 178
Izod notched impact strength, 23 °C	7 kJ/m <sup>2</sup>	ISO 180/1A
Izod impact strength, 23 °C	35 kJ/m <sup>2</sup>	ISO 180/1U
Hardness, Rockwell, M-scale	100	ISO 2039-2
Poisson's ratio	0.42	

### Thermal properties

Temperature of deflection under load, 1.8 MPa	255 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	26 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	53 E-6/K	ISO 11359-1/-2

### Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0 class	IEC 60695-11-10
FMVSS Class	SE	ISO 3795 (FMVSS 302)

### Physical/Other properties

Water absorption, 2mm	0.02 %	Sim. to ISO 62
Density	1470 kg/m <sup>3</sup>	ISO 1183

### Injection

Drying Recommended	yes
Drying Temperature	100 °C
Drying Time, Dehumidified Dryer	2 - 4 h
Processing Moisture Content	≤0.02 %
Melt Temperature Optimum	330 °C
Min. melt temperature	310 °C
Max. melt temperature	340 °C
Screw tangential speed	0.2 - 0.3 m/s
Mold Temperature Optimum	150 °C

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Min. mould temperature	140 °C
Max. mould temperature	160 °C
Hold pressure range	30 - 70 MPa
Back pressure	3 MPa
Ejection temperature	195 °C

### Characteristics

Processing	Injection Moulding
Special characteristics	Flame retardant, Heat stabilised or stable to heat, Chemical resistant

### Additional information

Injection molding

### Preprocessing

Predrying in a dehumidified air dryer at 130 - 140 degC/3-4 hours is recommended.

### Processing

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.

### Postprocessing

Tool temperature of at least 135 degC is recommended for parts to achieve maximum crystallizable potential.

### 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  $\leq -30^{\circ}\text{C}$ . The time between drying and processing should be as short as possible.

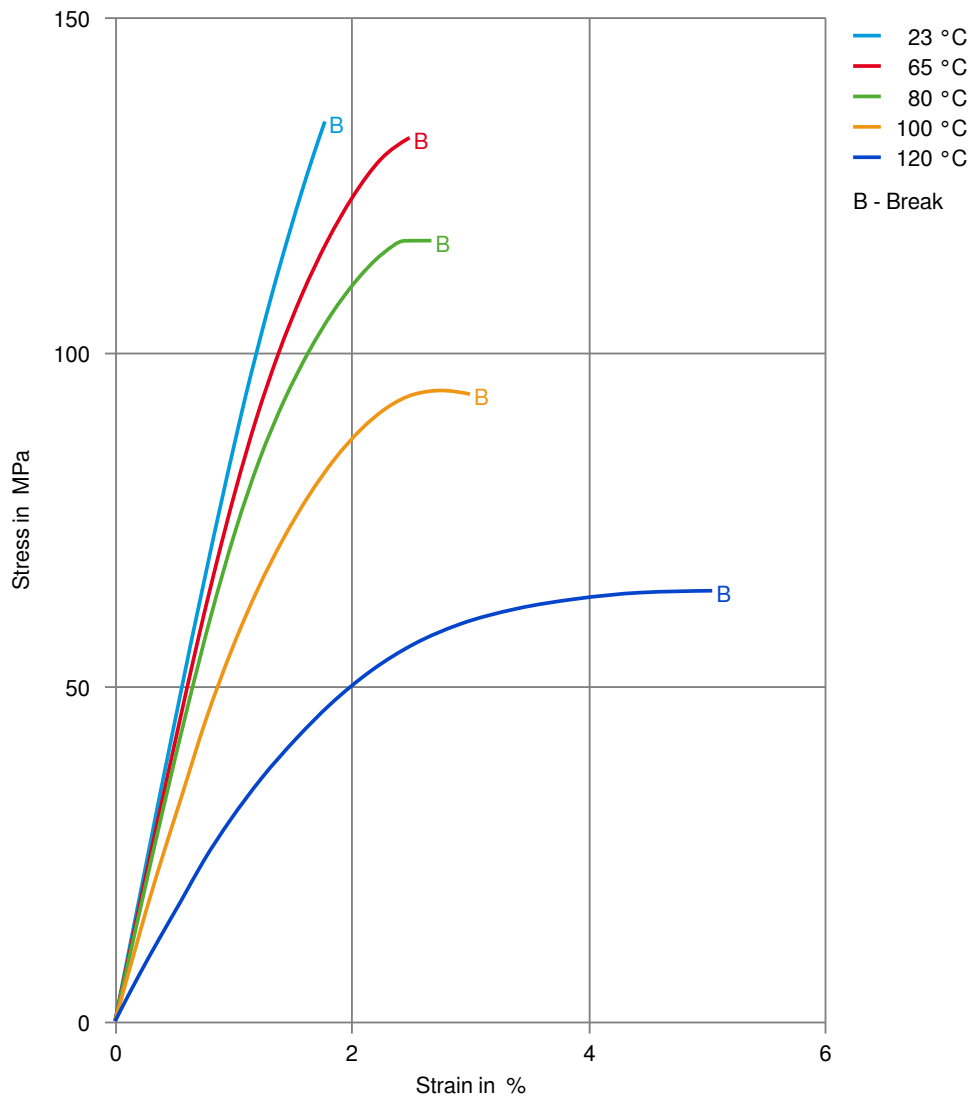
### Storage

For subsequent storage the material should be stored dry in the dryer until processed ( $\leq 60\text{ h}$ ).

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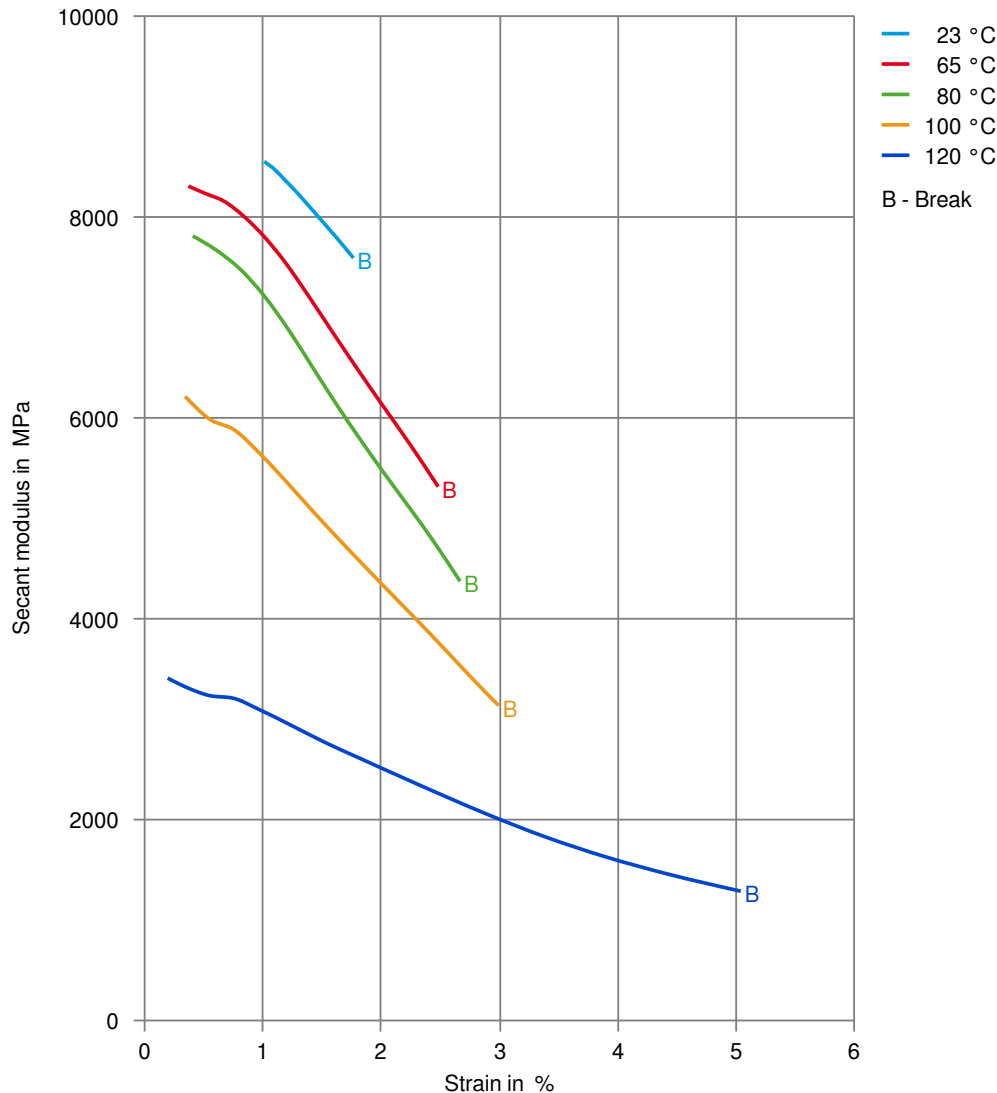
## Stress-strain



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## Secant modulus-strain



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