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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/m²	ISO 180/1A
Izod impact strength, 23°C	35	kJ/m²	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/m³	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 =< - 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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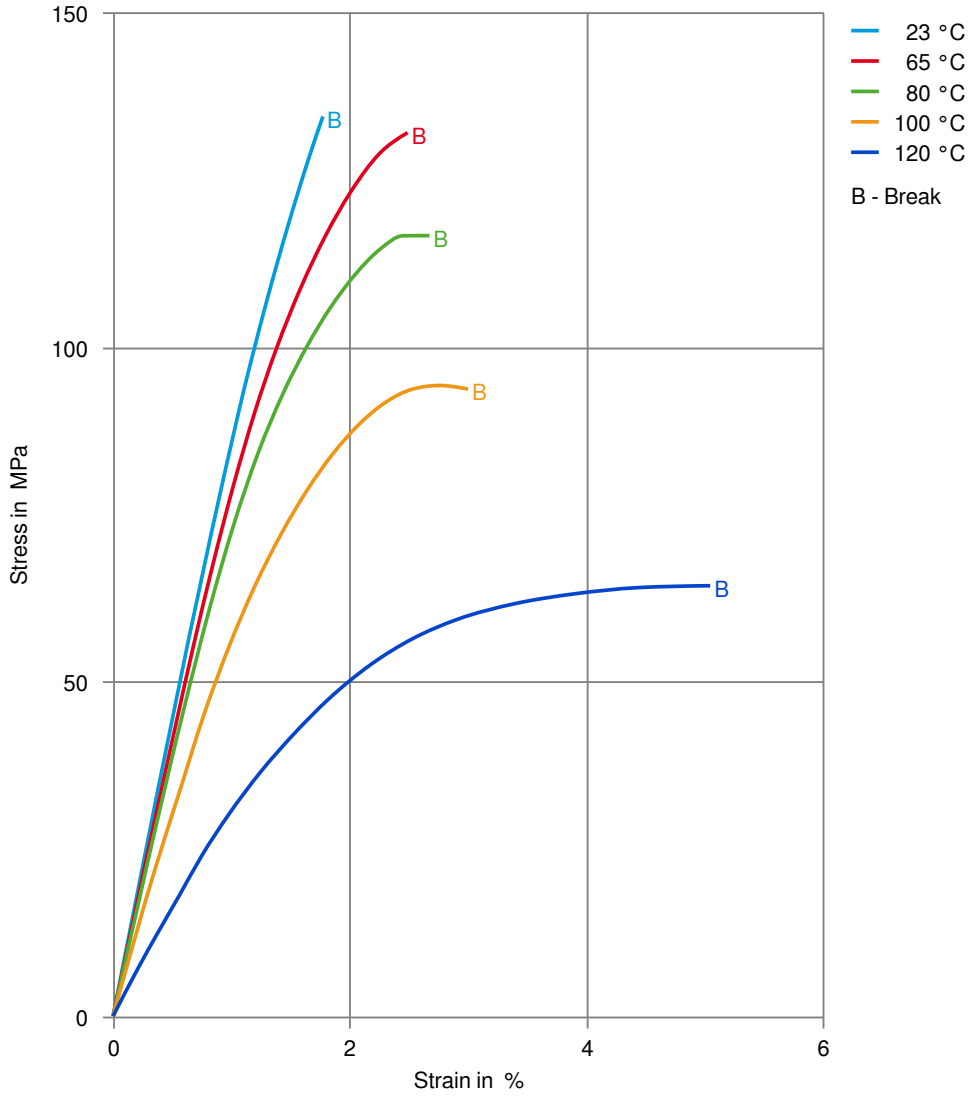
Stress-strain



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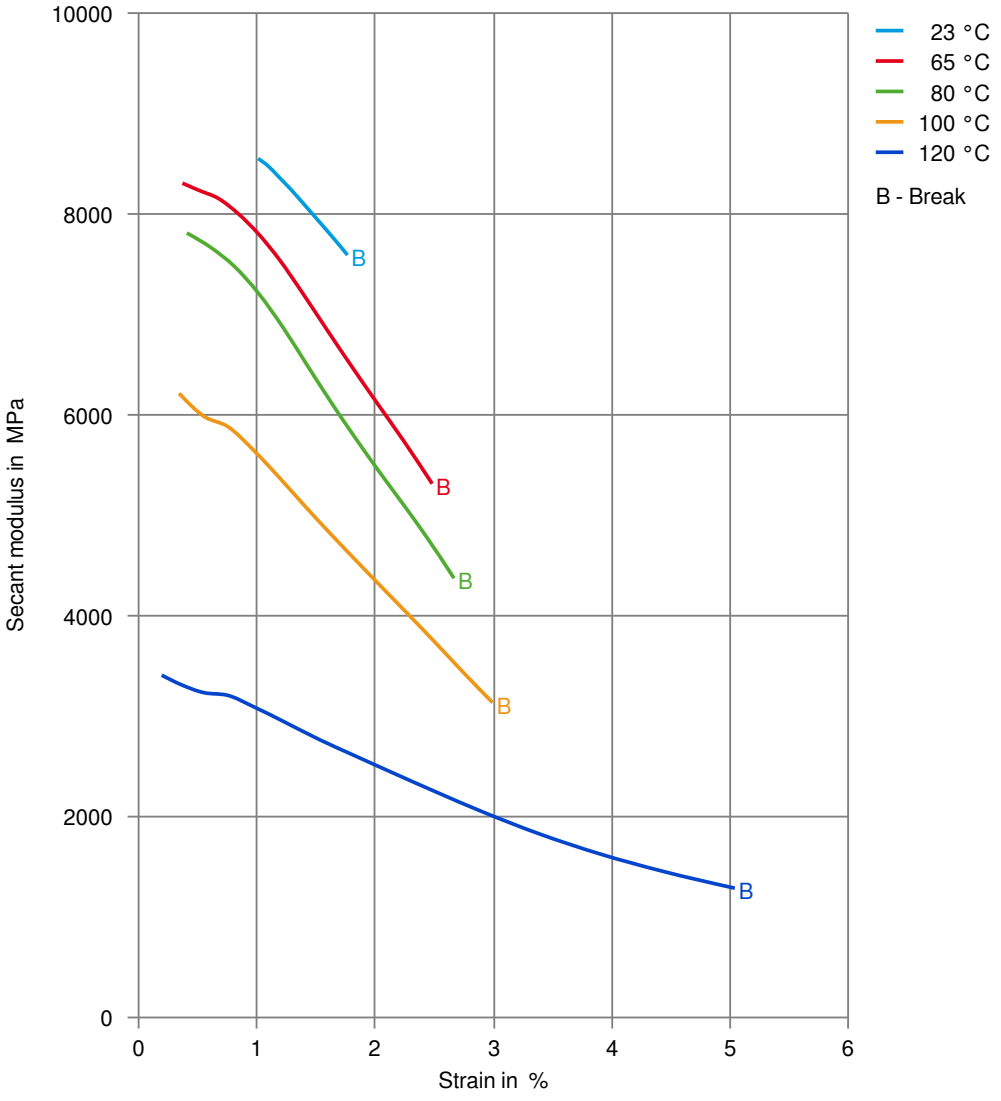
Secant modulus-strain



Revised: 2025-04-17 Source: Celanese Materials Database