Celanese
The chemistry inside innovation™

FORTRON® 4332L6

Polyphenylene sulfide

Fortron 4332L6 is a glass fiber/mineral filled injection molding grade, which is intended for applications requiring improved tensile and flexural properties, when compared to other GF/MIN reinforced PPS grades. The recommended processing parameters are similar to the standard grades.

Product information

Resin Identification	PPS-(GF+MD)65	ISO 1043
Part Marking Code	>PPS-(GF+MD)65<	ISO 11469

Rheological properties

Moulding shrinkage range, parallel	0.2 - 0.6	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.3 - 0.7	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	22500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	160	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.2	%	ISO 527-1/-2
Flexural modulus	21000	MPa	ISO 178
Flexural strength	260	MPa	ISO 178
Charpy impact strength, 23°C	30	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	6.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	6.1	kJ/m²	ISO 179/1eA
Poisson's ratio	0.309		

Thermal properties

Melting temperature, 10°C/min	280	°C	ISO 11357-1/-3
Glass transition temperature, 10°C/min	90	°C	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	270	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	220	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	12	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	45	E-6/K	ISO 11359-1/-2
Thermal conductivity, flow	0.63[OT]	W/(m K)	ISO 22007-2
Thermal conductivity, crossflow	0.58[OT]	W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.6[OT]	W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	3.6E-7[OT]	m²/s	ISO 22007-4
Effective thermal diffusivity, crossflow	3.3E-7[OT]	m²/s	ISO 22007-4
Effective thermal diffusivity, through plane	3.4E-7[OT]	m²/s	ISO 22007-4
Specific heat capacity of melt	890[OT]	J/(kg K)	ISO 22007-4

[OT]: One time tested

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
FMVSS Class	SE		ISO 3795 (FMVSS 302)
Burning rate, Thickness 1 mm		mm/min	ISO 3795 (FMVSS 302)

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Physical/Other properties

Water absorption, 2mm	0.02	%	Sim. to ISO 62
Density	1950	kg/m³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	130	°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
Min. mould temperature	140	°C
Max. mould temperature	160	°C
Hold pressure range	30 - 70	MPa
Back pressure	3	MPa
Ejection temperature	225	°C

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.

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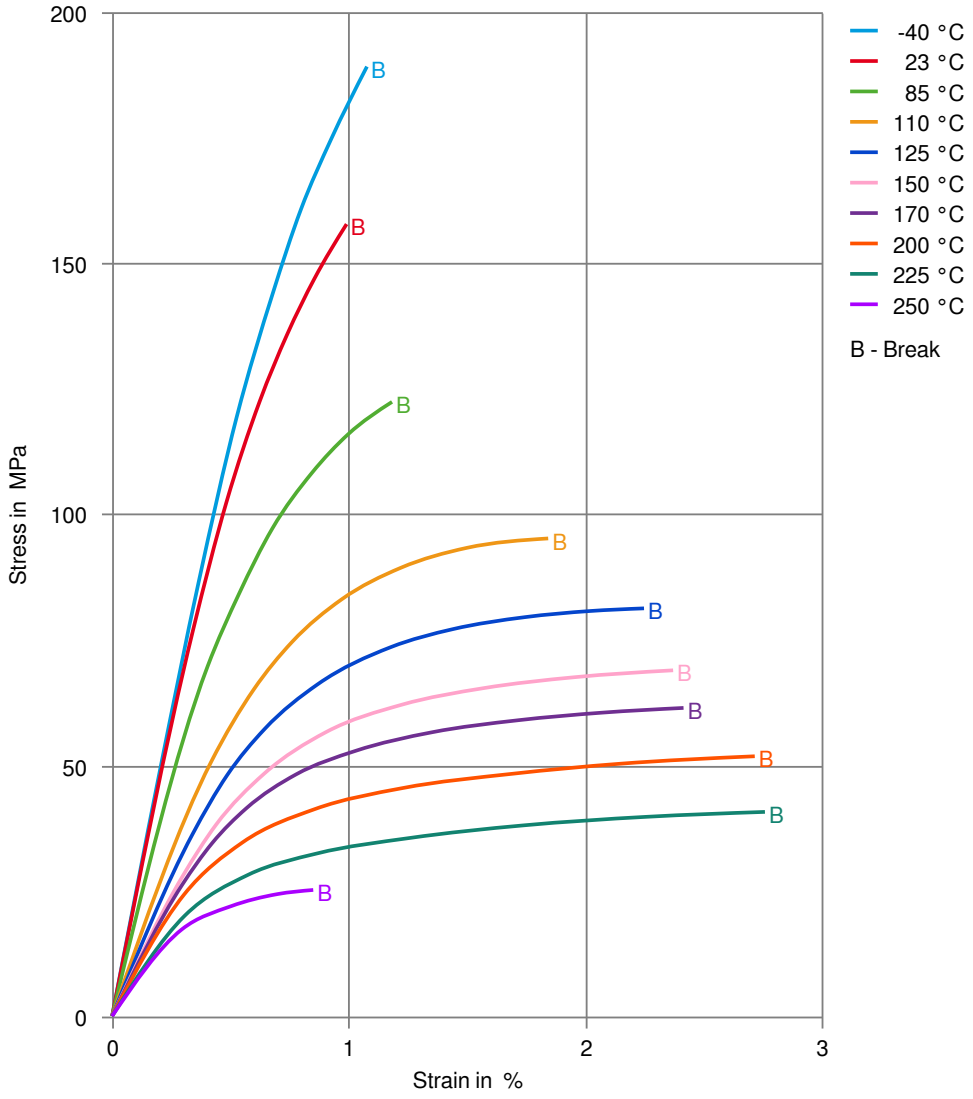
Stress-strain



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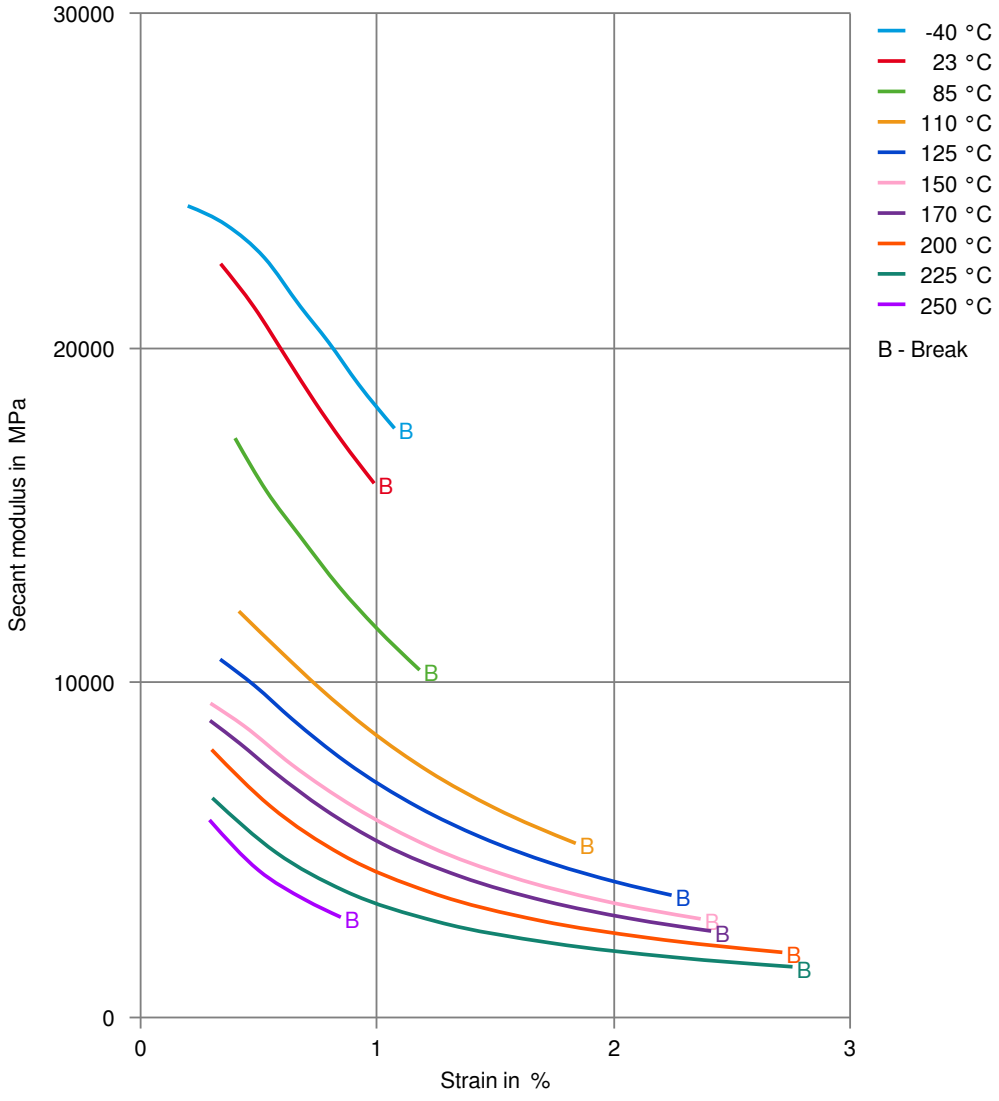
Secant modulus-strain



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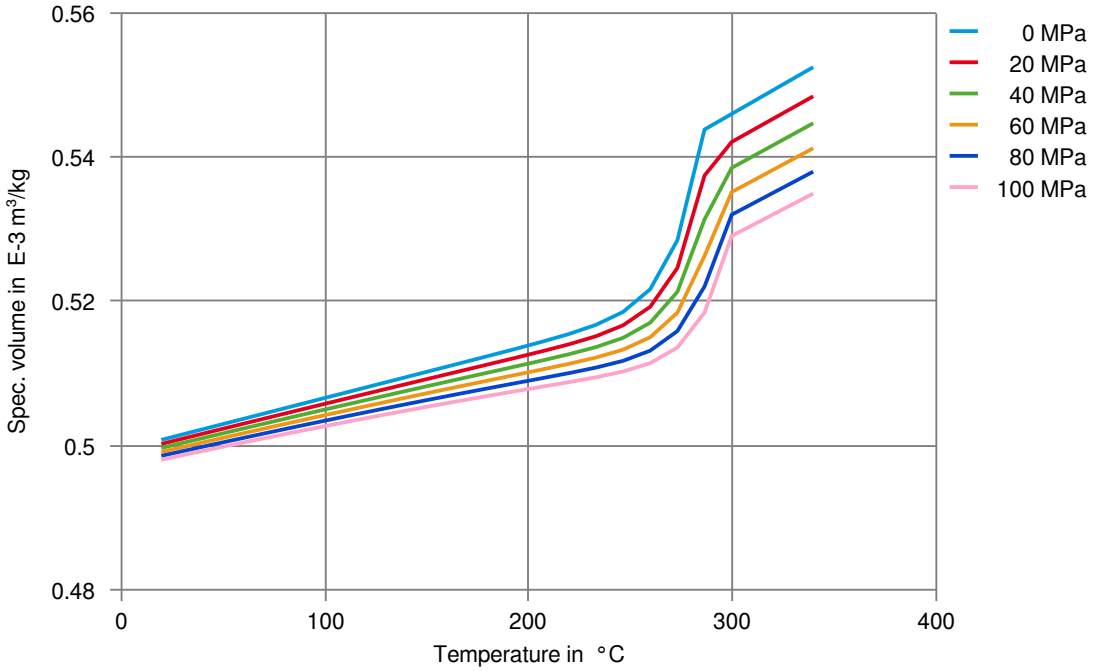
Specific volume-temperature (pvT)



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