Celanese
The chemistry inside innovation™

FORTRON® 0214

Polyphenylene sulfide

0214 is an unfilled grade exhibiting good melt strength. This grade demonstrates excellent heat and chemical resistance. It can be extruded to produce multi-filaments. Due to the excellent balance of flow and melt strength, this product is occasionally used for injection molding parts. Available standard in powder (0214B1), pellet (0214P1) and crystallized pellet (0214C1) form.

Product information

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

Rheological properties

Moulding shrinkage, parallel	1.2	%	ISO 294-4, 2577
Moulding shrinkage, normal	1.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	3800	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	90	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	3	%	ISO 527-1/-2
Flexural modulus	3750	MPa	ISO 178
Flexural strength	120	MPa	ISO 178
Izod notched impact strength, 23°C	3.5	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	45	kJ/m²	ISO 180/1U
Hardness, Rockwell, M-scale	95		ISO 2039-2
Poisson's ratio	0.36[C]		

[C]: Calculated

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	110	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	95	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	52	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	53	E-6/K	ISO 11359-1/-2
Specific heat capacity of melt	1830	J/(kg K)	ISO 22007-4

Electrical properties

Relative permittivity, 1000Hz	3.2		IEC 62631-2-1
Volume resistivity	1E9	Ohm.m	IEC 62631-3-1
Electric strength	18	kV/mm	IEC 60243-1
Comparative tracking index	125		IEC 60112
Arc Resistance	124	s	UL 746B

Celanese
The chemistry inside innovation™

FORTRON® 0214

Polyphenylene sulfide

Physical/Other properties

Water absorption, 2mm	0.02	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.03	%	Sim. to ISO 62
Density	1350	kg/m³	ISO 1183
Density of melt	1150	kg/m³	

Injection

Drying Recommended	yes	
Drying Temperature	110	°C
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	315	°C
Min. melt temperature	275	°C
Max. melt temperature	320	°C
Screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	150	°C
Min. mould temperature	135	°C
Max. mould temperature	160	°C
Hold pressure range	30 - 70	MPa
Back pressure	3	MPa
Ejection temperature	192	°C

Characteristics

Processing	Injection Moulding, Film Extrusion, Extrusion, Other Extrusion
Delivery form	Pellets, Powder
Special characteristics	Heat stabilised or stable to heat, Chemical resistant

Additional information

Injection molding

Preprocessing

In spite of the minimum moisture absorption a drying of FORTRON is necessary. Predrying in a dehumidified air dryer at 120 degC/3-4 hours is recommended.

Processing

On injection molding machines with 15-25 D long three-section screws, are usual in the trade, the unreinforced FORTRON is processable. A shut-off nozzle is recommended.

Melt temperature 310-320 degC
Mold wall temperature at least 140 degC

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

Processing Notes

Pre-Drying

Celanese
The chemistry inside innovation™

FORTRON® 0214

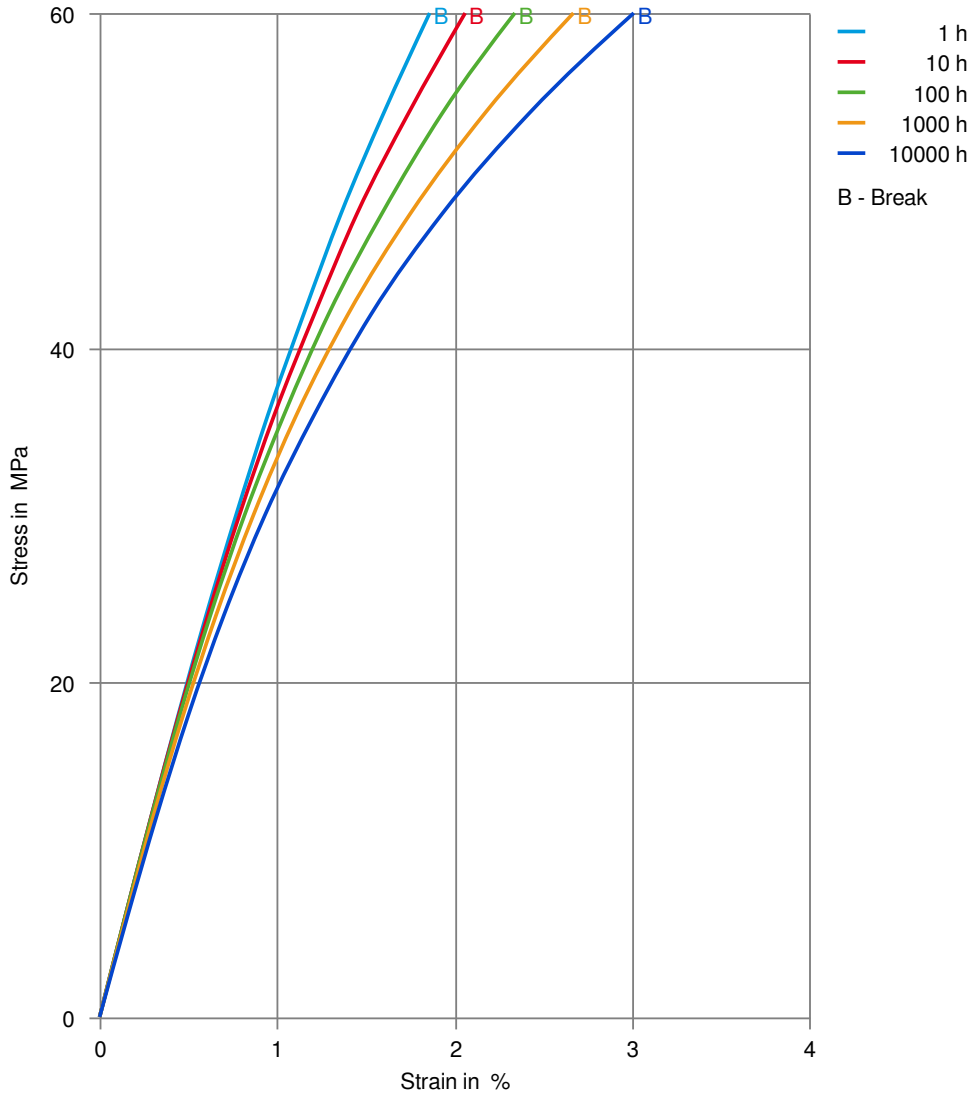
Polyphenylene sulfide

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).

Stress-strain (isochronous) 23 °C

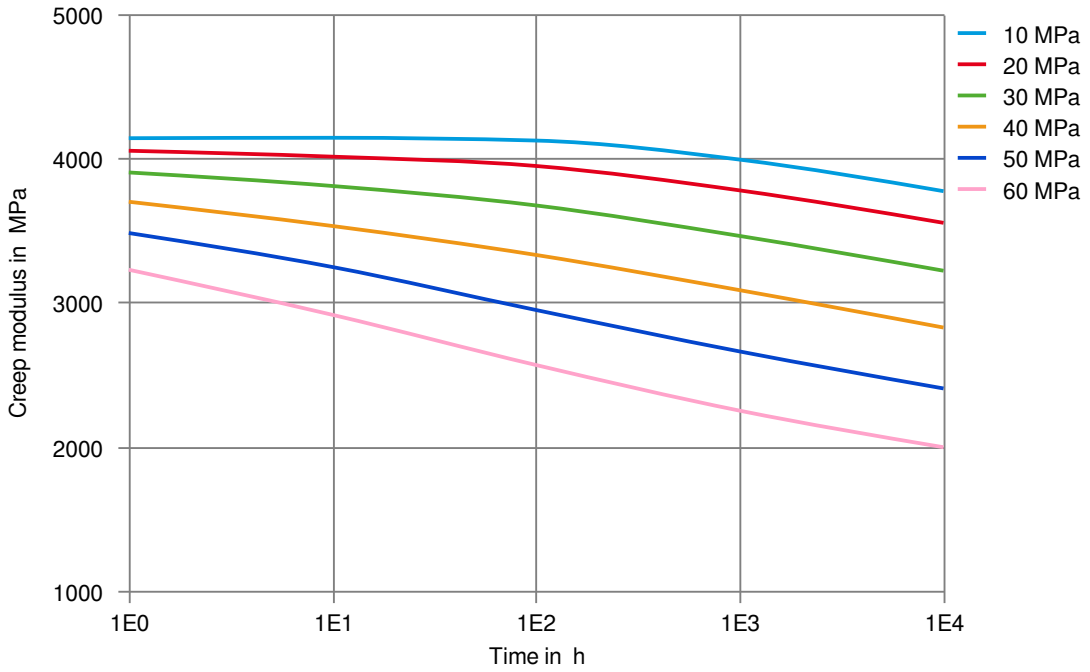


Celanese
The chemistry inside innovation™

FORTRON® 0214

Polyphenylene sulfide

Creep modulus-time 23 °C



Revised: 2025-03-05 Source: Celanese Materials Database