Celanese
The chemistry inside innovation™

FORTRON® 1342L4

Polyphenylene sulfide

Fortron 1342L4 is a low wear glass filled grade, ideally suited for bearings, gears and other sliding friction/wear applications.

Product information

Resin Identification	PPS-GF40		ISO 1043
Part Marking Code	>PPS-GF40<		ISO 11469

Rheological properties

Molding shrinkage, parallel	0.2	%	ISO 294-4, 2577
Molding shrinkage, normal	0.5	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.09E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	23900	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.6	%	ISO 527-1/-2
Flexural modulus	1.99E6	psi	ISO 178
Flexural strength	35500	psi	ISO 178
Compressive strength	24700	psi	ISO 604
Charpy impact strength, 23°C	20.9	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	4.04	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	4.04	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	4.04	ftlb/in²	ISO 180/1A
Izod notched impact strength, -30°C	4.04	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	4.06	ftlb/in²	ISO 180/1U

Tribological properties

Coefficient of static friction, against steel	0.2		ISO 8295

Thermal properties

Melting temperature, 10°C/min	536	°F	ISO 11357-1/-3
Glass transition temperature, 10°C/min	194	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	518	°F	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	419	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.12	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.222	E-4/°F	ISO 11359-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	0.0591	in	IEC 60695-11-10
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.0295	in	IEC 60695-11-10

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Physical/Other properties

Water absorption, 2mm	0.02	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.02	%	Sim. to ISO 62
Density	0.0614	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	266	°F
Drying Time, Dehumidified Dryer	2 - 4	h
Processing Moisture Content	≤0.02	%
Melt Temperature Optimum	626	°F
Min. melt temperature	590	°F
Max. melt temperature	644	°F
Max. screw tangential speed	0.2 - 0.3	m/s
Mold Temperature Optimum	302	°F
Min. mold temperature	284	°F
Max. mold temperature	320	°F
Hold pressure range	4350 - 10200	psi
Back pressure	435	psi
Ejection temperature	419	°F

Automotive

OEM	ADDITIONAL INFORMATION
Mercedes-Benz	Fuel

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Flame retardant, Low wear / Low friction

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

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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.

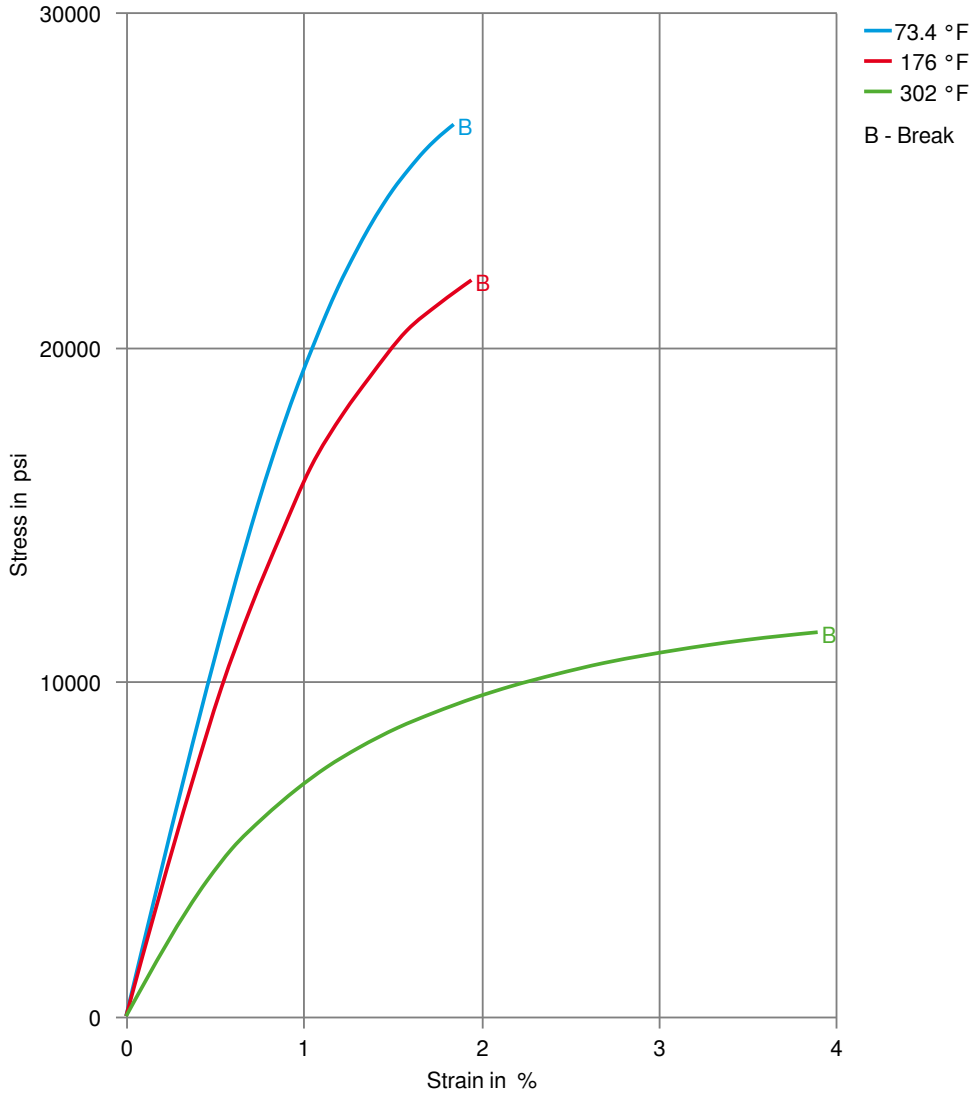
Storage

For subsequent storage the material should be stored dry in the dryer until processed (<= 60 h).

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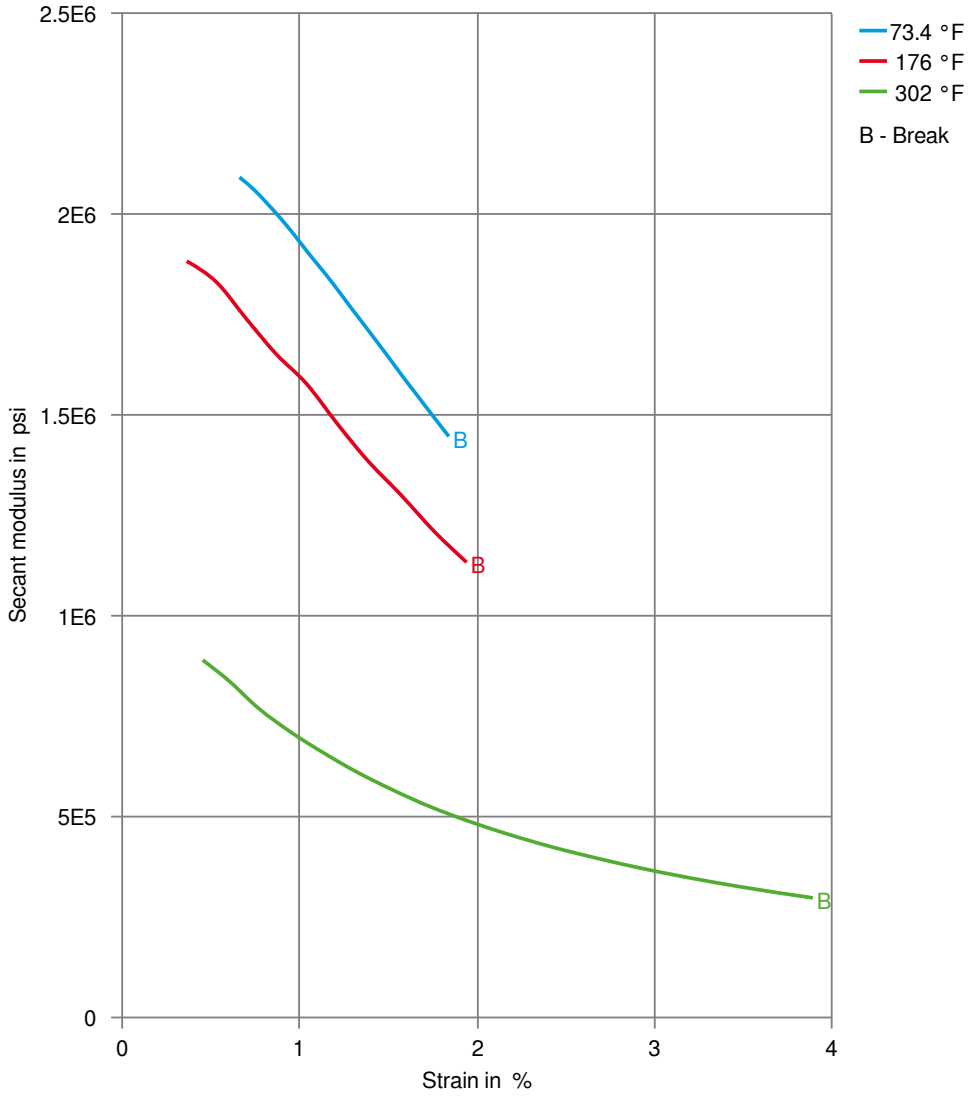
Stress-strain



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Secant modulus-strain



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