Celanese
The chemistry inside innovation™

FORTRON® 1131L4

Polyphenylene sulfide

Product information

Resin Identification	PPS-GF30	ISO 1043
Part Marking Code	>PPS-GF30<	ISO 11469

Rheological properties

Moulding shrinkage range, parallel	0.3 - 0.7	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.5 - 0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	12200	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	165	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	12000	MPa	ISO 178
Flexural strength	260	MPa	ISO 178
Charpy impact strength, 23°C	42	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	42	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	8	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	8	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	8	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C	8.0	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	32	kJ/m²	ISO 180/1U
Hardness, Rockwell, M-scale	100		ISO 2039-2
Poisson's ratio	0.33[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	265	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	205	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	29	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	62	E-6/K	ISO 11359-1/-2

Flammability

Burning Behav. at 1.5mm nom. thickn.	V-0	class	IEC 60695-11-10
Thickness tested	1.5	mm	IEC 60695-11-10
Burning Behav. at thickness h	V-0	class	IEC 60695-11-10
Thickness tested	0.38	mm	IEC 60695-11-10

Electrical properties

Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Arc Resistance	124	s	UL 746B

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Physical/Other properties

Water absorption, 2mm	0.02	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.03	%	Sim. to ISO 62
Density	1400	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
Min. mould temperature	140	°C
Max. mould temperature	160	°C
Hold pressure range	30 - 70	MPa
Back pressure	3	MPa

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Flame retardant, Heat stabilised or stable to heat

Additional information

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.

The pre-drying conditions can influence the flow (melt viscosity) of the material significantly. The drying temperature can be subject of optimization for flow of the material depending on the injection molding process and the tool- or part design.

Storage

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

Processing Notes

The higher drying conditions result in higher melt viscosity.

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