Celanese
The chemistry inside innovation™

FORTRON® 6162A7

Polyphenylene sulfide

Fortron 6162A7 is a mineral/glass reinforced grade for applications requiring the highest flow.

Product information

Resin Identification	PPS-(GF+MD)60	ISO 1043
Part Marking Code	>PPS-(GF+MD)60<	ISO 11469

Rheological properties

Moulding shrinkage range, parallel	0.1 - 0.3	%	ISO 294-4, 2577
Moulding shrinkage range, normal	0.4 - 0.8	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	15400	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	120	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.3	%	ISO 527-1/-2
Flexural modulus	14500	MPa	ISO 178
Flexural strength	180	MPa	ISO 178
Flexural strain at failure	1.5	%	ISO 178
Charpy impact strength, 23°C	16	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	28.2	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	4.5	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	7.7	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	6	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C	8.9	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	18	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	270	°C	ISO 75-1/-2
Temperature of deflection under load, 8 MPa	215	°C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	19	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	34	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	0.8	mm	IEC 60695-11-10

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Electrical properties

Relative permittivity, 1MHz	5.68		IEC 62631-2-1
Dissipation factor, 1MHz	10	E-4	IEC 62631-2-1
Comparative tracking index	225		IEC 60112

Physical/Other properties

Water absorption, 2mm	0.017	%	Sim. to ISO 62
Density	1920	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	228	°C

Characteristics

Additives	Release agent

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

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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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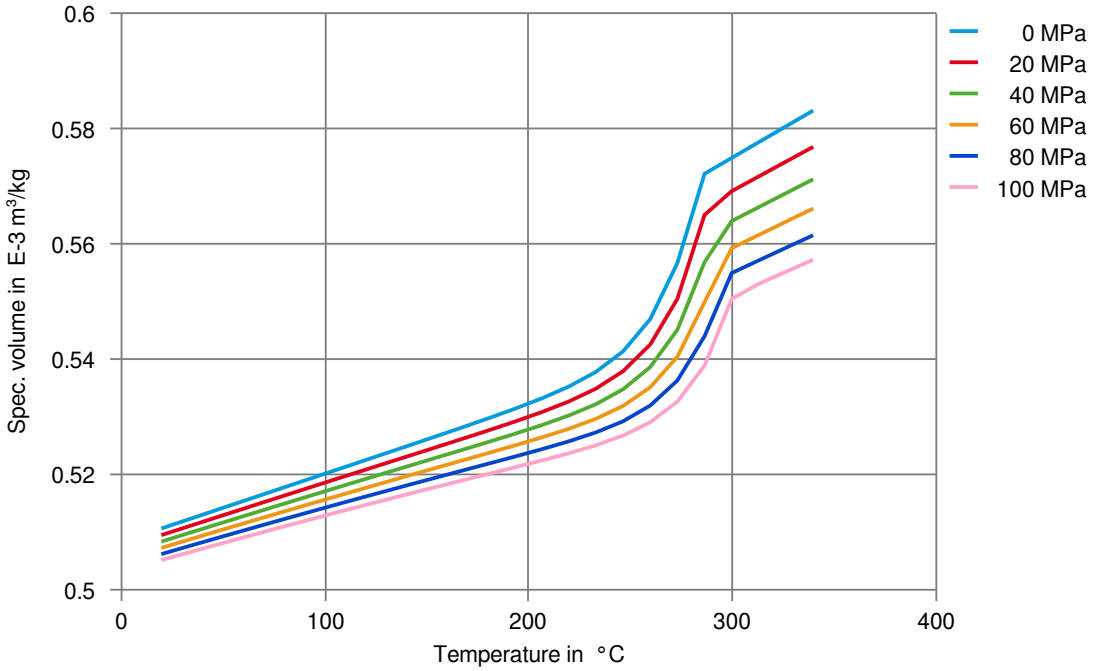
Specific volume-temperature (pvT)



Revised: 2024-06-13 Source: Celanese Materials Database