Celanese
The chemistry inside innovation™

FORTRON® 6850L6

Polyphenylene sulfide

Fortron 6850L6 offers the lowest warpage available. The easy flowing nature allows this product to be injection molded into thin walled applications. The excellent balance of mineral and glass fibers result in a superior heat resistance and dimensional stability. This grade is inherently flame-retardant along with high hardness and rigidity. Especially used for thin walled by unfavorable flow length-wall thickness ratio. This is the most isotropic grade available.

Product information

Resin Identification	PPS-(GF+MD)50	ISO 1043
Part Marking Code	>PPS-(GF+MD)50<	ISO 11469

Rheological properties

Molding shrinkage range, parallel	0.3 - 0.6	%	ISO 294-4, 2577
Molding shrinkage range, normal	0.4 - 0.6	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2.68E6	psi	ISO 527-1/-2
Tensile stress at break, 5mm/min	18100	psi	ISO 527-1/-2
Tensile strain at break, 5mm/min	1	%	ISO 527-1/-2
Flexural modulus	2.44E6	psi	ISO 178
Flexural strength	27600	psi	ISO 178
Compressive strength	33400	psi	ISO 604
Charpy impact strength, 23°C	7.61	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	7.61	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, 23°C	1.9	ftlb/in²	ISO 179/1eA
Charpy notched impact strength, -30°C	1.9	ftlb/in²	ISO 179/1eA
Izod notched impact strength, 23°C	1.9	ftlb/in²	ISO 180/1A
Izod notched impact strength, -30°C	1.9	ftlb/in²	ISO 180/1A
Izod impact strength, 23°C	9.51	ftlb/in²	ISO 180/1U
Izod impact strength, -30°C	9.51	ftlb/in²	ISO 180/1U
Hardness, Rockwell, M-scale	96		ISO 2039-2

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	0.08	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.172	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	0.0150	in	IEC 60695-11-10

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Electrical properties

Dissipation factor, 1MHz	10	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm.m	IEC 62631-3-1
Surface resistivity	>1E15	Ohm	IEC 62631-3-2
Electric strength	635	kV/in	IEC 60243-1
Comparative tracking index	225		IEC 60112
Arc Resistance	182	s	UL 746B

Physical/Other properties

Water absorption, 2mm	0.02	%	Sim. to ISO 62
Water absorption, Immersion 24h	0.02	%	Sim. to ISO 62
Density	0.065	lb/in^3	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

Automotive

OEM	STANDARD
Continental	TST N 055 58.12

Characteristics

Processing	Injection Molding
Additives	Release agent
Special characteristics	Flame retardant, Heat stabilized or stable to heat, High Flow, Low Warpage

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.

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Storage

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

Revised: 2026-09-08 Source: Celanese Materials Database

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