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

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

Typical mechanical properties

Tensile modulus	18500	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	125	MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1	%	ISO 527-1/-2
Flexural modulus	16800	MPa	ISO 178
Flexural strength	190	MPa	ISO 178
Compressive strength	230	MPa	ISO 604
Charpy impact strength, 23°C	16	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	16	kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C	4	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	4	kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C	4	kJ/m²	ISO 180/1A
Izod notched impact strength, -30°C	4.0	kJ/m²	ISO 180/1A
Izod impact strength, 23°C	20	kJ/m²	ISO 180/1U
Izod impact strength, -30°C	20	kJ/m²	ISO 180/1U
Hardness, Rockwell, M-scale	96		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	15	E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	31	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

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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	25	kV/mm	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	1800	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

Characteristics

Processing	Injection Moulding
Delivery form	Pellets
Additives	Release agent
Special characteristics	Flame retardant, Heat stabilised 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.

Storage

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

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Automotive

OEM	STANDARD
Continental	TST N 055 58.12

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