

FORTRON® FX4382T1

Polyphenylene sulfide

Fortron FX4382T1 is an impact-modified, unreinforced, extrusion/injection molding grade offering high tensile elongation.

Product information

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

Rheological properties

Moulding shrinkage range, parallel	0.9 - 1.4 %	ISO 294-4, 2577
Moulding shrinkage range, normal	0.7 - 1.4 %	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	2300 MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min	50 MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	25 %	ISO 527-1/-2
Flexural modulus	2400 MPa	ISO 178
Compressive modulus	2260 MPa	ISO 604
Compressive stress at 1% strain	22 MPa	ISO 604
Charpy impact strength, 23°C	N kJ/m ²	ISO 179/1eU
Charpy notched impact strength, 23°C	40 ^[OT] kJ/m ²	ISO 179/1eA
Charpy notched impact strength, -30°C	10 ^[OT] kJ/m ²	ISO 179/1eA
Izod notched impact strength, 23°C	51 kJ/m ²	ISO 180/1A
Izod impact strength, 23°C	N kJ/m ²	ISO 180/1U
Poisson's ratio	0.39 ^[C]	
Multiaxial impact, total energy, 23°C	61 J	ASTM D 3763

[OT]: One time tested

[C]: Calculated

Thermal properties

Temperature of deflection under load, 1.8 MPa	100 °C	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	60 E-6/K	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	77 E-6/K	ISO 11359-1/-2
Thermal conductivity, flow	0.302 ^[OT] W/(m K)	ISO 22007-2
Thermal conductivity, through plane	0.31 ^[OT] W/(m K)	ISO 22007-2
Effective thermal diffusivity, flow	1.67E-7 ^[OT] m ² /s	ISO 22007-4
Effective thermal diffusivity, through plane	1.72E-7 ^[OT] m ² /s	ISO 22007-4
Specific heat capacity of melt	1440 ^[OT] J/(kg K)	ISO 22007-4

[OT]: One time tested

Electrical properties

Volume resistivity	5E14 Ohm.m	IEC 62631-3-1
Comparative tracking index	150	IEC 60112
Dielectric Constant, 1 GHz	3.3	ASTM D 2520 B

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Physical/Other properties

Water absorption, 2mm	0.035 %	Sim. to ISO 62
Density	1260 kg/m ³	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	120 °C
Min. mould temperature	80 °C
Max. mould temperature	160 °C
Hold pressure range	30 - 70 MPa
Back pressure	3.5 MPa
Ejection temperature	217 °C

Characteristics

Processing	Injection Moulding, Extrusion
Special characteristics	High impact or impact modified

Additional information

Injection molding	Processing
	Drying - alternate: 82°C overnight.
Processing Notes	Pre-Drying
	Yes