

FORTRON[®] 1140L6 DW

Polyphenylene sulfide

Fortron 1140L6 is an easier flow version of Fortron 1140L4 developed for drinking water applications. It offers essentially the same characteristics of 1140L4. Especially used for thin walled parts with long flow lengths. Applications made of this grade include components for pumps and electronics.

Product information			
Resin Identification	PPS-GF40		ISO 1043
Part Marking Code	>PPS-GF40<		ISO 11469
-			
Rheological properties			
Moulding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Moulding shrinkage, normal	0.6	%	ISO 294-4, 2577
Typical mechanical properties			
Tensile modulus	14700	MPa	ISO 527-1/-2
Tensile stress at break, 5mm/min		MPa	ISO 527-1/-2
Tensile strain at break, 5mm/min	1.9	%	ISO 527-1/-2
Flexural modulus	14500	MPa	ISO 178
Flexural strength	280	MPa	ISO 178
Compressive modulus	14500	MPa	ISO 604
Compressive strength	265	MPa	ISO 604
Charpy impact strength, 23°C	53	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C		kJ/m²	ISO 179/1eU
Charpy notched impact strength, 23°C		kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C		kJ/m²	ISO 179/1eA
Izod notched impact strength, 23°C		kJ/m²	ISO 180/1A
Izod notched impact strength, -30 °C		kJ/m²	ISO 180/1A
Izod impact strength, 23°C		kJ/m ²	ISO 180/1U
Izod impact strength, -30°C		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		ISO 75-1/-2
Coefficient of linear thermal expansion	26	E-6/K	ISO 11359-1/-2
(CLTE), parallel			
Coefficient of linear thermal expansion (CLTE),	42	E-6/K	ISO 11359-1/-2
normal Specific heat capacity of melt	1500	J/(kg K)	ISO 22007-4
opeone near capacity of men	1300		100 22007-4



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Flammability

Burning Behav. at 1.5mm nom. thickn Thickness tested Burning Behav. at thickness h Thickness tested Glow Wire Flammability Index, 1.0mn Glow Wire Flammability Index, 2.0mn Glow Wire Ignition Temperature, 1.0m	1	1.5	0° 0°	IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 IEC 60695-11-10 IEC 60695-2-12 IEC 60695-2-12 IEC 60695-2-13
Electrical properties				
Relative permittivity, 1MHz Dissipation factor, 1MHz Volume resistivity Surface resistivity Comparative tracking index Arc Resistance				IEC 62631-2-1 IEC 62631-2-1 IEC 62631-3-1 IEC 62631-3-2 IEC 60112 UL 746B
Physical/Other properties				
Water absorption, 2mm Water absorption, Immersion 24h Density		0.02 0.02 1600		Sim. to ISO 62 Sim. to ISO 62 ISO 1183
Injection				
Drying Recommended Drying Temperature Drying Time, Dehumidified Dryer Processing Moisture Content Melt Temperature Optimum Min. melt temperature Max. melt temperature Screw tangential speed Mold Temperature Optimum Min. mould temperature Max. mould temperature Hold pressure range Back pressure		yes 130 2 - 4 ≤0.02 330 310 340 0.2 - 0.3 150 140 160 30 - 70 3	h % °C °C °C °C °C °C °C °C	
Characteristics				
Processing	Injection Moulding			
Delivery form	Pellets			
Additives	Release agent			

Flame retardant, High Flow

Special characteristics

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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

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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