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# FORTRON<sup>®</sup> 0309

## Polyphenylene sulfide

0309 exhibits a good balance of flow and melt strength for extrusion processes. The material demonstrates excellent heat and chemical resistance. The intended use of this product is for extruding monofilament/fibers. Available in powder (0309B4) and high melv viscoity (0309B4 HMV) forms.

#### Product information PPS **Resin Identification** ISO 1043 Part Marking Code >PPS< ISO 11469 Typical mechanical properties Tensile stress at break, 5mm/min 90 MPa ISO 527-1/-2 Tensile strain at break, 5mm/min ISO 527-1/-2 8 % Flexural modulus 4200 MPa **ISO 178** Flexural strength 140 MPa **ISO 178** Hardness, Rockwell, M-scale 90 ISO 2039-2 Thermal properties Melting temperature, 10°C/min 280 °C ISO 11357-1/-3 90 °C Glass transition temperature, 10°C/min ISO 11357-1/-3 115 °C Temperature of deflection under load, 1.8 MPa ISO 75-1/-2 95 °C Temperature of deflection under load, 8 MPa ISO 75-1/-2 Coefficient of linear thermal expansion 52 E-6/K ISO 11359-1/-2 (CLTE), parallel 53 E-6/K Coefficient of linear thermal expansion (CLTE), ISO 11359-1/-2 normal Specific heat capacity of melt 1830 J/(kg K) ISO 22007-4 Electrical properties IEC 62631-2-1 Relative permittivity, 1000Hz 2.8 Relative permittivity, 1MHz IEC 62631-2-1 4.6 Dissipation factor, 1MHz 11 E-4 IEC 62631-2-1 Volume resistivity 1F9 Ohm.m IEC 62631-3-1 Electric strength 18 kV/mm IEC 60243-1 125 Comparative tracking index IEC 60112 Arc Resistance 124 s UL 746B Physical/Other properties Sim. to ISO 62 Water absorption, 2mm 0.02 % Density 1400 kg/m<sup>3</sup> ISO 1183 Injection **Drying Recommended** yes 110 °C **Drying Temperature** Drying Time, Dehumidified Dryer 2-4 h **Processing Moisture Content** ≤0.02 % Melt Temperature Optimum 315 °C 284 °C Min. melt temperature 320 °C Max. melt temperature

Printed: 2025-05-30

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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, Film Extrusion, Extrusion, Sheet Extrusion, Other Extrusion
Delivery form	Pellets, Powder
Special characteristics	Flame retardant, Heat stabilised or stable to heat

## 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 =< -  $30^{\circ}$  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).

## Chemical Media Resistance

#### Salt solutions

#### Symbols used:

possibly resistant

Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

not recommended - see explanation Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

#### Printed: 2025-05-30

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

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Sodium Hypochlorite solution (10% by mass), 23°C