

Polyphenylene sulfide, linear
 with carbon fibers, natural color (black)

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm ³	1,46
Water absorption	23°C / 24h	ISO 62	ISO 3167 A	%	<0,05
Linear mould shrinkage		DIN 16742	ISO 3167 A	%	0,05-0,2
Flammability behaviour		UL 94	1/16"		(V-0)

Mechanical properties at 23°C / 50% rh

Tensile strength	dry, @50 mm/min	ISO 527	ISO 3167 A	MPa	215
Elongation @Fmax.	dry, @50 mm/min	ISO 527	ISO 3167 A	%	0,9
Tensile modulus	dry, @1 mm/min	ISO 527	ISO 3167 A	GPa	29
Flexural strength	dry, @10 mm/min	ISO 178	ISO 3167 A	MPa	300
Flexural elongation @Fmax.	dry, @10 mm/min	ISO 178	ISO 3167 A	%	1,3
Flexural modulus	dry, @2 mm/min	ISO 178	ISO 3167 A	GPa	27
Impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m ²	28

Thermal properties

Heat distortion temp.	HDT A	ISO 75	80x10x4mm	°C	270
Continuous service temp.	20.000 h	IEC 60216	ISO 3167 A	°C	220
Service temperature	during lifetime max. 200h		ISO 3167 A	°C	240
Therm. conductivity in plane	hot disk	ISO 22007	60x60x3 mm	W/mK	1,1

Electrical properties

Insulation resistance	strip electrode R25	DIN EN 62631-3-3	ISO 3167 A	Ω	<10 ³
Surface resistance	ROB	DIN EN 62631-3-2	Ronde 60x4mm	Ω	<10 ³

Main features

High-strength and stiffness parts with low creep. Electrically conductive, suitable for continuous discharging of statically-generated electricity. Suitable for metal inserts. High continuous-use and heat-distortion temperatures. Non flammable.

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Recommended processing parameters

Delivery form & storage

Unless indicated otherwise, the material is delivered as 3mm long pellets in sealed bags on pallets. Preferably storage should be effected in dry and normally temperatured rooms.

Predrying

It is advisable to predry the granules with a suitable dryer immediately before processing. The granule may absorb moisture from the environment.

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	100 - 140	2 - 4
or	50 - 90	> 4

Recommended processing parameters

In general this product can be processed on conventional injection moulding machines while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder and screw should be protected against wear as is usual in the processing of reinforced thermoplastic materials. Lengthy dwell times for the melts in the cylinder should be avoided. Lower the temperatures during interruptions!

Mold	Nozzle	Zone 3	Zone 2	Zone 1
150 - 180 °C	320 - 340 °C	320 - 340 °C	310 - 330 °C	300 - 320 °C

Additional information

The material does not necessarily have to be predried; when originally sealed containers are used, this process may normally be omitted. Processing temperatures above 360°C may very rapidly cause thermal damage and should therefore be avoided. Post-crystallization may lead to warpage at elevated operating temperatures. This can be counteracted by suitable heat treatment. The processing notes provided merely represent a recommendation for general use. Due to the large variety of machines, geometries and volumes of parts, etc., it may be necessary to employ different settings according to the specific application. High-temperature polymers place increased demands on the tool steels employed. Please contact us for further information.