PRELIMINARY DATASHEET

LUVOSINT® PPS 9268 BK

Polyphenylensulfide PPS
unreinforced, black

Physical properties		Test method	Specimen	Units	Value
Specific gravity		ISO 1183-3	ISO 1183	g/cm³	1.32
Water absorption	23°C/24h	ISO 62	ISO 1110	%	0.35
MVR	380 °C/1.2 kg	ISO 1133-1		cm³/10 min	93
Shore hardness D					85
Mechanical properties, Injection molded					
Tensile strength	dry, @50 mm/min	ISO 527	ISO 3167 A	MPa	68
Tensile modulus	dry, @1 mm/min	ISO 527	ISO 3167 A	GPa	4
Elongation @Fmax.	dry, @50 mm/min	ISO 527	ISO 3167 A	%	2,2
Flexural strength	dry	ISO 178	ISO 3167 A	MPa	108
Impact strength	dry	ISO 179 leU		kJ/m²	18
Mechanical properties, Laser sintered					
Flexural strength (in-plane)		DIN 53504	ISO 527-1A	MPa	60
Flexural strength (out-of-plane)		DIN 53504	ISO 527-1A	MPa	29
Flexural elongation (in-plane)		DIN 53504	ISO 527-1A	%	2.0
Flexural elongation (out-of-plane)		DIN 53504	ISO 527-1A	%	1.2
Flexural modulus (in-plane)		ISO 178	ISO 3167 A	GPa	2.82
Flexural modulus (out-of-plane)		ISO 178	ISO 3167 A	GPa	2.37
Impact strength (in-plane)		ISO 179 1eU	80x10x4 mm	kJ/m²	n.d.
Impact strength (out-of-plane)		ISO 179 1eU	80x10x4 mm	kJ/m²	n.d.
Thermal properties					
Melting temperature	DSC	ISO 11357	Molded sample	°C	280
Onset melting temperature	DSC	ISO 11357	Molded sample	°C	263
Onset crystallization temperature	DSC	ISO 11357	Molded sample	°C	240
Heat distortion temperature	HDT A 1.8 MPa	ISO 75-2	Printed sample	°C	196
Heat distortion temperature	HDT B 0.45 MPa	ISO 75-2	Printed sample	°C	211
MAHRE	50 W, 75x75x2 mm	ISO 566-1	Printed plate	KWm⁻²	84
Powder properties					
Powder d10		Laser diff.	Powder	µm	32
Powder d50		Laser diff.	Powder	µm	72
Powder d90		Laser diff.	Powder	µm	118
Powder bulk density			Powder	g/cm³	0.51
Powder tap density			Powder	g/cm³	0.62

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LUVOSINT
Additive manufacturing solutions

Recommended processing parameters

Delivery form & storage

Material will be delivered as 25 kg boxes on pallets. Preferably storage should be in dry and normally temperatured rooms.

Predrying

No predrying necessary.
The powder should be de-agglomerated by using a screening process (250 microns sieve opening) before processing.

Recommended processing parameters

Due to the large variety of machines and part geometries given process parameters can only be seen as an orientation.
Feed temperature: 200 °C
Piston heater temperature: 200 °C
Part Cylinder temperature: 180 °C
Part heater temperature: 240 °C
Energy input: 300 J/mm³

Additional Information

Partbed powder is fully reusable.

Main features

LUVOSINT® PPS 9268 BK is a black colored powder for laser sintering. It offers low warping and high dimension stability of printed parts. High stiffness, excellent chemical resistance and flame resistance are highlights of this PPS-based material. Part bed powder and even near shape powder is fully re-usable. This makes printing with LUVOSINT® PPS 9268 BK more sustainable and cost effective. LUVOSINT® PPS 9268 BK can be processed by CO_2, fiber as well as diode lasers. LUVOSINT® PPS 9268 BK is inherent flame resistant. It fulfills the requirement sets R1HL3; R7HL3; R17HL3 according to EN 45545-2 at 2 mm and 10 mm. Declaration of Conformity available on request.

Engineered in cooperation with Siemens.

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Europe and Head Office
Lehmann&Voss&Co. KG
Alsterufer 19
20354 Hamburg
Germany
Tel +49 40 44 197-0
Email: luvocom@lehvoss.de

North America
LEHVOSS North America, LLC
185 South Broad Street
Pawcatuck, CT 06379
USA
Tel +1-855-681-3226
Email: info@lehvoss.us

Asia
LEHVOSS (Shanghai) Chemical Trading Co., Ltd.
Unit 4805, 8 Xingyi Road
Changning District, Shanghai 200336
China
Tel +86 21 62785181
Email: info@lehvoss.cn

LEHVOSS Group