PRELIMINARY DATASHEET

LUVOCOM® 3F PAHT CF 9743 BK

LUVOCOM® 3F
Additive manufacturing solutions

High-temperature polyamide with carbon fibers, black

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm³	1,32
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	<0,3
Melt flow rates (MFR)	250°C / 2,16kg	ISO 1133	pellet	g/10 min	6,4
Melt volume rate (MVR)	250°C / 2,16kg	ISO 1133	pellet	cm³/10 min	4,8
Linear mould shrinkage		DIN 16742	MPTS ISO 3167 A	%	0,3-0,5
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	245
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	1,5
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	24
Charpy impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m²	55
Charpy impact strength	dry		80x10x4mm	kJ/m²	55
Thermal properties					
Heat distortion temperature	HDT A	ISO 75	molded sample	°C	240
Continuous service temperature	20.000 h	IEC 60216	MPTS ISO 3167 A	°C	150
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	180
Electrical properties					
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A	Ω	≤10²
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	Ω	<10²

Main features

Low influence from moisture and temperature to measures and electrical properties, compared with PA66

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Recommended processing parameters

General

3D Printing parameters may vary from machine to machine. The following settings may be used as an indication: nozzle temperature: 265 - 290 °C / nozzle material: abbrasion resistant / print bed temperature: > 50 °C / layer thickness: > 0,2mm / printing speed 40 - 60 mm/s.
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. Please contact us for further information.

Predrying

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

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	130	6 - 8
Vacuum Dryer	120	4 - 6

Processing

Zone 1	°C	260 - 300
Zone 2	°C	260 - 300
Zone 3	°C	260 - 300
Nozzle	°C	250 - 290
Melt temperature	°C	280

In general LUVOCOM® 3F can be processed on conventional extrusion machines while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder, screw and die 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!

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.

Additional information

Filaments produced from this material may be wound into standard size spools.

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