PRELIMINARY DATASHEET

LUVOCOM® 3F
Additive manufacturing solutions

LUVOCOM® 3F PPA CF 51873 BK

Polyarylamide
with carbon fibers, black

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183		g/cm³	1,22
Water absorption	23°C / 24h	ISO 62	ISO 3167 A	%	<0,1
Mould shrinkage (transverse)		ISO 294	⊥ 60x60x2 mm	%	0,2
Mould shrinkage (parallel)		ISO 294	∥ 60x60x2 mm	%	0,05
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	ISO 3167 A	MPa	230
Elongation @Fmax.	dry, @50 mm/min	ISO 527	ISO 3167 A	%	2
Tensile modulus	dry, @1 mm/min	ISO 527	ISO 3167 A	GPa	14
Flexural strength	dry, @10 mm/min	ISO 178	ISO 3167 A	MPa	310
Flexural elongation @Fmax.	dry, @10 mm/min	ISO 178	ISO 3167 A	%	2,9
Flexural modulus	dry, @2 mm/min	ISO 178	ISO 3167 A	GPa	13
Impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m²	45
Impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m²	6
Thermal properties					
Heat distortion temp.	HDT A	ISO 75	80x10x4mm	°C	220
Continuous service temp.	20.000 h	IEC 60216	ISO 3167 A	°C	120
Electrical properties					
Surface resistance		ref. to DIN EN 62631-3-2	Ronde 60x4mm	Ω	<10³

Main features

Low influence from moisture and temperature on dimensional stability and electrical properties. High-strength and stiffness parts with low creep.

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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	130	6 - 8
Vacuum Dryer	120	4 - 6

Recommended processing parameters

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!

Mold	Nozzle	Zone 3	Zone 2	Zone 1
130 - 160 °C	250 - 290 °C	260 - 300 °C	260 - 300 °C	260 - 300 °C

Additional information

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

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