PRELIMINARY DATASHEET

LUVOCOM® 3F
Additive manufacturing solutions

LUVOCOM® 3F PA CF 50666 BK

Polyamide
with carbon fibers and glass fibers, black

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183		g/cm³	1,21
Water absorption	23°C / 24h	ISO 62	ISO 3167 A	%	0,05
Mould shrinkage (transverse)		ISO 294	⊥ 60x60x2 mm	%	0,5
Mould shrinkage (parallel)		ISO 294	∥ 60x60x2 mm	%	0,3
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	ISO 3167 A	MPa	125
Elongation @Fmax.	dry, @50 mm/min	ISO 527	ISO 3167 A	%	6,5
Tensile modulus	dry, @1 mm/min	ISO 527	ISO 3167 A	GPa	7
Flexural strength	dry, @10 mm/min	ISO 178	ISO 3167 A	MPa	180
Flexural elongation @Fmax.	dry, @10 mm/min	ISO 178	ISO 3167 A	%	5,5
Flexural modulus	dry, @2 mm/min	ISO 178	ISO 3167 A	GPa	7
Impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m²	85
Impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m²	15
Thermal properties					
Heat distortion temp.	HDT A	ISO 75	80x10x4mm	°C	190
Continuous service temp.	20.000 h	IEC 60216	ISO 3167 A	°C	115
Electrical properties					
Insulation resistance	bar electrode R25	ref. to DIN EN 62631-3-3	ISO 3167 A	Ω	$<10^{12}$
Surface resistance		ref. to DIN EN 62631-3-2	Ronde 60x4mm	Ω	$<10^{12}$

Main features

Low warpage. Impact resistance. Low water absorption. High-strength and stiffness parts with low creep.

Any recommendations made for use of Seller's materials are made to the best of Seller's knowledge and are based upon prior tests and experience of the Seller believed to be reliable; however, Seller does not guarantee the results to be obtained and all such recommendations are non-binding – also with regard to the protection of third party's rights –, do not constitute any representation and do not affect in any way Buyer's obligation to examine and/or test the Seller's goods with regard to their suitability for Buyer's purposes. No information given by the Seller is to be construed in any way as a guarantee regarding characteristics or duration of use, unless such information has been explicitly given as a guarantee.

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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	75	4 - 6
Vacuum Dryer	105	2 - 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	Melt temperature	Nozzle	Zone 3	Zone 2	Zone 1
60 - 100 °C	265 °C	250 - 280 °C	250 - 280 °C	250 - 280 °C	250 - 280 °C

Additional information

During processing the moisture level should not exceed 0.05%, otherwise molecular degradation and surface defects (e.g. smearing) may occur. Excessively high predrying temperatures may cause discoloration. 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.

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