LUVOCOM® 1106-8465

LUVOCOM
High-performance compounds

Polyetherimide
with carbon fibers, thermally conductive modified, natural color (black)

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm³	1,43
Water absorption	23°C / 24h	ISO 62	ISO 3167 A	%	<0,2
Linear mould shrinkage		DIN 16742	ISO 3167 A	%	0,1-0,3
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	125
Elongation @Fmax.	dry, @50 mm/min	ISO 527	ISO 3167 A	%	0,6
Tensile modulus	dry, @1 mm/min	ISO 527	ISO 3167 A	GPa	23
Flexural strength	dry, @10 mm/min	ISO 178	ISO 3167 A	MPa	195
Flexural elongation @Fmax.	dry, @10 mm/min	ISO 178	ISO 3167 A	%	0,9
Flexural modulus	dry, @2 mm/min	ISO 178	ISO 3167 A	GPa	22
Impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m²	14
Impact strength	-30°C	ISO 179 1eU	80x10x4mm	kJ/m²	16
Impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m²	8
Thermal properties					
Heat distortion temp.	HDT A	ISO 75	80x10x4mm	°C	205
Continuous service temp.	20.000 h	IEC 60216	ISO 3167 A	°C	170
CLTE, longitudinal		ISO 11359	10x8x4 mm	10^{-5}/K	0,8
Therm. conductivity in plane	hot disk	ISO 22007	|| 60x60x3 mm	W/mK	6
Electrical properties					
Insulation resistance	strip electrode R25	DIN EN 62631-3-3	ISO 3167 A	Ω	$<10^5$
Surface resistance	ROB	DIN EN 62631-3-2	Ronde 60x4mm	Ω	$<10^5$

Main features

Strong, stiff parts. Thermally conductive. High dimensionally stable precision parts, even at elevated temperatures and narrow tolerance range. Low warpage.

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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

Due to moisture absorption from the environment, pre-drying of the material is recommended. Moisture could lead to porosity and surface defects (e.g. smearing). Predrying is recommended even when sealed original containers are being used. Recommended moisture content before processing: <0.02%

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	120	> 8
or	150	> 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
160 - 190 °C	380 °C	380 - 400 °C	370 - 390 °C	360 - 380 °C	360 - 380 °C

Additional information

The melt residence time should be ideally between 2 and 5 minutes. To avoid internal stresses, a low shear load should be used for processing. For better form filling and surface finish a mold temperature on the higher side is recommended. Due to the high process and mold temperatures required, it is recommended to use powerful heating elements and to ensure good insulation. High-temperature polymers place increased demands on the tool steels employed. 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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