LUVOCOM® 1105-0699-2

LUVOCOM®
High-performance compounds

Polyetheretherketone
with carbon fibers, PTFE, lubricant modified, black

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm³	1,49
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	<0,1
Linear mould shrinkage		DIN 16742	MPTS ISO 3167 A	%	0,1-0,4
Flammability behaviour		UL 94	1/16"		(V-0)
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	207
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	1
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	29
Flexural strength	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	MPa	304
Flexural elongation at max. force	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	%	1,4
Flexural modulus	dry, @2 mm/min	ISO 178	MPTS ISO 3167 A	GPa	24
Charpy impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m²	34
Charpy impact strength	dry		80x10x4mm	kJ/m²	34
Charpy impact strength	-30°C	ISO 179 1eU	80x10x4mm	kJ/m²	26
Charpy impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m²	8
Charpy Impact Strength notched	-30°C	ISO 179 1eA	80x10x4mm	kJ/m²	8
Thermal properties					
Vicat softening temp	VST A	DIN ISO 306	MPTS ISO 3167 A	°C	310
Heat distortion temperature	HDT A	ISO 75	molded sample	°C	255
Continuous service temperature	20.000 h	IEC 60216	MPTS ISO 3167 A	°C	250
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	280
Coefficient of thermal expansion		ISO 11359	10x8x4 mm	10^{-5}/K	0,9
Electrical properties					
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A	Ω	$<10^5$
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	Ω	$<10^4$

Main features

Very strong and stiff parts; low coefficient of thermal expansion. Improved friction and wear behaviour. Optimised for dry running operations. Electrically conductive, suitable for continuous discharging of statically-generated electricity. High dimensionally stable precision parts with low warpage and narrow tolerance range.

LEHVOSS Group

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Recommended processing parameters

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	150	3 - 6
or	120	6 - 8
Processing		
Zone 1	°C	360 - 370
Zone 2	°C	380 - 390
Zone 3	°C	390 - 400
Nozzle	°C	360 - 380
Mold	°C	170 - 200
Melt temperature	°C	390

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!

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

During processing, the moisture content should not exceed 0.05%. To avoid internal stresses, a medium to high injection rate should be used. An increase in tool temperature may be helpful. Post-crystallization may lead to warpage at elevated operating temperatures. This can be counteracted by suitable heat treatment. 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. High-temperature polymers place increased demands on the tool steels employed. Please contact us for further information.