LUVOCOM®
High-performance engineering thermoplastics

LUVOCOM 1301-7449

PPS, linear
with carbon fiber and PTFE
natural color (black)

Physical Properties		Test Method	Specimen	Units	Value
Specific Gravity		ISO 1183	MPTS ISO 3167 A	g/cm³	1,54
Water absorption	23 °C / 24 h		MPTS ISO 3167 A	%	<0,1
Melt Flow Index	MFR 300°C / 10kg	ISO 1133	Granulat	g /10 Min	10
Melt Volume-Flow Rate	MVR 300°C / 10kg	ISO 1133	Granulat	cm³/10 Min	7
Linear Mould Shrinkage	VSR 3mm	DIN 16901	MPTS ISO 3167 A	%	0,05-0,2
Flammability Behaviour		UL 94	1/16“	-	V-0
Mechanical Properties At 23°C, 50 % rh					
Tensile Strength	σ_{zM}	ISO 527	MPTS ISO 3167 A	MPa	180
Elongation	ε_{zM}	ISO 527	MPTS ISO 3167 A	%	1
Modulus of Elasticity	E_t	ISO 527	MPTS ISO 3167 A	GPa	25
Flexural Strength	σ_{bM}	ISO 178	MPTS ISO 3167 A	MPa	270
Flexural Elongation	ε_{bM}	ISO 178	MPTS ISO 3167 A	%	1,3
Flexural Modulus	E_{3B}	ISO 178	MPTS ISO 3167 A	GPa	22
Charpy Impact Strength		ISO 179 1eU	MPTS ISO 3167 A	kJ/m²	25
Charpy Impact Strength	-30°C	ISO 179 1eU	MPTS ISO 3167 A	kJ/m²	
Charpy Impact Strength notched		ISO 179 eA	MPTS ISO 3167 A	kJ/m²	
Charpy Impact Strength notched	-30°C	ISO 179 eA	MPTS ISO 3167 A	kJ/m²	
Thermal Properties					
Vicat Softening Temp.	VST A	DIN ISO 306	MPTS ISO 3167 A	°C	240
Heat Distortion Temp	HDT A	ISO 75	MPTS ISO 3167 A	°C	
Continuous Service Temp		UL 746B	MPTS ISO 3167 A	°C	220
Maximum (short term) Use Temp.				°C	240
Coefficient of Thermal Expansion		DIN 53752		10^{-5} /K	0,9
Thermal Conductivity		DIN 52612		W/mK	0,75
Electrical Properties					
Insulation Resistance	Strip Elektr. R_{25}	DIN/IEC 60167	MPTS ISO 3167 A	Ω	$<10^3$
Surface Resistance	R_{OB}	DIN IEC 60093	Ronde 60x4 mm	Ω	$<10^2$
Tribological Properties					
Coeff. of Friction	μ static			N/N	0,13
	dynamic				0,16

7449	9	05	08

The material does not necessarily have to be predried; when originally sealed containers are used, this process may normally be omitted. Processing temperatures above 360°C may very rapidly cause thermal damage and should therefore be avoided.
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.

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Recommended processing instructions

General

In general LUVOCOM® 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!

Predrying
(optional)

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

Dryer type	Temperature °C	Drying time in h
Dehumidifying dryer	100-140	2 to 4
	50-90	>4 to

Processing Temperatures

Zone 1	°C	300 to	320
Zone 2	°C	310 to	330
Zone 3	°C	320 to	340
Nozzle	°C	320 to	340
Mould	°C	150 to	180
Mass Temperature	°C	optimum	330

Delivery Form

The material will be delivered as cylindrical pellets with approx. 3 mm diameter and length of cut in sealed bags on pallets.

Storage

Preferably storage should be effected in dry and normally temperatured rooms.

Properties and application Examples

High-strength and stiffness parts with low creep.
Improved friction and wear behaviour. Emergency(dry) running property.
Electrically conductive, suitable for continuous discharging of statically generated electricity.
High continuous-use and heat-distortion temperatures. Non flammable.
Control disks, gear wheels, pump impellers, gear parts for automotive appliances, chip carrier.
Automotive industry, textile-and office machinery, medical- and precision engineering.

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