LUVOCOM®
High-performance compounds

Technical Data Sheet

LUVOCOM® 1105-0699

Polyetheretherketone

General			
Material Status	• Commercial: Active		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Filler / Reinforcement	• Carbon Fiber		
Additive	• PTFE Lubricant		
Features	• Electrically Conductive • ESD Protection • High Dimensional Stability	• High Stiffness • High Strength • Low CLTE	• Low Warpage • Lubricated • Wear Resistant
Appearance	• Black		
Forms	• Pellets		
Processing Method	• Injection Molding		

Physical	Typical Value	Unit	Test Method
Density	1.50	g/cm³	ISO 1183
Linear Mould Shrinkage	0.10 to 0.40	%	DIN 16742
Water Absorption (24 hr, 23°C)	< 0.10	%	ISO 62
Mechanical	**Typical Value**	**Unit**	**Test Method**
Tensile Modulus	26000	MPa	ISO 527-1/1
Tensile Stress	220	MPa	ISO 527-2/50
Tensile Strain (Yield)	1.5	%	ISO 527-2/50
Flexural Modulus [1]	21000	MPa	ISO 178
Flexural Stress [2]	320	MPa	ISO 178
Flexural Strain - at max. force [2]	2.0	%	ISO 178
Charpy Notched Impact Strength [3]			ISO 179/1eA
--	10	kJ/m²	
-30°C	9.0	kJ/m²	
Charpy Unnotched Impact Strength [3]			ISO 179/1eU
--	44	kJ/m²	
-30°C	27	kJ/m²	
Thermal	**Typical Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ISO 75-2/A
1.8 MPa, Unannealed	255	°C	
Continuous Use Temperature [4]	250	°C	IEC 60216
Vicat Softening Temperature	310	°C	ISO 306/A
CLTE - Flow [5] (4.00 mm)	9.0E-6	cm/cm/°C	ISO 11359-2
Service Temperature - during lifetime max. 200 hr	280	°C	
Electrical	**Typical Value**	**Unit**	**Test Method**
Surface Resistivity (4.00 mm)	< 1.0E+4	ohms	IEC 60093
Insulation Resistance [6]	< 1.0E+5	ohms	IEC 60167

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Flammability	Typical Value	Unit	Test Method
Flame Rating (1.6 mm)	V-0		UL 94
Injection	**Typical Value**	**Unit**	
Drying Temperature			
Desiccant Dryer, A	150	°C	
Desiccant Dryer, B	120	°C	
Drying Time			
Desiccant Dryer, A	3.0 to 6.0	hr	
Desiccant Dryer, B	6.0 to 8.0	hr	
Suggested Max Moisture	0.050	%	
Rear Temperature	360 to 370	°C	
Middle Temperature	380 to 390	°C	
Front Temperature	390 to 400	°C	
Nozzle Temperature	360 to 380	°C	
Processing (Melt) Temp	390	°C	
Mold Temperature	170 to 200	°C	

Injection Notes

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

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

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.

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Notes
Typical properties: these are not to be construed as specifications.
[1] 2.0 mm/min
[2] 10 mm/min
[3] 80x10x4mm
[4] 20,000 hr
[5] 10x8x4 mm
[6] Strip Electrode R25

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