

Preliminary data sheet.

## LUVOCOM 3F PEEK 9581 NT

**PEEK**  
**unreinforced**  
**natural color (beige)**

Physical Properties		Test Method	Specimen	Units	Typical Value
Specific Gravity		ISO 1183	MPTS ISO 3167 A	g/cm <sup>3</sup>	1,31
Water Absorption	23 °C / 24 h		MPTS ISO 3167 A	%	<0,1
Melt Flow Rates	MFR 380°C / 10kg	ISO 1133	pellet	g/10 Min	
Melt Volume Rate	MVR 380°C / 10kg	ISO 1133	pellet	cm <sup>3</sup> /10 Min	22
Linear Mould Shrinkage	VSR 3mm	DIN 16901	MPTS ISO 3167 A	%	1,4-1,6
Flamability Behaviour		UL 94	1/16"	-	(V-0)
Mechanical Properties					
at 23°C/50% rh					
Tensile Strength	$\sigma_{zM}$	ISO 527	MPTS ISO 3167 A	MPa	97
Elongation	$\epsilon_{zM}$	ISO 527	MPTS ISO 3167 A	%	5
Modulus of Elasticity	$E_t$	ISO 527	MPTS ISO 3167 A	GPa	3.8
Flexural Strength	$\sigma_{bM}$	ISO 178	MPTS ISO 3167 A	MPa	145
Flexural Elongation	$\epsilon_{bM}$	ISO 178	MPTS ISO 3167 A	%	7
Flexural Modulus	$E_{3B}$	ISO 178	MPTS ISO 3167 A	GPa	3.4
Charpy Impact Strength		ISO 179 1eU	MPTS ISO 3167 A	kJ/m <sup>2</sup>	185
Charpy Impact Strength	-30°C	ISO 179 1eU	MPTS ISO 3167 A	kJ/m <sup>2</sup>	185
Charpy Impact Strength notched		ISO 179 eA	MPTS ISO 3167 A	kJ/m <sup>2</sup>	7
Charpy Impact Strength notched	-30°C	ISO 179 eA	MPTS ISO 3167 A	kJ/m <sup>2</sup>	7
Thermal Properties					
Vicat Softening Temp.	VST A	DIN ISO 306	MPTS ISO 3167 A	°C	
Heat Distortion Temp.	HDT A	ISO 75	MPTS ISO 3167 A	°C	145
Continuous Service Temp.		UL 746B	MPTS ISO 3167 A	°C	250
Maximum (short term) Use Temp.				°C	260
Coefficient of Thermal Expansion		DIN 53752		10 <sup>-5</sup> /K	
Thermal Conductivity		DIN 52612		W/mK	
Electrical Properties					
Insulation Resistance	Strip electrode	R <sub>25</sub>	DIN/IEC 60167	MPTS ISO 3167 A	$\Omega$ >10 <sup>12</sup>
Surface Resistance		R <sub>OB</sub>	DIN IEC 60093	Ronde 60x4 mm	$\Omega$ >10 <sup>12</sup>
Tribological Properties					
Coeff. of Friction $\mu$	dynamic	15Hz 21N	DIN 51834	MPTS ISO 3167	N/N
Coeff. of Friction $\mu$		40mm/s 21N	LuV	MPTS ISO 3167	N/N

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### Application Examples

- Dynamically-stressed parts.
- Highly chemically-resistant parts, non flammable.
- Inherent flame resistance.
- Aerospace Applications
- Energy industry

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### Recommended Processing Instructions

#### General

In general LUVOCOM® 3F can be processed on conventional extrusion 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	150	3 to 6
or	120	6 to 8

#### Processing Temperatures

Zone 1	°C	360 to 370
Zone 2	°C	380 to 390
Zone 3	°C	390 to 400
Nozzle	°C	360 to 380
Mass-Temperature	°C	optimum 390

#### 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%.

The filament can be wound into standard size spools.

3D Printing parameters may vary from machine to machine, the following settings can be use as an indication:

Nozzle temperature: 370 - 420 °C

Print Bed Temperature: > 120 °C

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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