

LUVOCOM® 3F PEEK 9581 NT

Polyetheretherketone
unreinforced, natural

| Physical properties | | Test method | Specimen | Units | Typical value |
|------------------------|------------|-------------|------------|------------|---------------|
| Specific gravity | | ISO 1183-3 | | g/cm³ | 1,30 |
| Water absorption | 23°C / 24h | ISO 62 | ISO 3167 A | % | < 0,1 |
| Melt volume rate (MVR) | | ISO 1133 | pellet | cm³/10 min | 22 |

Mechanical properties at 23°C / 50% rh

| | | | | | |
|--------------------------------|-----------------|-------------|------------|-------|-----|
| Tensile strength | dry, @50 mm/min | ISO 527 | ISO 3167 A | MPa | 95 |
| Elongation @Fmax. | dry, @50 mm/min | ISO 527 | ISO 3167 A | % | 4,8 |
| Tensile modulus | dry, @1 mm/min | ISO 527 | ISO 3167 A | GPa | 3,8 |
| Flexural strength | dry, @10 mm/min | ISO 178 | ISO 3167 A | MPa | 145 |
| Flexural elongation @Fmax. | dry, @10 mm/min | ISO 178 | ISO 3167 A | % | 7 |
| Flexural modulus | dry, @2 mm/min | ISO 178 | ISO 3167 A | GPa | 3,4 |
| Impact strength | dry | ISO 179 1eU | 80x10x4mm | kJ/m² | 170 |
| Impact strength | -30°C | ISO 179 1eU | 80x10x4mm | kJ/m² | 185 |
| Impact strength, notched | dry | ISO 179 1eA | 80x10x4mm | kJ/m² | 7 |
| Charpy Impact Strength notched | -30°C | ISO 179 1eA | 80x10x4mm | kJ/m² | 7 |

Thermal properties

| | | | | | |
|-----------------------|---------------------------|--------|------------|----|-----|
| Heat distortion temp. | HDT A | ISO 75 | 80x10x4mm | °C | 145 |
| Service temperature | during lifetime max. 200h | | ISO 3167 A | °C | 260 |

Electrical properties

| | | | | | |
|-----------------------|---------------------|------------------|--------------|---|-------------------|
| Insulation resistance | strip electrode R25 | DIN EN 62631-3-3 | ISO 3167 A | Ω | >10 ¹² |
| Surface resistance | ROB | DIN EN 62631-3-2 | Ronde 60x4mm | Ω | >10 ¹² |

Main features

Easy to print. No warping. High z-strength.

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Recommended processing parameters

General

3D Printing parameters may vary from machine to machine. The following settings may be used as an indication: nozzle temperature: 370 - 420 °C / nozzle material: abrasion resistant / print bed temperature: > 120 °C / layer thickness: > 0,2mm / printing speed 40 - 60 mm/s.

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.

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

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

| Dryer type | Temperature °C | Drying time in h |
|---------------------|----------------|------------------|
| Dehumidifying dryer | 150 | 3 - 6 |
| or | 120 | 6 - 8 |

Recommended processing parameters

In general LUVOCOM® 3F can be processed on conventional extrusion machines while observing the usual technical guidelines. Any added fibrous materials or fillers may have an abrasive effect. In this case the cylinder, screw and die 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!

| Nozzle | Zone 3 | Zone 2 | Zone 1 |
|--------------|--------------|--------------|--------------|
| 360 - 380 °C | 390 - 400 °C | 380 - 390 °C | 360 - 370 °C |

Additional information

Filaments produced from this material may require large diameter size spools.