

Polyetheretherketone
unreinforced, natural color

Physical properties		Test method	Specimen	Units	Typical value
Specific gravity		ISO 1183-3		g/cm ³	1,31
Water absorption	23°C / 24h	ISO 62	MPTS ISO 3167 A	%	< 0,1
Melt volume rate (MVR)	MVR	ISO 1133	pellet	cm ³ /10 min	22
Mechanical properties at 23°C / 50% rh					
Tensile strength	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	MPa	97
Elongation at maximum force	dry, @50 mm/min	ISO 527	MPTS ISO 3167 A	%	5
Modulus of elasticity	dry, @1 mm/min	ISO 527	MPTS ISO 3167 A	GPa	3,8
Flexural strength	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	MPa	145
Flexural elongation at max. force	dry, @10 mm/min	ISO 178	MPTS ISO 3167 A	%	7
Flexural modulus	dry, @2 mm/min	ISO 178	MPTS ISO 3167 A	GPa	3,4
Charpy impact strength	dry	ISO 179 1eU	80x10x4mm	kJ/m ²	185
Charpy impact strength	-30°C	ISO 179 1eU	80x10x4mm	kJ/m ²	185
Charpy impact strength, notched	dry	ISO 179 1eA	80x10x4mm	kJ/m ²	7
Charpy Impact Strength notched	-30°C	ISO 179 1eA	80x10x4mm	kJ/m ²	7
Thermal properties					
Heat distortion temperature	HDT A	ISO 75	molded sample	°C	145
Service temperature	during lifetime max. 200h		MPTS ISO 3167 A	°C	260
Electrical properties					
Insulation resistance strip electrode	R25	DIN IEC 60167	MPTS ISO 3167 A	Ω	>10 ¹²
Surface resistance	ROB	DIN IEC 60093	Ronde 60x4mm	Ω	>10 ¹²

Main features

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

**Polyetheretherketone
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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.

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
Melt temperature	°C	390

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!

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

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

09581 02 01 18

Europe and Head Office

Lehmann&Voss&Co. KG
Alsterufer 19
20354 Hamburg
Germany
Tel +49 40 44 197-0
Email: luvocom@ehvoss.de

North America

LEHVOSS North America, LLC
185 South Broad Street
Pawcatuck, CT 06379
USA
Tel +1-855-681-3226
Email: info@ehvoss.us

Asia

LEHVOSS (Shanghai) Chemical Trading Co., Ltd.
Unit 4805, 8 Xingyi Road
Changning District, Shanghai 200336
China
Tel +86 21 62785181
Email: info@ehvoss.cn

