


LUVOCOM®

High-performance compounds



**Engineered
for Medical
Applications**

LUVOCOM® High-Performance Compounds

For demanding applications in medical technology



SURFACE



RESISTANT



STRUCTURAL



SUSTAINABLE



LEHVOSS

Group



LUVOCOM 1105-8278/GN a colored PEEK for handles of sterilization containers

Partner for medical device manufacturers

The LEHVOSS Group has been a reliable partner for leading medical device manufacturers since the 1980s. We offer a variety of polymers including customized materials. These include colored, laser-markable and rheologically optimized materials, structural and mechanical materials with glass fiber and carbon fiber reinforcement, filaments (FFF) and granules for direct 3D printing (FGF), and TPU, PP and PA powders for laser sintering.

Made to measure performance

Our high-performance compounds – LUVOCOM®, LUVOTECH® and LUVOTECH® eco – offer perfectly matching material solutions for a wide range of requirements in the field of medical technology.

LUVOCOM® and LUVOTECH® meet the special requirements in terms of biocompatibility, sterilizability, resistance to media and radiation, X-ray and NMR transparency, perfectly functioning mechanical properties even at high temperatures, and compliance with the applicable ISO 10993. With both product lines we offer products based on high-temperature-resistant, chemically resistant and amorphous or semi-crystalline plastics such as PEEK, PPS, PPSU, PPA and PEI.

LUVOCOM® PEEK is the ideal material for handles and instruments. Compared with metallic solutions, it offers exceptional haptics and weight reduction. Its outstanding chemical resistance opens up a wide range of design options in terms of component quality, durability, design and color.

And behind LUVOTECH eco are sustainable high-performance compounds with a significantly reduced carbon footprint. For environmentally friendly solutions based on industrially recycled quality.



LUVOCOM® PEEK is the ideal material for handles and instruments. It enables an exceptional feel and weight reduction compared to metal solutions and the excellent chemical resistance does not require any compromises in component quality or longevity. A proven color palette is available for design purposes.



Our materials

- are tested according to ISO 10993-1, -5 and -12 (cytotoxicity)
- can be used for the common sterilization processes

LUVOCOM based on	Ethylene oxide ¹⁾	Gamma radstion	Hot stream sterilisation		Single use	Multi use
			100 cycles	1000 cycles		
PPA	✓	✓			✓	
PES, PEI ²⁾	✓	✓	✓		✓	✓
PPSU ²⁾	✓	✓	✓	✓		✓
PEEK, PEKK	✓	✓	✓	✓		✓

1) Process still in use, but is increasingly being replaced by others because it is probably harmful to health.

2) Amorphous polymers are susceptible to stress cracking under load and when exposed to aggressive media, e.g. citric acid (rinse aid), alcohol or acetone.

Available and ready to use

Selection of colored LUVOCOM PEEK

Material Designation	Polymer	Glass Fiber	Milled Glass Fiber	Color Designation	Color
LUVOCOM 1105-0948/YL 2	PEEK 380	25		green beige	
LUVOCOM 1105-8854/YL	PEEK 380	30		corn yellow	
LUVOCOM 1105-8278/OR	PEEK 450	15		deep orange	
LUVOCOM 1105/RD7405	PEEK 450			ruby red	
LUVOCOM 1105-8317/RD	PEEK 450		30	ruby red	
LUVOCOM 1105-8278/VI	PEEK 450	15		dark violet	
LUVOCOM 1105-8738/VI	PEEK 450			violet	
LUVOCOM 1105-8853/VI	PEEK 380	30		violet	
LUVOCOM 1105/GN7348/L *	PEEK 450			patina green	
LUVOCOM 1105-0904/GN2	PEEK 380	30		turquoise green	
LUVOCOM 1105-8278/GN	PEEK 450	15		patina green	
LUVOCOM 1105-0918/BL	PEEK 450	30		traffic blue	
LUVOCOM 1105-7173/BL	PEEK 380	20		sapphire blue	
LUVOCOM 1105-7285/EM/BL	PEEK 380			capri blue	
LUVOCOM 1105-7460/BL5019	PEEK 450		30	capri blue	
LUVOCOM 1105-8052/EM/BL/L	PEEK 150			sapphire blue	
LUVOCOM 1105-8278/BL	PEEK 450	15		brilliant blue	
LUVOCOM 1105-8739/BL/L	PEEK 450			pastel blue	
LUVOCOM 1105-9647/BL	PEEK 450			ultramarine blue	
LUVOCOM 1105-9702/WT	PEEK 450			grey white	
LUVOCOM 1105-0923/GY2	PEEK 380	30		traffic grey	
LUVOCOM 1105-8099/GY	PEEK 150			granite grey	
LUVOCOM 1105-8278/GY	PEEK 450	15		slate grey	
LUVOCOM 1105-8278/LGY	PEEK 450	15		light grey	
LUVOCOM 1105-8344/GY	PEEK 450			slate grey	
LUVOCOM 1105-8673/GY	PEEK 450			dusty grey	
LUVOCOM 1105-8709/GY	PEEK 150			mouse grey	
LUVOCOM 1105-8726/GY	PEEK 450	30		slate grey	
LUVOCOM 1105-9703/GY	PEEK 450			iron grey	
LUVOCOM 1105/GF/30/BK-1	PEEK 380	30		black	
LUVOCOM 1105-0858	PEEK 150	30		black	
LUVOCOM 1105-7301	PEEK 450			black	
LUVOCOM 1105-BK0873/L	PEEK 380			black	
LUVOCOM 1105-0831	PEEK 150			black	

* laser markable



Examples for laser markable LUVOCOM



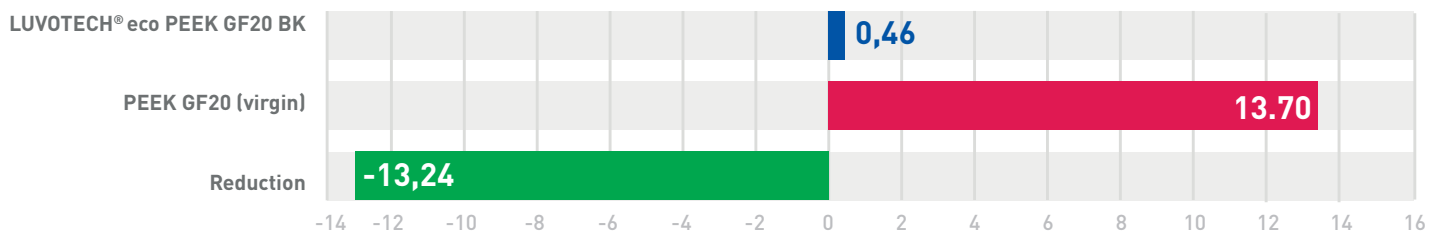


Outstanding mechanical performance for metal replacement

Structural mechanical materials	ISO type	Tensile strength ISO 527 MPa	Flexural strength ISO 178 MPa	Tensile E-modulus ISO 527 GPa	Impact resistance ISO 179 eU kJ/m ²	CTI IEC 60112	Specific Surface resistance IEC 62631-3-2 Ω
LUVOCOM 1105/GF30/BK-1	PEEK-GF30	≥ 160	≥ 250	≥ 11	≥ 40	150	>10 ¹³
LUVOCOM 1105-50313/BK laser markable	PEEK-GF30	≥ 170	≥ 250	≥ 11	≥ 50	150	>10 ¹³
LUVOTECH eco PEEK GF30 BK	PEEK-GF30	≥ 160	≥ 240	≥ 11	≥ 40	150	>10 ¹³
LUVOCOM 1105/XCF/30	PEEK-CF30	≥ 320	≥ 440	≥ 32	≥ 60	-	>10 ³
LUVOCOM 1105/XCF/40	PEEK-CF40	≥ 320	≥ 460	≥ 41	≥ 50	-	>10 ³
LUVOCOM 20-50484/XCF	PPA-CF40	≥ 410	≥ 600	≥ 45	≥ 95	-	>10 ²
LUVOTECH eco PA ^{HT} GF50 HS BK	PPA-GF50	≥ 200	≥ 280	≥ 16	≥ 70	600	>10 ¹²

Carbon footprint

Comparison of greenhouse gas emissions in kg CO₂eq per kg material according DIN EN ISO 14040, 14044 and 14067



We will provide you with all data sheets and processing parameters immediately upon request

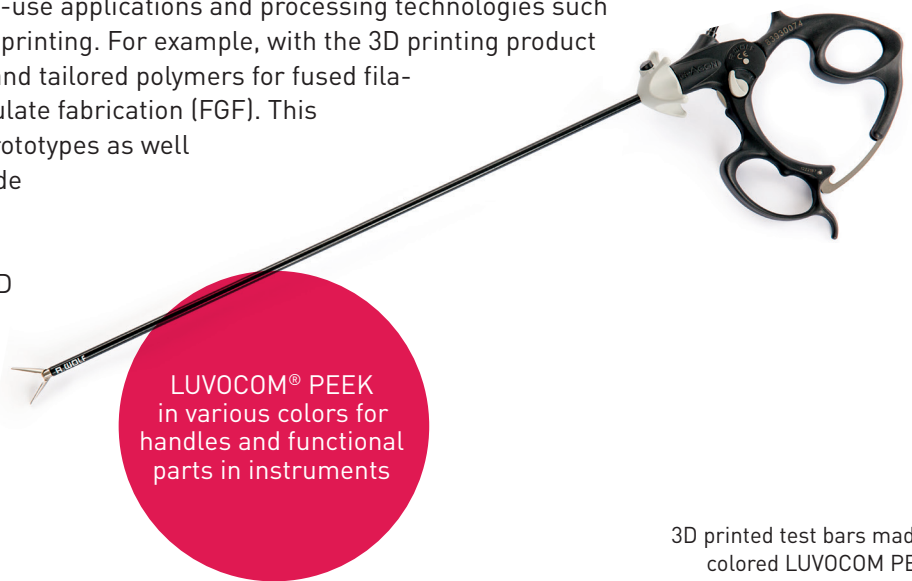
With our Eco product line, we offer environmentally friendly, high-performance solutions based on recycled polymers. For up to 96 percent reduced environmental impact.



LUVOCOM® for operating theater light. LED housing made of PEI thermal and electrical conductive LUVOCOM compound

Customized materials and service

Our materials are tailored for both end-use applications and processing technologies such as injection molding, extrusion and 3D printing. For example, with the 3D printing product line LUVOCOM 3F, we offer innovative and tailored polymers for fused filament fabrication (FFF) and fused granulate fabrication (FGF). This enables the production of functional prototypes as well as end-use parts (such as handles made of PEEK, see photo below). Especially for the production of samples, we are always able to process all common CAD formats or to create a 3D scan directly on the component.

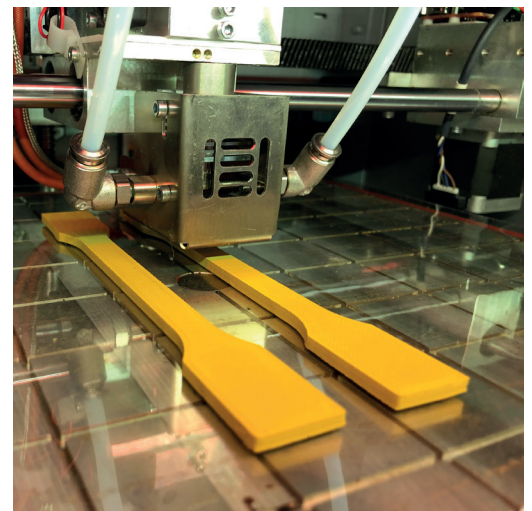


LUVOCOM® PEEK in various colors for handles and functional parts in instruments

3D printed test bars made of colored LUVOCOM PEEK.

Processing and availability

Polymer	Injection molding	Extrusion	Transfer molding	3D-Printing	Availability	
					Vigin	eco-grade
PPA	✓			✓	✓	✓
PES PEI	✓	✓	✓	✓	✓	
PPSU	✓	✓	✓		✓	
PEEK PEKK	✓	✓	✓	✓	✓	✓



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