

3D MicroPrint GmbH manufactures high-precision micro metal parts using Micro Laser Sintering technology. We offer a holistic service from product design, prototype development to series production of your unique component.

Why 3D MicroPrint GmbH?

- Micro Laser Sintering combines the advantages of additive manufacturing with those of micro machining
- Complex geometries with high resolution, high dimensional accuracy and low surface roughness
- Moving parts without further assembly - with our "print-as-one" solution
- Micro metal parts with entire value chain from engineering to post-processing
- QM system certified according to DIN EN ISO 9001 and 13485

Technical Key Figures

- Building platform: 60 x 60 x 40 mm (LxWxH)
- Layer thickness: 5 μm
- Laser spot size: < 30 μm
- Accuracy resolution: 5 μm
- Minimum wall thickness: 30 μm
- Roughness: Ra: 1 μm Rz: 5 μm
- Part density: > 99.5 %



Materials

- 1.4404 (316L)
- 1.4542 (17-4PH)
- 3.7165 (Ti6Al4V)
- Inconel® 718
- Tungsten
- (Pure) titanium grade 4
- (Pure) copper
- Precious metals

Further materials within the scope of a development process

Case Studies

Merger Tree

- 1,024 tubes $\varnothing$ 120 μm combined into a single tube $\varnothing$ 7 mm
- 120 μm to 7 mm tube diameter
- min. 80 μm wall thickness
- Size: 13 x 13 x 16 mm
- Material: Ti6Al4V
- Weight: 1.4 g



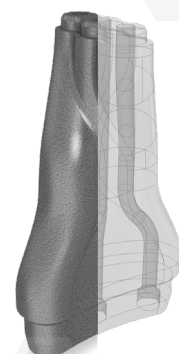
Forceps/Gripper

- One piece instead of 5 individual pieces and several suppliers
- Integrated channel for lighting
- Single piece production without assembly
- Length: 30 mm
- Material: 1.4404 (316L)
- Weight: 1.25 g



Optical fiber guide

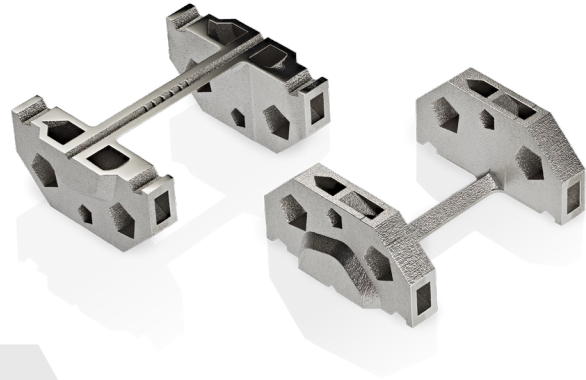
- Twisted fiber guide for modular system
- Complex channel ducts with very good surface quality and geometry tolerances
- Inner channel diameter: 500 μm
- min. 200 μm wall thickness
- Height: 10 mm
- Material: 316L (1.4404)



Microwave bandpass filter 180 GHz

Key data

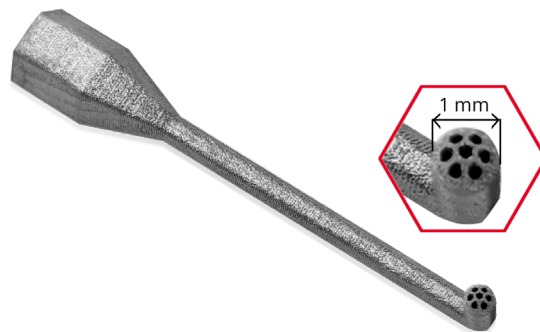
- 200 μm feature size
- $R_a < 2 \mu\text{m}$ inner surface roughness
- Size: 18 x 18 x 23 mm
- Material: 1.4542 (17-4PH)
- Gold coating for final application
- Weight: 8.3 g
- Application approved by University of Birmingham, UK



7-hole flow measurement probe

Key data

- 7 internal 150 μm channels
- 120 μm inner wall thickness
- $R_a < 2.0 \mu\text{m}$ surface roughness
- Head size: dia 1 mm
- Material: 2.4668 (INCONEL 718)
- Weight: 2.2 g
- Approved application by Vectoflow GmbH, Germany



Satellite engine

Key data

- Complex structures of inner channels
- Smallest features: 300 μm
- Size: 48 x 40 x 39 mm
- Material: 2.4668 (Inconel® 718)
- High temperature resistance up to 700°C
- Weight: 43.0 g
- Application approved by DLR, Germany