

.NEW

TruPrint 5000  
Green Edition

3D printing of copper  
and copper alloys

01

Unique combination of  
green laser and additive  
manufacturing system

02

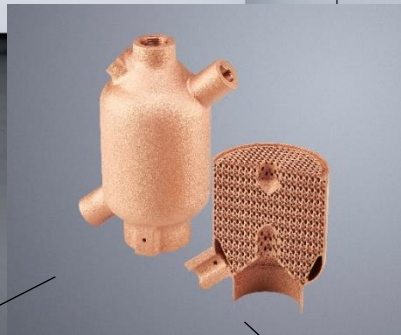
High machine  
availability

03

Outstanding thermal  
properties and  
electrical conductivity

04

Highest quality and  
productivity of printed pure  
copper and copper alloys



# TruPrint 5000 Green Edition: 3D printing of copper and copper alloys

As a technology leader, TRUMPF combines the expertise in additive manufacturing with our industrial beam sources to create this special edition: TruPrint 5000 Green Edition. The combination of the two products, TruPrint 5000 and TruDisk 1020, enables stable and highly productive processing of pure copper and copper alloys.

## Your benefits:



Lower cost per part due to higher productivity and high machine availability

- **High machine availability due to industrial thermal system stability**  
No laser degradation, industrial green laser combined with a robust high temperature machine platform
- **>100 %IACS conductivity**  
Reproducible results throughout the build job and a series of build jobs
- **High LPBF process robustness and large process window**  
High laser absorptivity results in an efficient process and energy input
- **Superior surface quality and detail**  
Due to lower heat input compared to IR laser
- **Less supports required than with IR laser**  
Reduced rework of application parts
- **Standard pure copper powders**  
Vs. expensive oxidized or nanocoated powders required by IR and no powder aging during LPBF process
- **No part heat treatment necessary**  
Other technologies often require additional heat treatments to achieve high conductivity

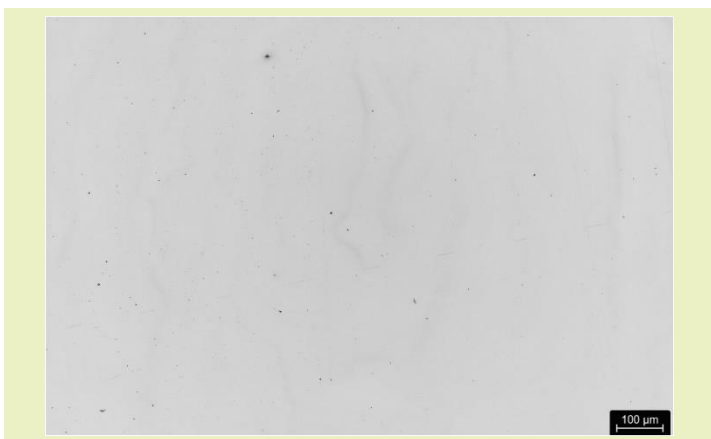


Now also 3D printing of large parts are possible like the pure-copper accelerator component produced using AM as part of the EU-funded I.FAST project coordinated by CERN\*.

TruPrint 5000 Green Edition		
Build volume (cylinder)	mm x mm	Ø 300 x H 400
Processable materials <sup>[1]</sup>		Weldable metals in powder form, such as: copper, copper alloys, aluminum alloys <sup>[1]</sup>
Build rate <sup>[2]</sup>	cm <sup>3</sup> /h	8 – 100
Layer thickness	µm	30 - 150
Max. laser power at the workpiece (TRUMPF laser: TruDisk 1020)	W nm	800 515
Beam diameter	µm	210
Preheating	°C	Up to 200
Shielding gas		Nitrogen, argon
Automation		Automatic process start
Power supply	V / A / Hz	400 / 32 / 50
Dimensions (incl. filter, electrical cabinet)	mm	4616 x 2038 x 4234
TruPrint 5000 Weight (incl. filter, electrical cabinet, powder)	kg	7007
TruDisk 1020 Weight	kg	530
Filter unit		Self-cleaning, long-term, multi-material filter unit

<sup>[1]</sup> Current material and parameter availability upon request

<sup>[2]</sup> Actual build rate consists of exposure and recoating. Dependent on system configuration, process parameters, material and degree of filling  
Subject to modifications. Please ask your local TRUMPF contact to check local product availability.



Microsection copper ETP, 100x magnification

TRUMPF Laser- und Systemtechnik GmbH

Johann-Maus-Straße 2 · 71254 Ditzingen · Telephone +49 (0) 7156 303-31620 · Fax +49 (0) 7156 303-931620

E-Mail [additive.manufacturing@de.trumpf.com](mailto:additive.manufacturing@de.trumpf.com) · Homepage [www.trumpf.com/s/additivemanufacturing](http://www.trumpf.com/s/additivemanufacturing)

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