

PRESS RELEASE

New opportunities in additive manufacturing presented: Fraunhofer IFAM Dresden demonstrates manufacturing of copper component

The Fraunhofer Institute for Manufacturing Technology and Advanced Materials IFAM in Dresden has succeeded in using Selective Electron Beam Melting (SEBM) to produce copper components that have not previously been shown using this process.

The technology demonstrator "Flow-Field XXL" impressively shows the hybrid production with pure copper via SEBM on stainless steel. A total of almost 200 pins with a height of 20 mm were manufactured in nine different designs. The construction volume of approx. 150 cm³ was generated in 18 hours on the Arcam Q20+ facility. In addition to the variety of structural examples, such as those used in heat exchangers, the large-area realization of the multi-material demonstrator is also impressive.

Manufactured by means of SEBM, completely dense structures are created, which, thus, achieve the necessary conductivities for the application as heat exchangers. In order to make the design details clearly visible, the pins were manufactured with thicknesses of 6 - 12 mm. Technologically, however, much smaller structures with thicknesses of up to 600 µm are possible, which significantly extend the potential application spectrum of the copper structures.

The technology demonstrator can be seen from November 19 to 22, 2019, at formnext in Frankfurt, Germany, at the Fraunhofer pavilion. Visit us in hall 11.0 at booth D51.

In the Innovation Center Additive Manufacturing ICAM® in Dresden, Fraunhofer IFAM Dresden has bundled its technologies in the field of additive manufacturing at one location and can, thus, offer tailor-made solutions for a wide variety of problems from a single source. In addition to Selective Electron Beam Melting, the customer has access to three-dimensional screen printing, Fused Filament Fabrication as well as three-dimensional stencil printing and dispense printing.

[Further information on Additive Manufacturing at Fraunhofer IFAM.](#)

Editor

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**FRAUNHOFER INSTITUTE FOR MANUFACTURING TECHNOLOGY AND ADVANCED MATERIALS IFAM,
BRANCH LAB DRESDEN**

PRESS RELEASE

September 13, 2019 || Page 2 | 2



Technology demonstrator "Flow-Field XXL"

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