# PRESS RELEASE

**Hufschmied presents solution for manufacturing tools for embossing bipolar plates**

**The key for the fuel cell**

Bobingen (Germany), December 4, 2024 – Hufschmied Zerspanungssysteme GmbH is introducing milling tools under the name Bumble-Bi® that make the machining of stamping tools for the production of bipolar plates more economical. The successful series production of bipolar plate stacks depends on these stamping tools, which must have burr-free surfaces with a flatness of <20 μm. The new tool family includes high-feed roughing tools as well as ball and torus tools for roughing and finishing. The Bumble-Bi® tools enable machining strategies with very high cutting pressure.

“Fuel cell technology is one of the keys to sustainable mobility. High production costs have been one of the obstacles to widespread use so far. We saw an opportunity to contribute to more efficient production in the area of mold making,” explains Christel Hufschmied, managing director of Hufschmied Zerspanungssysteme GmbH. “The new Bumble-Bi® tool series, with significantly increased tool life and improved feed parameters, is the result of extensive research and development work. This has been achieved not least through an optimized transition from the tool cutting edge to the tool neck.”

Channels for the reaction gases

The bipolar plate is the heart of every fuel cell. It simultaneously acts as a structural carrier plate and forms the poles of the fuel cell. The anode plate conducts H2, the cathode plate O2. The bipolar plate ensures an even distribution of the reaction gases and conducts them into the reaction zone via flow profiles on both sides. The requirements for embossing tools to produce these profiles are immense. The materials metal, graphite and composite used as bipolar plates must fulfill the requirements for dimensional accuracy and surface quality at very high cycle times.

**Available images**

The following images can be downloaded from the Internet in printable quality:  
<https://kk.htcm.de/press-releases/hufschmied/>

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| Image source: Hufschmied Zerspanungssysteme  **An example of different bipolar geometries, manufactured in cooperation with OPEN MIND (*hyper*MILL), rödersTEC, Zeiss, MHT and Böhler.** | Ein Bild, das Kerze, Zylinder, Schreibwaren enthält.  Automatisch generierte BeschreibungImage source: Hufschmied Zerspanungssysteme  **Bumble-Bi® is a Hufschmied's answer to the challenges of mold making for fuel cell technology.** |

About Hufschmied Zerspanungssysteme GmbH

Established in 1991 and headquartered in Bobingen near Augsburg, Hufschmied Zerspanungssysteme GmbH is a manufacturer of high-quality tools for machinable production and friction stir welding. By specializing at an early stage in the machining of plastics, fiberglass materials and carbon fiber, Hufschmied has become a leader in Europe in the development of solutions for new materials. The company is an established system supplier to renowned machine tool manufacturers. Tools and manufacturing process consulting from Hufschmied are particularly valued in the automotive and aerospace industries as well as in medical technology. The company is involved in numerous organizations, including Composites United Deutschland e. V. Hufschmied's manufacturing operations are located in Bobingen, Winterlingen and Sigmaringen on the Swabian Alb. Hufschmied is certified according to ISO 9001:2015 (quality management) and ISO 14001:2015 (environmental management).

Hufschmied is the only tool manufacturer with its own diamond coating plant.

For more information: www.hufschmied.net

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