GERMAN FUEL CELL COOPERATION

VON ARDENNE | Weil Technology | ZELTWANGER

PRESS RELEASE

Dresden, Müllheim, Tübingen, March 2025

Investing in clean hydrogen: GERMAN FUEL CELL COOPERATION (GFC) presents complete line for the production of metallic bipolar plates in the special area Hydrogen + Fuel Cells at HANNOVER MESSE

The effective production, storage and utilization of hydrogen as an environmentally neutral fuel is a relevant factor in the process of decarbonization. Bipolar plates, one of the core components of PEM electrolyzers and fuel cells, play an important role here.

VON ARDENNE, Weil Technology and ZELTWANGER offer a complete, interface-coordinated line for the highly efficient production of metallic bipolar plates. The three companies have joined forces as partners in the GERMAN FUEL CELL COOPERATION (GFC).

They will be showing the advantages and possibilities of their system at HANNOVER MESSE 2025 from March 31 to April 4 in hall 13 at booth C34 in the Hydrogen & Fuel Cells special area.

Well positioned for the mobility requirements of tomorrow

The GFC's coordinated production line plays a pioneering role in the market: By bundling their respective competencies, the three German companies VON ARDENNE (Dresden), Weil Technology (Müllheim) and ZELTWANGER (Tübingen), offer manufacturers of fuel cell and electrolyzer stacks comprehensive know-how in all sub-processes for the efficient production of metallic bipolar plates. With an annual production capacity of several million bipolar plates, it covers the current needs of the industry.

Weil Technology has developed the Laser Welding Cell (LWC), which precisely joins the thin metal foils at high welding speeds. ZELTWANGER provides specialized leak testing for the high demands of hydrogen technologies. This includes testing-as-a-service offerings for prototypes and preliminary trials, manual testing stations, and automated solutions for large-scale production with very short cycle times. For the coating system in this configuration, VON ARDENNE uses magnetron sputtering in the post-coating process to coat the bipolar plates directly on both sides. The GFC partners support their customers in the scaling of processes and systems. This ranges from joint development on a laboratory scale, through sample and pilot series production - in equipment engineering or as a service - to high-volume production.

This equipment is already being built for leading companies in the hydrogen and fuel cell industry - an ideal prerequisite for reducing dependence on fossil fuels quickly and efficiently.

VON ARDENNE GmbH I Am Hahnweg 8, 01328 Dresden | Germany | Phone +49 351 2637 300 | Fax +49 351 2637 308 | office@vonardenne.com | www.vonardenne.com
Geschäftsführung / Executive Management: Pia von Ardenne
Weil Technology GmbH | Neuenburger Straße 23 | 79379 Müllheim | Phone +49 7631 1809 0 | Fax +49 7631 1809 149 | info@weil-technology.com | www.weil-technology.com
Geschäftsführung / Executive Management: Wolfgang Weil, Florian Weil, Alexander Heissler
ZELTWANGER Holding GmbH | Jope Str. 3, 72072 Tübingen | Germany | Phone +49 7071 3663 301 | Fax +49 7071 3663-333 | holding@zeltwanger.de | www.zeltwanger.com
Geschäftsführung / Executive Management: Ulrich Zeltwanger

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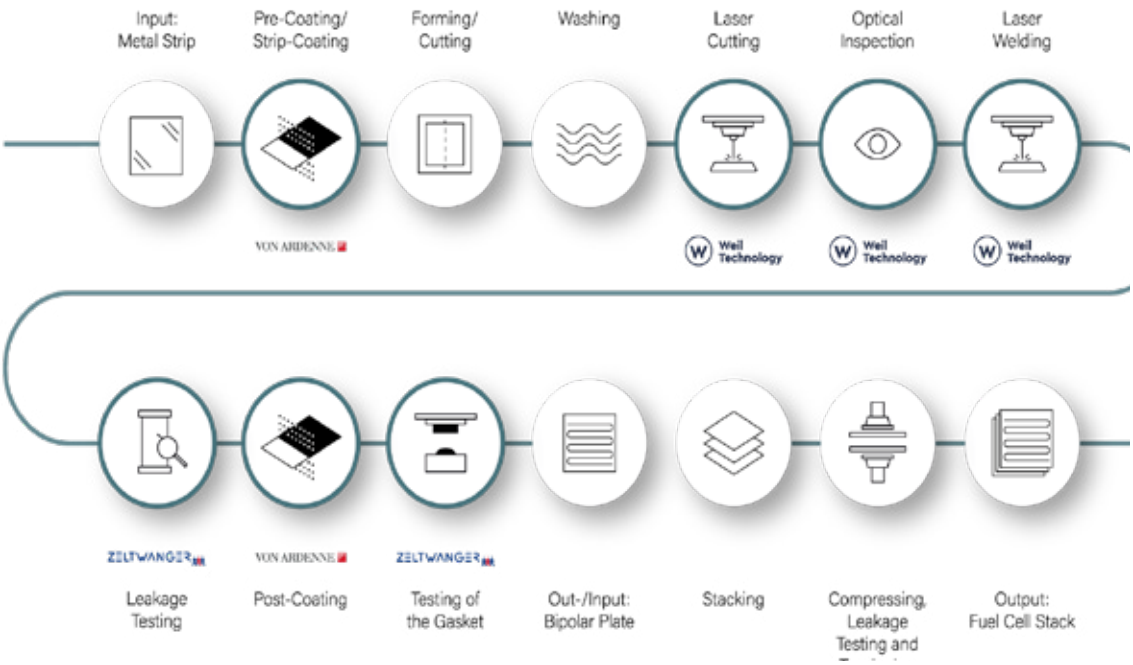
From metal strip to fuel cell or elektrolyzer stack

The long-standing expertise of the three mechanical engineering companies covers all process steps. The joint development and careful coordination of the line concept enables smooth transitions at the interfaces of the individual production steps. For this purpose, the line processes pre-embossed half-plates made of stainless steel or titanium. In a first step, these are welded into bipolar plates, then tested for leak tightness and finally receive a PVD coating to functionalize the surface.



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GERMAN FUEL CELL COOPERATION at HANNOVER MESSE
Booth, dates, contact

March 31 – April 04, 2025
Hall 13, booth C34
Special area Hydrogen & Fuel Cells, Messe Hannover, Hannover, Germany

You are welcome to attend our presentation
Tuesday, April 1, 12:00 in the Public Forum, hall 13:

Manufacturing Solutions for Fuel Cell and Electrolyzer Bipolar Plates
Dr. Thomas Frey, Susann Puppe, Jochen Kober

Contact:

VON ARDENNE GmbH
Mark Offermann | +49 351 2637 9000 | presse@vonardenne.com | www.vonardenne.com

Weil Technology GmbH
Felicitas Ledig | +49 7631 1809 399 | f.ledig@weil-technology.com | www.weil-technology.com

ZELTWANGER Group
Benjamin Rilling | +49 7071 3663-119 | B.Rilling@zeltwanger.de | www.zeltwanger.de

Web: www.fuel-cell-cooperation.com | https://www.hannovermesse.de

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The GERMAN FUEL CELL COOPERATION companies

VON ARDENNE
VON ARDENNE develops and manufactures equipment for the industrial vacuum coating of materials such as glass, wafers, metal strip or polymer film. Depending on the application, these layers are one nanometer to a few nanometers thin and give the materials new functional properties. Our customers use these materials to manufacture high-quality products such as fuel cells, solar cells, architectural glass and automotive glazing, lithium-ion batteries or microelectronic components for sensors and optics. With more than 60 years of experience in electron beam technology and over 50 years in magnetron sputtering, VON ARDENNE remains a pioneer and the world's leading supplier of equipment and technology in PVD thin-film and vacuum process technology. We offer our customers technologically sophisticated vacuum coating systems and comprehensive technological expertise. Furthermore, we offer a wide range of in-house systems for joint development tasks or coating services ranging up to pilot production with customers.

Weil Technology
As a machine builder and solution provider, Weil Technology supports the realization of new production processes in sheet metal processing as well as the optimization, automation and sustainability of existing ones. The company's core competence is machines for sheet metal processing by laser welding and cutting with coordinated clamping and automation concepts. Weil Technology can look back on over 35 years of experience in this field. At the company headquarters in Müllheim in southern Baden, around 250 employees develop and manufacture customized concepts and systems.

ZELTWANGER
ZELTWANGER Leaktesting & Automation GmbH is one of the leading providers of soultions for leak testing with air and detection gases. Its portfolio ranges from testing-as-a-service offerings to test equipment and test stations to fully automated test facilities. ZELTWANGER offers its customers comprehensive support, from initial preliminary testing to series production. In e-mobility, the company offers leak testing solutions for battery cells and packs, bipolar plates, fuel cells, electrolyzers, elctrical motors and their components.

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