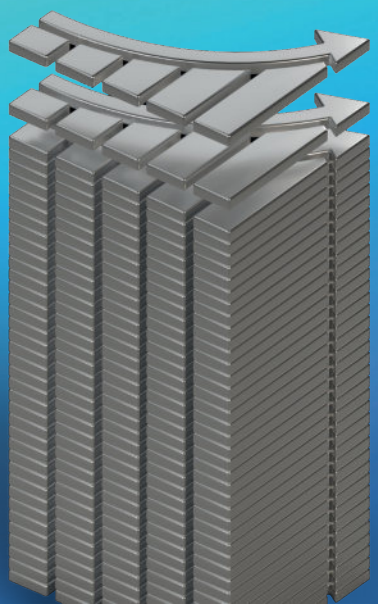
FEINTOOL + SITEC

STACK UP ON EXPERTISE



HIGH-VOLUME PRODUCTION OF BIPOLAR PLATES AND INTERCONNECTS FOR FUEL CELLS AND ELECTROLYZERS

- Target applications: PEMFC, SOFC, PEMEL, SOEC, AEM
- Production capacity: +10,000,000 plates per year
- Global presence and supply
- High-tech infrastructure and equipment
- Prototypes, pre-, low- and high-volume series

STACK UP ON SYNERGY

Get everything easily from a single source

With our perfectly integrated FEINforming, FLEXwelding and FLEXinspection technologies, we produce and supply flawless bipolar plates and interconnects efficiently and according to your design.

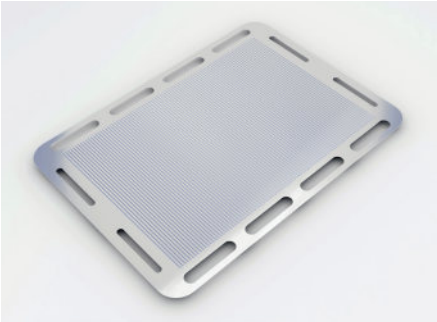
Sheet Metal → Forming → Cleaning → Laser welding → Leak testing → DMC → Cleaning → Coating → AOI → Sealing

End-to-end support throughout every project stage

- Feasibility studies
- Proto-typing
- Pre-series production
- Series production

STACK UP ON FLEXIBILITY

Austenitic stainless steel, ferritic stainless steel, titanium, aluminum.
Sizes up to 800 x 600 mm



Bipolar plate for electrolyzers

Bipolar plate for fuel cells

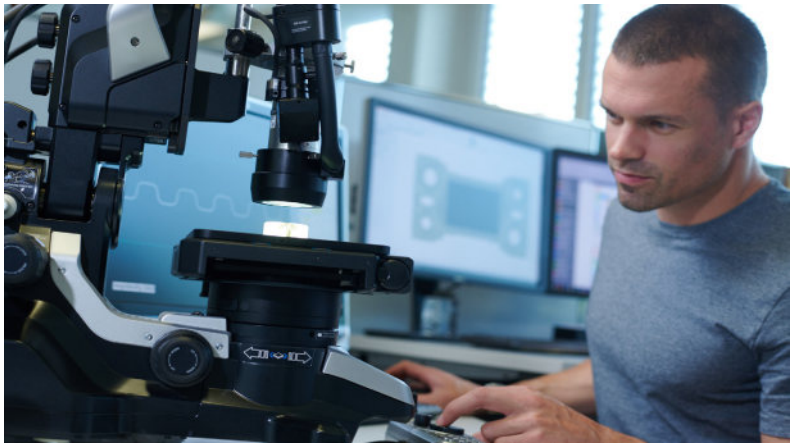
STACK UP ON SPEED

Fast prototyping provides ready-to-install metallic bipolar plates and interconnects for the development and testing of fuel cell and electrolyzer stacks.

- Flexible tool system with specific forming elements for series-like flow field geometries
- Laser cutting of plate openings and outer contours
- Welding of single parts
- Leak testing of sub-assemblies

Your Benefit

Fast prototyping enables the production of small batches of up to a few thousand plates while representing high-volume manufacturing processes.

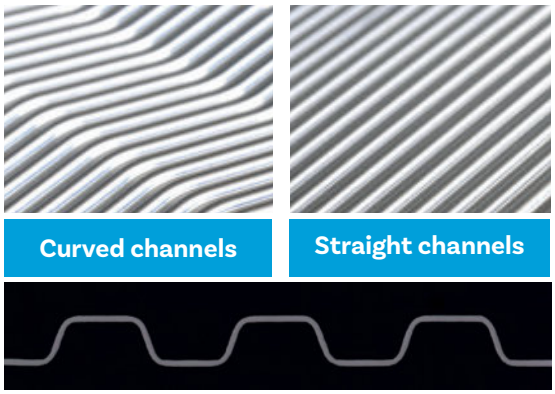


Fast prototyping in own hydrogen competence centers

STACK UP ON PRECISION

Feintool's FEINforming technology offers large channel contact areas and high-precision reference features for plate positioning – essential prerequisites for an ultra-precise manufacturing process.

- Continuous homogeneity of the channel height
- Nearly square channel structures with flat surface
- Implementation of extremely small radii
- Precisely positioned laser welding reference points to ensure high accuracy

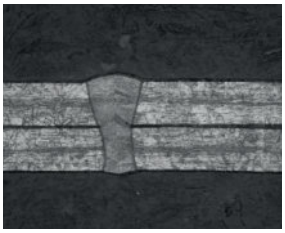


Curved channels | Straight channels

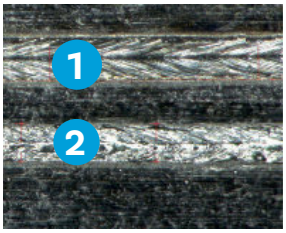
STACK UP ON EFFICIENCY

SITEC's FLEXwelding technology offers high-precision plate positioning and high-speed laser welding – essential prerequisites for high-quality mass production.

- Low heat input for minimal deformation
- Intelligent fixtures – the basis for tight welds
- Highest contour precision
- Extremely cost-efficient process through the highest manufacturing speeds



Slim adhesion width



1 Top side
2 Bottom side

Circumferential seam design

STACK UP ON QUALITY

Intelligent monitoring systems ensure highly reliable quality control of all your produced parts. Furthermore, all relevant production data is logged to meet customer traceability requirements.

- High-performance leak test
- High-resolution optical inspection
- DMC marking for 100% traceability
- Contact resistance measurement*
- X-ray layer thickness measurement*

*optional

STACK UP ON EXPERTISE

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