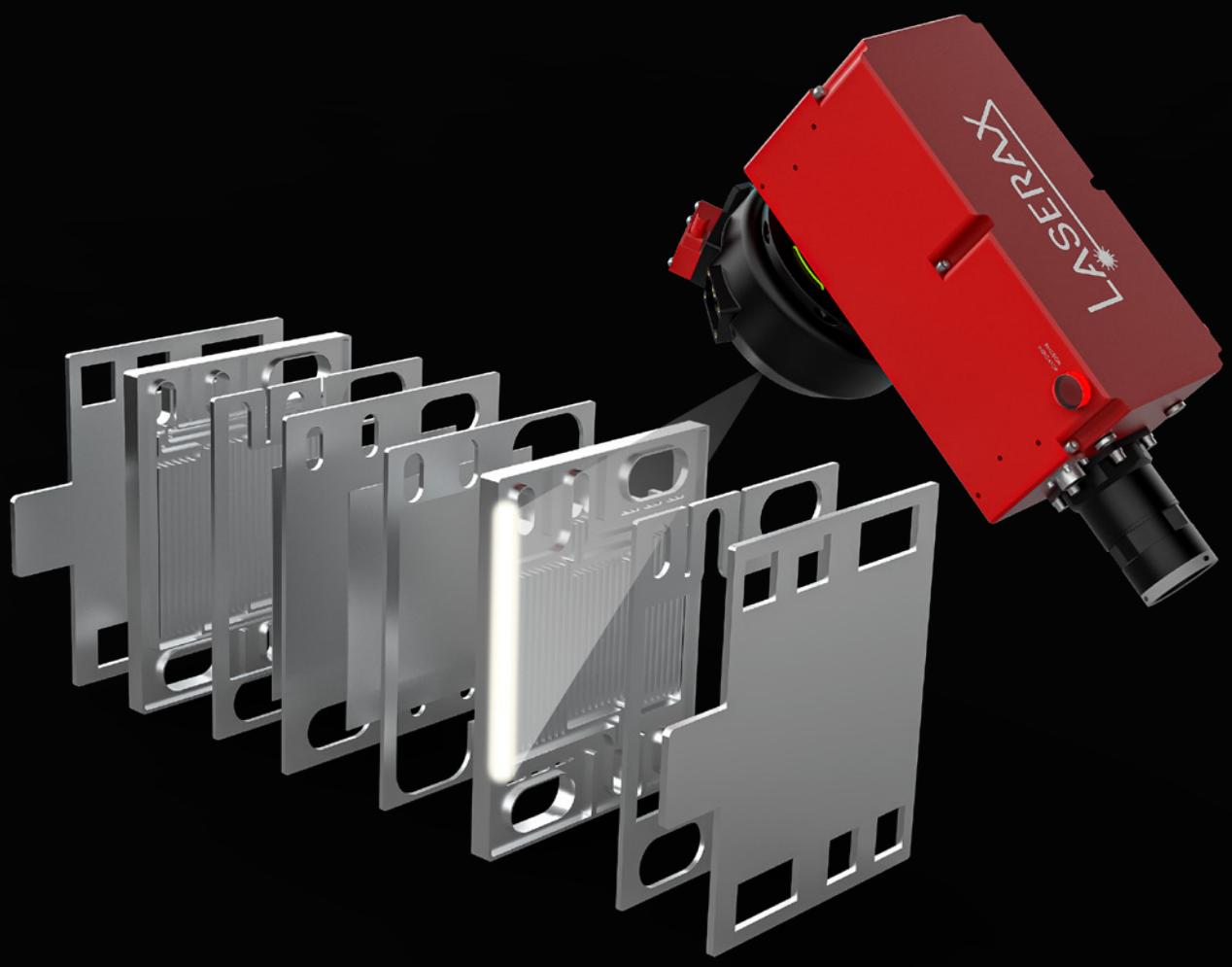
LASERAX

# INDUSTRIAL LASER SOLUTIONS

## FOR THE FUEL CELL INDUSTRY



# FUEL CELL MANUFACTURING WITH LASER TECHNOLOGY

Fuel cells are a promising solution for a greener future. They can play an important role to power commercial electric vehicles and facilities.

During fuel cell manufacturing, bipolar plates (also known as flow plates or interconnects) can benefit from laser surface preparation. Laser texturing and cleaning can prepare these plates for various protective coatings and adhesives with precision, speed, and cost efficiency. The same laser can also be used to mark plates for traceability.

## LASER TECHNOLOGY TO SCALE UP BIPOLAR PLATE PRODUCTION

With our industrial expertise, we help fuel cell manufacturers achieve the quality they need, reduce production costs, and scale up their production line to meet high-volume requirements.

## LASER BENEFITS

- **Easy automation**
- **No consumables**
- **Precise treatment**
- **Fast processing**
- **Green technology**
- **100% safe**
- **Low maintenance**
- **Fixtures with magnets to correct warping before processing**

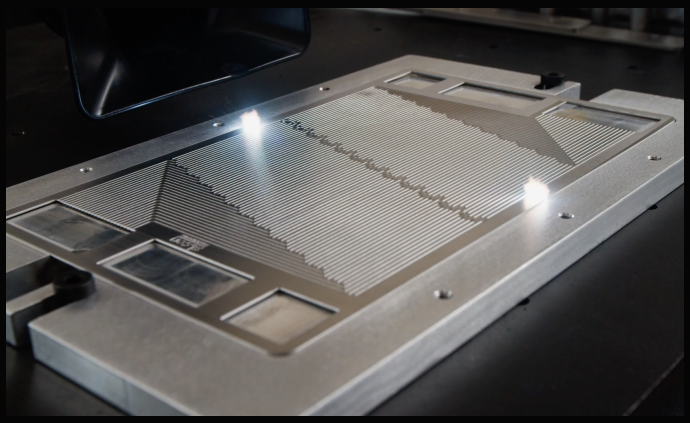
# INDUSTRIAL LASER APPLICATIONS FOR BIPOLAR PLATES

Fiber lasers are increasingly used in the manufacturing process of bipolar plates. They are ideal to replace abrasive blasting and eliminate masking, which are hard to control and lack precision. A single laser unit can be used for texturing, cleaning, and marking applications.

## LASER TEXTURING

Laser texturing etches metallic surfaces to create a repeatable texture and roughness on bipolar plates. This is used to improve adhesion for thermal spray coating, e-coating, and other protective coatings.

With its precision, laser texturing can texture specific areas while leaving the rest untouched.

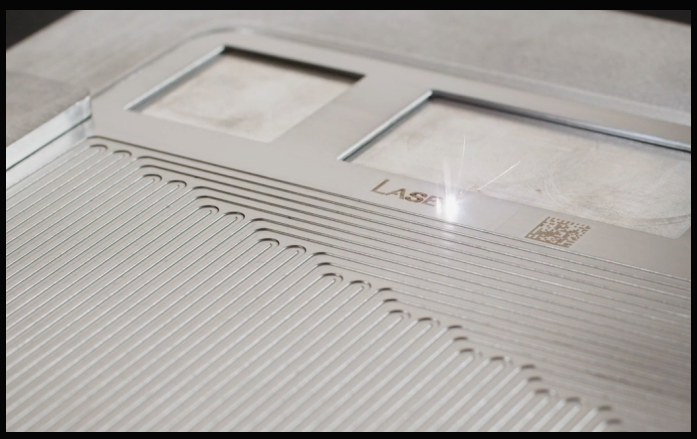


## LASER CLEANING

Bipolar plates must be clean of all contaminants to meet the highest quality requirements. Laser cleaning is used to remove oxides, oils, and other contaminants that would otherwise interfere the good adhesion of coatings. These contaminants also need to be removed to improve the overall efficiency of the fuel cells.

## LASER MARKING

The same laser used for texturing and cleaning can be used to mark bipolar plates with a data matrix code. Using laser marking to implement traceability as well as laser cleaning and texturing is a great way to optimize your investment.



# LASER PRODUCTS FOR FOR THE FUEL CELL INDUSTRY

Laser systems manufactured by Laserax are designed to be easily integrated into manufacturing environments, such as robotized production lines, conveyor systems, or even standalone operations to be launched manually. We offer everything you need to have a fully functional laser, such as fume extraction systems, integrated barcode readers, and Class-1 laser safety compliance.

## OEM SYSTEMS

Easy to integrate, our OEM systems have advanced features specifically designed for high-volume manufacturing environments. We also offer Class-1 laser certification options with all our systems.

With their industrial-grade components, our lasers have an operating life of at least 10 years.


## TURNKEY SOLUTIONS

Laserax has designed a broad range of standard turnkey machines ready to be integrated into existing production lines. All machines are 100% safe and follow Class-1 standards for laser safety.

Our standard machines are fully adaptable to your exact needs.


LASERAX

laserax.com

**INDUSTRIAL LASER SOLUTIONS FOR THE FUEL CELL INDUSTRY**

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