



Accelerate Your Production With Laser Projectors

Highly accurate lasers for the
composite industries

Rotor Blades for Wind Power Plants

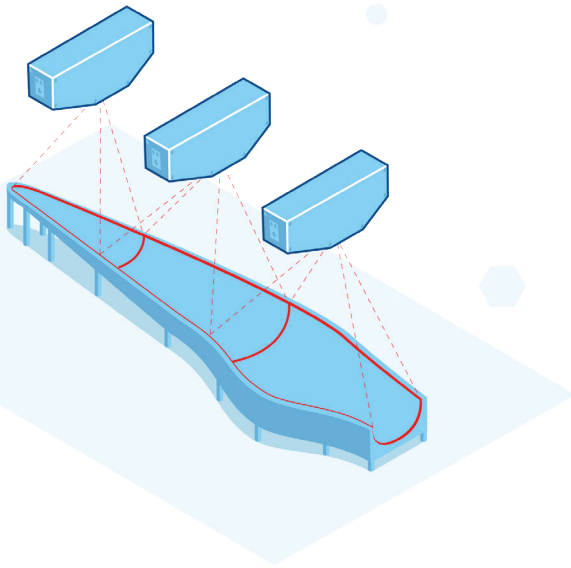
The manual laying process of glass fiber matrices and preregs in the production of wind rotors can be simplified and accelerated with the aid of laser projectors. A laser projector can display the contours of each fiber mat in the design so that the layers can be quickly, easily and precisely positioned and aligned. The projectors have interfaces for common 3D CAD formats.



Laser projectors increase productivity by up to 30%, improve quality (the homogeneous structure of the wing), reduce errors, and guide employees intuitively through the production process.

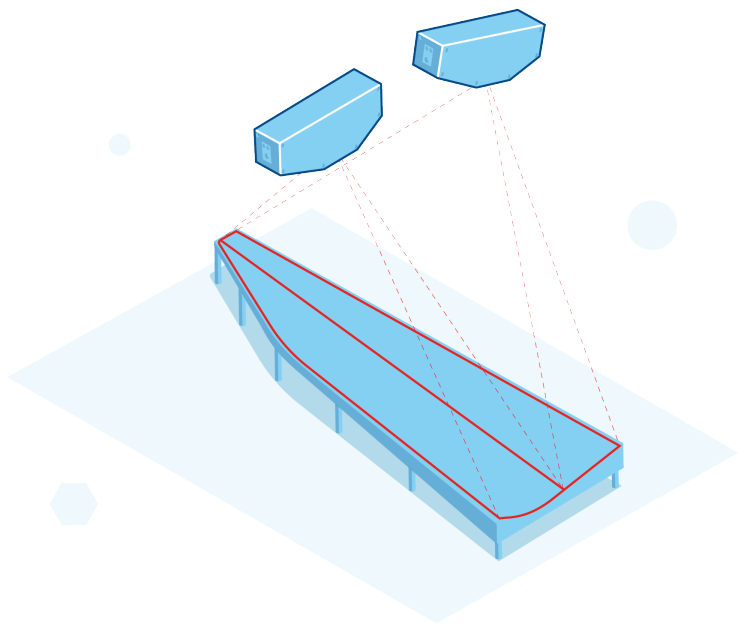
"Since commissioning, large time savings have already been generated."

- Project Manager, Nordex Group



Aerospace Industry

In aircraft manufacturing, lasers have already been used successfully for material alignment and tool positioning during assembly. In the future, however, more and more components made of composite materials will be used. As a result, supporting the manual laying process of fiber mats (CRP layers) with the aid of laser projectors is becoming increasingly important.



Model ZLP2

High-performance laser projector with Z-FIBER source

ZLP2 is the high-end model of our ZLP laser projector family. It provides a maximum performance in laser projection.

ZLP2 comes with an unmatched beam quality due to the use of a fiber-coupled laser source. Thanks to its precision up to 0.1mm per meter working distance, ZLP2 is perfectly suited for applications in automotive, aerospace and composite.

ZLP2 comes with the intuitive graphical user interface ZLP-Suite. The integrated API allows an easy integration of ZLP2 in existing customer software. For the extension of ZLP-Suite additional software modules are available.



Intuitive software



Fan angle up to 80°



Optimized for 2D and 3D projection



Integration into multiprojector systems



Active or passive cooling system



IP65

Highlights

- Highly precise and stable laser projection
- Optimized for projection on 3D objects
- Excellent beam performance by the fiber-coupled laser source
- Large aperture (up to 80° x 80°) enables large working areas
- Data transmission via ethernet adapter
- Easy integration into multi projection systems
- Intuitive graphical user interface ZLP-Suite
- Advanced programming interface (API) for C++, C#, Python & VBA
- Client-/Server architecture



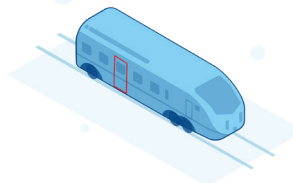
Aerospace



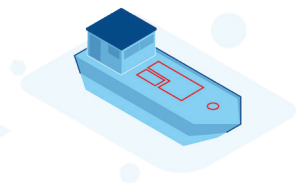
Automotive



Composite



Train Construction



Ship Building



Z-laser manufactures lasers for the composites industry. In any manufacturing process in which composites are used, 2D and 3D laser projections can be applied to increase production speed and improve the product's quality.

Boat building and vehicle construction, aerospace, bridge and model building and the manufacturing of railway cars or rotor blades for wind turbines and helicopters – these are all examples of the type of application where precise projection of alignment patterns can bring great benefits to the production process.

Our laser projectors have been specially optimized for complex positioning and alignment applications. They project the contours of each fiber mat or decal to be placed in the mold so that production staff can position and align the lay-

ers quickly and accurately. The projector has interfaces for all current 3D CAD design programs, and can display contours even on curved surfaces. It combines the advantages of the contour display with those of computer control in order to simplify the production of complex composite components.

As soon as the complete laser projection is displayed, the laminator recognizes where to place the fiber mat, prepreg, balsa, and bracing or vacuum suction. This not only improves operation efficiency, but also improves quality by reducing errors and thus manual rework.

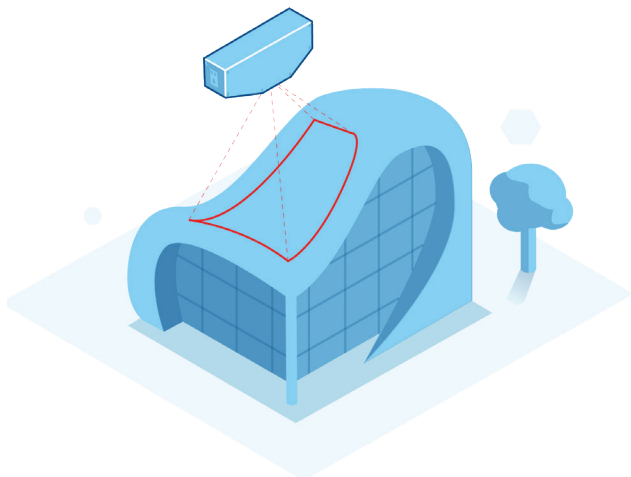
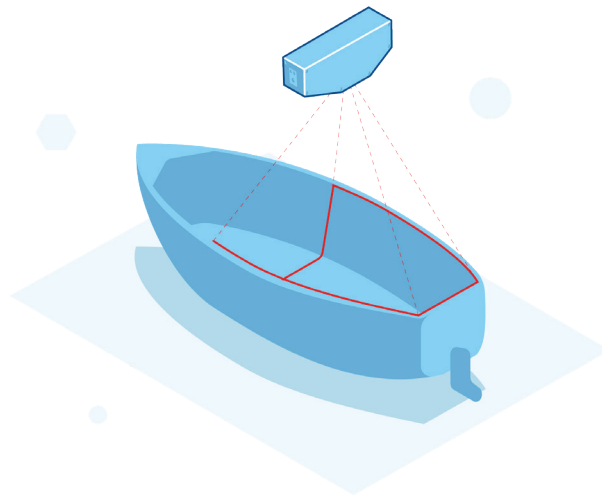
Individual letters, text, or numbers can also be projected in order to define specific projection patterns. Depending on your manufacturing process, either the entire contour of the composite workpiece can be displayed, or else the individual elements such as prepreps or decals.

ZLP2



Yacht / Boat / Shipbuilding

Laser projectors can also be used in the shipbuilding manufacturing process. Laser projectors can be used to guide through the manual layup process of glass fibre mats inside the mould. Pre-defined lay-up sequences can be defined and guides the worker through the manufacturing process step by step. Laser projectors can be used to build up the hull, pole for the canvas, and interior design. Projecting the position of partition panels is another application for laser projectors.



Architecture

Also in modern architecture or interior design, flexible wall structures are getting more and more popular. There are flexible mould builders on the market, who uses our laser projector to indicate flexible positions of mounting parts or boarder elements.

Don't hesitate to contact us!



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