

## PALETTI PROFILSYSTEME

Paletti Profilsysteme Minden manufactures innovative production tools that support flexibility and cost-effectiveness in machine design and plant equipment. The focus is on the development and production of modular profile systems made of aluminum. These form the basis for individual customer solutions for machine frames and enclosures, safety guarding, workstations, conveyor technology, linear technology, precision fixtures, test stands, and laser protection enclosures.

We are one of the world's leading companies specializing in laser safety enclosures for the automotive industry.



PROFILE TECHNOLOGY



PROTECTION AND SEPARATION SYSTEMS



ASSEMBLY AND WORKSTATION SYSTEMS



CONVEYOR SYSTEMS



LINEAR MOTION SYSTEMS



TEST BENCH TECHNOLOGY



LASER SAFETY ENCLOSURES



PRECISION ENGINEERING

„Our requirements for a large, yet space-saving laser protection enclosure with oversized hinged doors were best implemented by Paletti with its flexible modular system and extensive accessories. In addition, the guidance provided by Paletti and its proximity aided our confidence.“

Mathias Bieberneit, Production Manager at Hesse GmbH



We know what you need.  
You can rely on us.

- › Laser enclosures according to DIN EN 60825 „Laser equipment“ and DIN EN ISO 11553-1:2005 „Laser processing machines“
- › Laser enclosures for 4 kW Nd-YAG and disk lasers
- › Laser enclosures up to 8 kW in the focal range
- › Self-supporting laser enclosures
- › Spans up to 12 m
- › Laser enclosure height up to 7.5 m
- › Ideal, multi-stage labyrinth system
- › Double-walled and four-walled system designs
- › Versatile accessories and special pipe and cable entries
- › Easy installation of external attachments through the standard T-slot system



Do you also need a laser protection enclosure?  
Contact me.

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# PALETTI

## CASE STUDY

### Use of laser protection enclosures to ensure safety in the plant



INDUSTRY

Machine Design & Plant Equipment

CUSTOMER

HESSE GMBH, GERMANY

**HESSE**  
MECHATRONICS

„Each laser protection enclosure is unique, and tailored to the individual requirements of our customers. With our modular system, we were able to ensure the installation and assembly on the sensitive ESD floor and implement the oversized hinged doors with an opening angle of 180°.“

Matthias Bösch, Sales Manager Paletti Profilsysteme

## 1. INTRODUCTION

Hesse GmbH, headquartered in Paderborn with a second production site in Bielefeld, is one of the world's leading manufacturers of fully automatic ultrasonic wire bonders and welding systems as well as laser welding systems. It offers high-quality customer-specific automation solutions for assembly and connection technology (AVT) as part of its product portfolio.

For laser welding systems that are integrated into customer-specific laser protection enclosures, Hesse GmbH also needs its own laser protection enclosures to ensure quality assurance and occupational safety for initial commissioning and preliminary acceptance in-house.

The implementation was carried out by Paletti Profilsysteme, one of the leading providers of laser protection enclosures.

## 2. REQUIREMENTS AND CHALLENGES

The requirements for the laser protection enclosures were particularly complex, as a large double enclosure with oversized hinged doors and an opening angle of 180° was required.

The requirements were necessitated by the production processes, the commissioning of the laser welding systems with associated tests, and space constraints in the production area at Hesse GmbH. In addition, the ESD floor covering was not to be damaged during the installation of the laser protection enclosures, which posed additional challenges for the on-site installation, according to Matthias Bösch, Sales Manager at Paletti Profilsysteme.



## 3. REASONS FOR CHOOSING PALETTI

Hesse GmbH chose Paletti Profilsysteme because of Paletti's flexible modular system, which allowed adaptation to specific, on-site conditions. Paletti offers customized solutions characterized by modularity and easy on-site adjustments. Various aluminum profiles were used to construct the laser protection enclosure, meeting the occupational safety requirements of the employees. Thanks to the flexibility and the wide range of customization options, such as process doors, maintenance doors, laser-safe vents and cable entries, Paletti was able to quickly and effectively meet the requirements of Hesse GmbH.

## 4. IMPLEMENTATION AND PROCESS FLOW

The assembly of the laser protection enclosure was completed within five working days. The process was divided into the following steps:



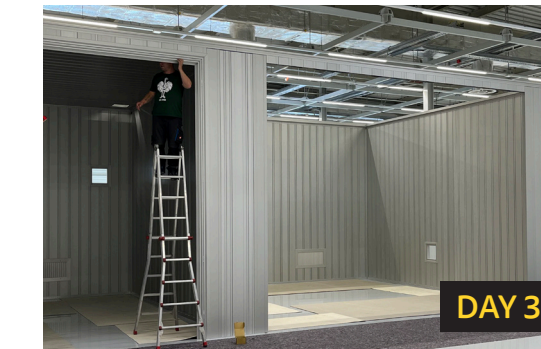
DAY 1:

Delivery of the pre-designed enclosures, laying of carpet fleece to protect the floor, and setting up the corner posts.



DAY 2:

Assembly of the ceiling angles and the wall profiles with cutouts for power supply openings and cable entries.



DAY 3:

Ceiling assembly including cutouts for fume extraction.



TAG 4:

Installation and adjustment of the oversized double hinged doors.



Additional adjustments, such as supplementary cable entries, were implemented during the assembly process quickly and easily.

## 5. CONCLUSION

The collaboration between Hesse GmbH and Paletti Profilsysteme was extremely successful.

Within just five working days, acceptance and delivery of the enclosure to Hesse GmbH was completed. The laser protection enclosure was completed and put into operation. The requirements for flexibility and precision were fully met. Mathias Bieberneit, Production Manager of Hesse GmbH, was extremely satisfied with Paletti's performance and emphasized that everything had gone perfectly from the start.

Paletti Business Development Manager Carsten Brilka also highlighted that the close collaboration, good assembly implementation, and quick responsiveness to additional adjustments contributed to a smooth process.



DAY 5:

Acceptance and handover of the cabin to Hesse GmbH.