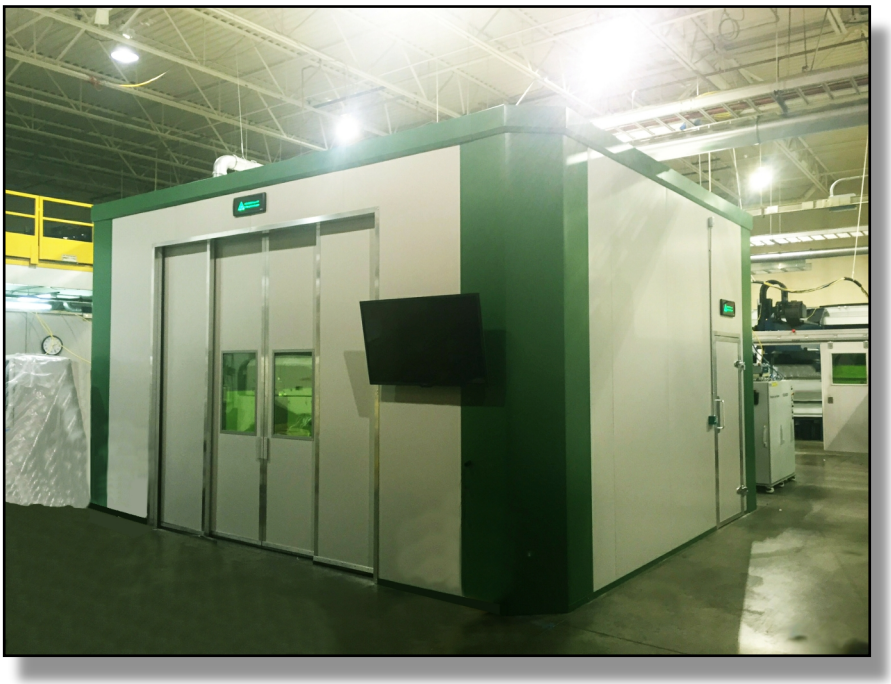
# Fraunhofer CLA choose Laser Castle

LASER CASTLE

lasermet
laser safety solutions

**Lasermet recently installed its "Laser Castle" laser safety cabin at Fraunhofer CLA, the Center for Laser Applications, in Plymouth, Michigan USA. The cabin, which measures 22ft wide, 18ft deep and 12ft tall, (6.6 x 5.5 x 3.6m) enables the facility to accommodate substantial high powered laser machines and related equipment including the ability to house laser welding robots.**



*The Laser Castle cabin during installation at Fraunhofer*

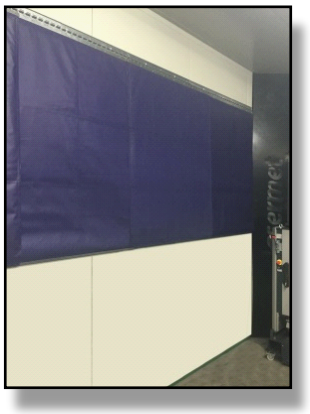
**Fraunhofer** is Europe's largest application-oriented research organization with locations throughout the world and Fraunhofer CLA has been operating in the USA since 1994 developing new laser applications for a wide range of industrial customers. With its extensive expertise in laser materials processing and a state-of-the-art laser facility, the Fraunhofer USA CLA team helps to develop best process solutions including laser welding, laser cutting/drilling, laser cladding, and laser heat treatment. Fraunhofer's facilities include Robotic and CNC work cells with fiber, disk, diode and $CO_2$ lasers up to 16kW and a state-of-the-art Metallographic Lab.

The laser safety cabin's main double-doors open to 10ft (3m) wide and are 10ft (3m) high to accommodate large pieces of equipment. The cabin is certified as laser safe (as required by the laser safety standards within IEC 60825-1 and ANSI Z136.1), and is interlocked with a fully dual-channel interlock control system. Fitted with High Definition CCTV and an HD monitor, an additional interlocked access door and dual-message, dual-colour LED Laser warning signs, the Laser Castle provides the complete solution.

**Active Laser Guarding - "Laser Jailer"**

As lasers up to 16kW are used, the only failsafe way to ensure the safety of personnel outside the cabin is to shut down the laser if an inadvertent laser strike occurs. This is achieved by covering the inside of the cabin with active laser guarding panels which are electrically connected to the interlock controller. These panels are constantly monitored by the interlock controller and if any of these are struck by the laser, the controller isolates the laser safety input within 50ms, shutting down the laser virtually immediately and preventing the escape of the beam into the surrounding area.

In addition to the passive and active guarding provided by the cabin, the manual doors have two Active Guarding Filter Windows (called "Glaser Jailer") and these are also linked to the laser interlock controller (ICS-6) in the same way as the rest of the active laser guarding system. They work in the same way. If the windows are struck, the controller switches off the laser virtually immediately.



***The active guarding panels are contained within the blue "pockets." (Photo taken during construction).***

Fraunhofer CLA works in close co-operation with the Fraunhofer Institute for Material and Beam Technology (IWS) in Dresden Germany, one of Europe's leading research institutes for laser material processing.

For further information on the laser cabin please visit www.lasermet.com/lasercastle

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