

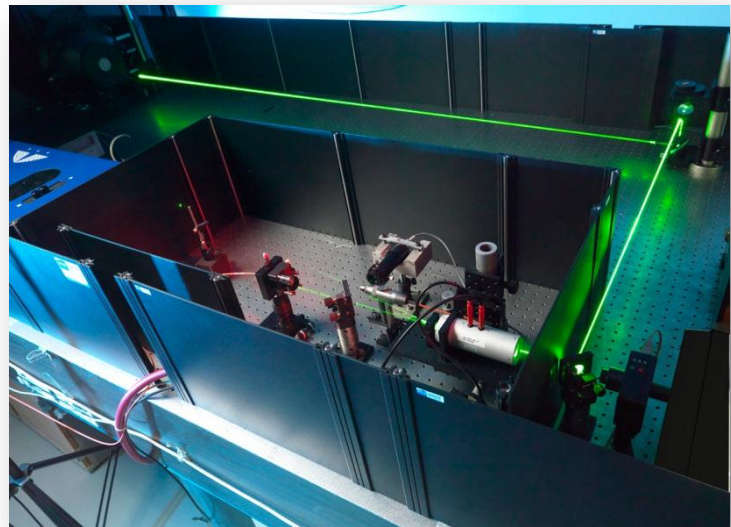
Optoblok

- the Optical Table Laser Guarding System – an NPL - Lasermet joint venture product

Lasermet and the National Physical Laboratory (NPL) have just launched their new joint venture product, Optoblok, their latest safety equipment for use in optical laboratories.

Optoblok, the Optical Table Laser Guarding System is designed specifically to reduce the risk of stray laser beams being inadvertently directed at personnel in the laser optics laboratory. This new modular system fits neatly on to optical tables to provide a 300mm high wall.

The system comprises of certified laser blocking walled panels, posts (to screw into the table) and channel posts which are either straight or right angled to connect the wall panels together. The channel posts and wall panels simply drop into place. They can be secured in place if required, or left in position – ready for the next configuration of optics testing. The system is compatible with both metric and imperial optical tables using metric or imperial screw threads and spacing.

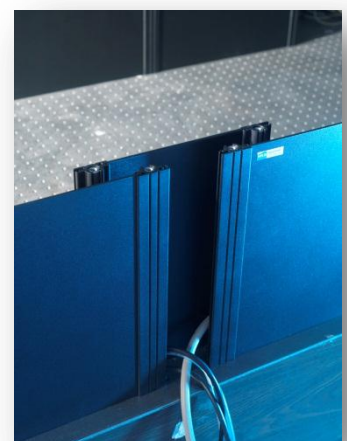


Optoblok's modular design enables areas of the table to be segregated.

Problem solved by the NPL – Lasermet joint venture

The safety problem that needed solving was to come up with a method of preventing laser beams from escaping the laser optics table. Escaping laser beams could easily travel across the lab and potentially cause harm to peoples' eyes or skin and possibly also interact with other operations being carried out on neighbouring optics tables.

Having examined a number of options, the NPL team needed a solution that was cost effective, adaptable, lightweight, quick and easy to change to accommodate the ever increasing number of experiments and testing being carried out by numerous scientific organisations, universities, institutions, companies, individuals and of course the NPL teams themselves.



Easy cable entry system with Optoblok Designer software

One of the key considerations was to have a safe, adaptable, simple laser blocking walled system that enabled cable entries to be made and then changed easily for the next set-up. One of the key points that Optoblok overcomes is to be able to provide cable entry points that can easily handle, for example, large diameter control cables. These are easily provided for within the Optoblok system as there are three advised options to select from as recommended by the Optoblok designer software, which is

Optoblok enables cable entry using a labyrinth

freely available to potential customers to design and specify Optoblok to their requirements. The three labyrinth options are for small, medium and large cable entry ways to be made using the minimum number of components.

A labyrinth system is proposed in the designer programme to provide the optimum (usually the minimum) number of components to enable the cabling to enter the table, thus maximising the curvature radius of the cables while minimising the entry gap to eliminate any line-of-sight route that could be used by a laser beam. This ensures there is no line of sight laser beam exit point up to a height of 300mm.

The Optoblok system provides an optimum level of laser guarding at the edge of the laser table – or indeed - immediately surrounding the laser optics under test. In this latter instance the rest of the optics table can be used for other work having been safely segregated from the first laser working area.



Being modular, Optoblok can be used on all sizes of optical tables

The NPL result

Having worked on the design and design requirements with Lasermet, NPL are pleased with the outcome of this design project and its commercialisation by Lasermet. The Optoblok system is already in service within the laser optics laboratory at NPL.

The National Physical Laboratory (NPL) is one of the UK's leading science and research facilities. It is a world-leading centre of excellence in developing and applying the most accurate standards, science and technology available. The organisation provides companies with access to world-leading support and technical expertise, inspiring the absolute confidence required to realise competitive advantage from new materials, techniques and technologies. NPL develops and maintains the nation's primary measurement standards, supporting an infrastructure of traceable measurement throughout the UK and the world, to ensure accuracy and consistency.

Lasermet and NPL

Paul Tozer, Managing Director of Lasermet, said, "We were very pleased to be approached by NPL to commercialise this product. I believe that our joint design efforts have produced a top quality, highly flexible product which enhances safety in the laboratory set up."

About Lasermet

Lasermet have been closely involved in developing the laser safety standard EN60825-1, and are UKAS accredited for Laser product testing and certification. They also provides training and consultancy, audits and Laser Protection Adviser services.

Lasermet designs and manufactures laser safety equipment and systems such as laser safety interlocks, active and passive laser safety enclosures, laser blocking screens, curtains and blinds, laser beam shutters, laser safety calculation software, laser power meters, and a range of high quality LED warning signs. The company also provides laser safety eyewear and filter windows.

Safety Specification

Optoblok conforms to EN 60825-4:2006

Suitable for all laser wavelengths

Irradiated area	PEL (T3) 10s	PEL (T2) 100s
4 mm ²	30 MW/m ²	17 MW/m ²
2000 mm ²	1.4 MW/m ²	0.8 MW/m ²



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