Laser Blocking Curtains, Screens, and Roller Blinds for protection from stray laser radiation

Lasermet offers laser users a range of laser-blocking free-standing screens, curtains and roller blinds.

These are all designed for use as passive guards to enclose an area where Class 3B or Class 4 lasers are in use, either to protect against accidental exposure to the laser beam, or for long term blocking of laser radiation at lower power densities.

They have all been developed by Lasermet specifically to provide the most cost-effective and high-quality solutions to virtually all laser-blocking requirements.

All Lasermet laser-blocking products are CE marked and certified to EN 60825-4 (Safety of Laser Products Part 4: Laser Guards).

Laser-blocking curtains, roller blinds and standard screens are made from a range of laser-blocking material which has been specially developed by Lasermet.

Ready-made ceiling or wall-mounted curtains, roller blinds, window blocks or free standing screens and enclosures are supplied as well as heavy-duty screens for high power, multi-kilowatt materials processing lasers.

Lasermet provide laser blocking roller blinds, either manually or electrically controlled, up to 11.5 feet wide and 11.5 feet drop

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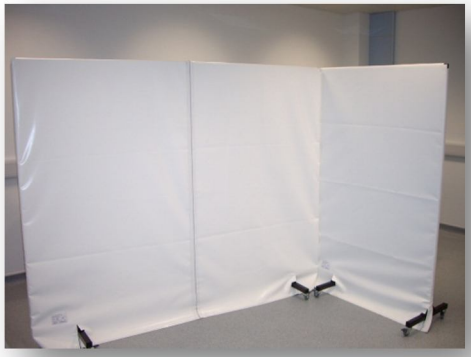


Standard Laser Blocking Screens

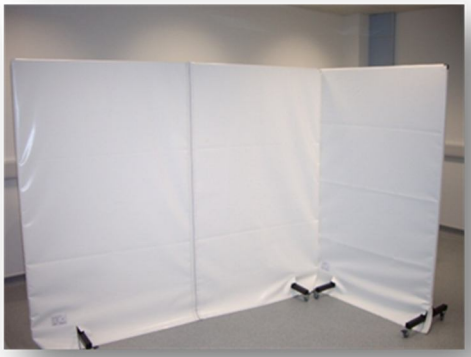
Standard Laser Blocking Screens provide protection

Laser Blocking Screens

Lasermet Laser Blocking Screens are offered in standard and heavy-duty options. Both are made from materials which have been specially developed by Lasermet using their expert understanding of practical laser safety requirements. These screens can be used to block lasers of all wavelengths.

Standard Laser Blocking Screens

These are available in two standard size screens.
LBS-8 is 8 feet wide
LBS-4 is 4 feet wide



Both are 6 feet 4 inches high, which is high enough to protect the eyes of anyone less than 6 feet 8 inches tall standing right up to the screen, while low enough to pass through a standard doorway. The screens can be made higher if desired.

Standard screens	**Irradiated Area**	**PEL(T2) 100s**
White Side	1mm^2	3MW/m^2
	500mm^2	0.7MW/m^2
Black Side	1mm^2	1MW/m^2
	500mm^2	0.5MW/m^2

Standard Laser-Blocking Screens consist of a black powder coated steel framework, mounted on lockable castors. The framework supports a laser-blocking screen made from Lasermet's specially-developed laser-blocking material which seals to the floor.

The material is white on one side and black on the other side and will operate as a blackout screen as well as a laser-blocking screen.

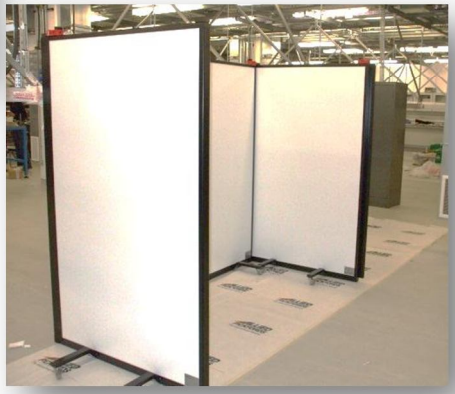
Both sides will block laser radiation but if the white side is used as the laser-blocking side a higher specification of blocking will be achieved, making it suitable for higher power lasers.

Standard screens can be wheeled easily into position and then kept there by locking the castors. Multiple screens can be connected together using connecting pieces (LBS-C) in a straight line or at an angle up to 90 degrees. If four or more screens are used a rectangular enclosure can be constructed.

Heavy-Duty Laser Blocking Screens

These screens are designed to block all lasers, including high power, multi-kilowatt materials processing lasers.

There are two standard size screens, both of which are 6.5 ft high.
LBS-HD-8 is 7.7 ft wide
LBS-HD-4 is 3.9 ft wide



The screens consist of a 2 inch thick special lightweight laser-blocking material, with a white finish on both sides. This is mounted on a powder coated steel framework, with heavy-duty lockable castors. The screens can be wheeled into position and then kept there by locking the castors. They can be used to form a complete enclosure or part thereof.

Heavy-duty screens can be used to block lasers of all wavelengths. They offer protection to the following specifications:

Irradiated Area	**PEL (T3) 10s**	**PEL (T2) 100s**
4 mm^2	61 MW/m^2	34 MW/m^2
2000 mm^2	2.7 MW/m^2	1.5 MW/m^2

Where a production line uses a Class 4 laser for cutting and welding, it is impractical for the whole facility to observe Class 4 safety regulations. However, laser blocking screens can be formed into an enclosure to protect other workers, or alternatively a complete enclosure can be built to turn the laser facility into a Class 1 system.

Flat Foot Laser-Blocking Screens

These lightweight, Flatfoot Laser Blocking Screens are designed as a semi-permanent passive guard to enclose an area where Class 3B or Class 4 Lasers are in use providing protection as follows:-

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

Two people can install and maneuver the modular screens into place to provide a rapid-build laser enclosure and attach to extend or change the enclosure, providing a flexible approach to installations, facilitating potential relocation or expansion

Description
Specially designed and manufactured by Lasermet, each screen measures 5.1 feet wide x 6.6 feet tall and comprises of a 0.8 inch sandwich of special lightweight laser blocking material, with a white powder coat finish on both sides. The screen is mounted within a 1 inch powder coated steel frame which is in turn mounted on two low profile (0.2 inches high) feet to eliminate any trip hazard. Screens can be connected together either in straight lines or angled at 90º using connecting pieces.

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Laser-Blocking Curtains

Laser-Blocking Curtains are made from Lasermet's specially-developed laser-blocking material and are supplied ready-made as ceiling or wall-mounted curtains. The material is white on one side and black on the other side and will operate as a blackout screen as well as a laser-blocking screen.

Both sides will block laser radiation but if the white side is used as the laser-blocking side, a higher specification of blocking will be achieved, making it suitable for higher power lasers.

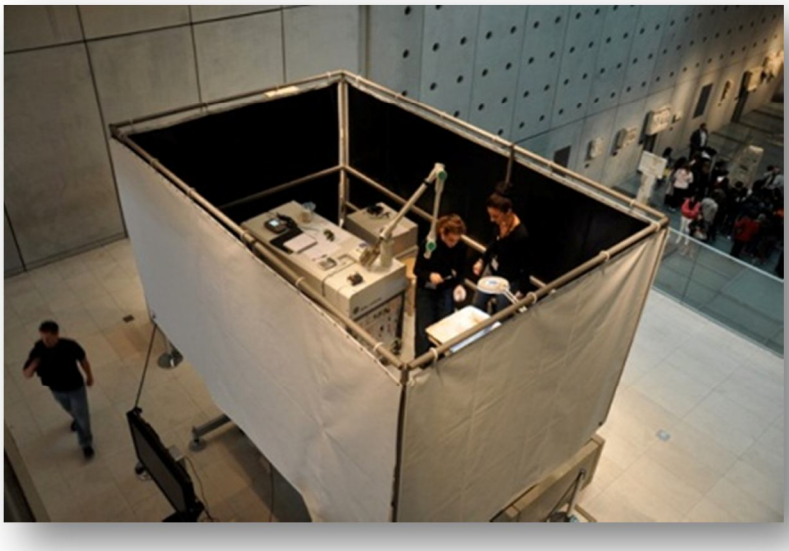
Protection times given by the material at various power densities are shown in the specifications below. The top of the curtain has brass eyelets every 6 inches and the curtain is supplied with a stainless steel hook for connecting to a curtain track.

The weight of the material is 0.3 lbs/ft.^{2}

Heavy duty curtain tracks can be supplied for smooth operation, and for applications where the curtain needs to be suspended below the fixing points, high-quality cubicle curtain track is available.

Curtains	**Irradiated Area**	**PEL(T2) 100s**
White Side	1mm^2	3MW/m^2
	500mm^2	0.7MW/m^2
Black Side	1mm^2	1MW/m^2
	500mm^2	0.5MW/m^2

Laser Blocking Curtains at Imperial College (London, UK)



Laser Blocking Curtains at the Acropolis Museum (Athens, Greece)

Certification patch on laser blocking curtain material

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Laser Safety Roller Blinds

Most Class 4 and many Class 3B lasers present an eye hazard over very long distances and it is therefore imperative to have comprehensive laser safety protection in place wherever they are present. Laser radiation must be prevented from escaping through the windows of laboratories and production facilities. Ordinary roller blind material is rarely capable of stopping a laser beam and specially-designed laser blocking products are required.

Lasermet's laser-blocking roller blinds are designed to protect against accidental exposure to the laser beam or for long term blocking of laser radiation at lower power densities where Class 3B or Class 4 lasers are in use. The material has been developed by Lasermet specifically to provide the most cost-effective and high-quality solutions to virtually all laser-blocking requirements.

All Lasermet laser-blocking products are CE marked and certified to EN 60825-4 (Safety of Laser Products Part 4: Laser Guards). Laser-blocking curtains, roller blinds and standard screens are made from a laser-blocking material which has been specially developed for laser safety by Lasermet.

The material is fireproof. When irradiated with greater than 0.5 MW/m2 it will emit a non-hazardous smoke and may glow, thus indicating that a stray beam is present. Protection times given by the material at various power densities are shown in the specifications below.

Curtains	**Irradiated Area**	**PEL(T2) 100s**
White Side	1mm^2	3MW/m^2
	500mm^2	0.7MW/m^2
Black Side	1mm^2	1MW/m^2
	500mm^2	0.5MW/m^2

Close up of chain operation

Close up of side channel of roller blind.

Note, these do not contain brushes.

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