

Laser Safety Eyewear

A guide for Safety Officers and Users



1) What controls what we should do?

The European Directive on Personal Protective Equipment (Directive 89/686/EEC and Amendments)

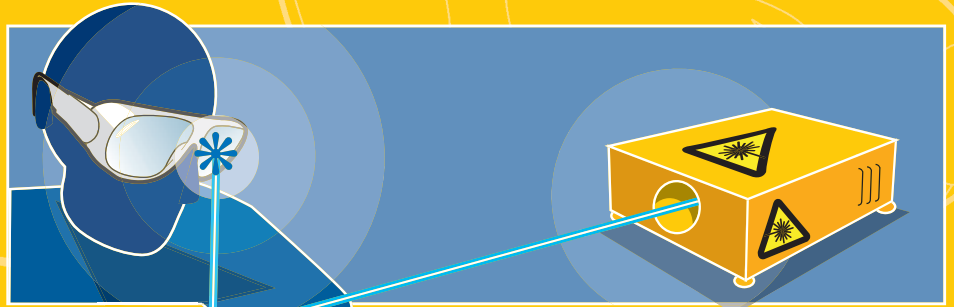
EN 207
EN 208

2) And this directs us to?

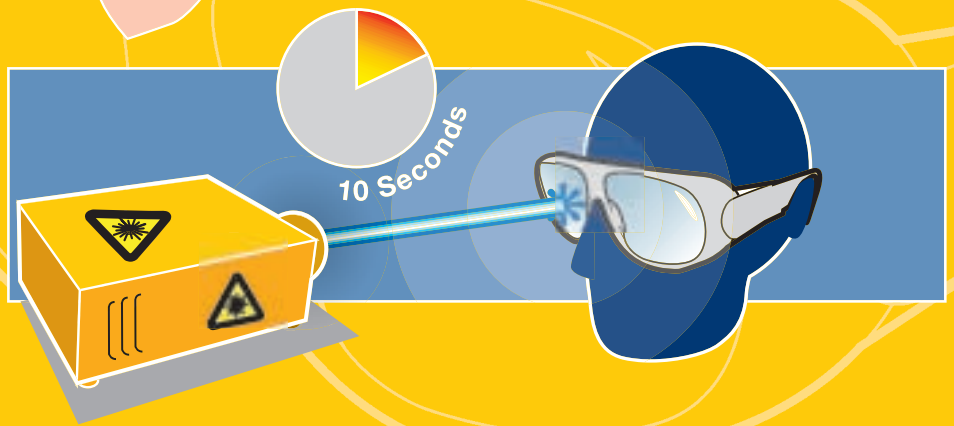
EN 207 and EN 208

3) What does this tell us?

- a) During an appropriate risk assessment, we must consider the worst-case laser emission to which people are exposed, for all reasonably foreseeable occurrences.



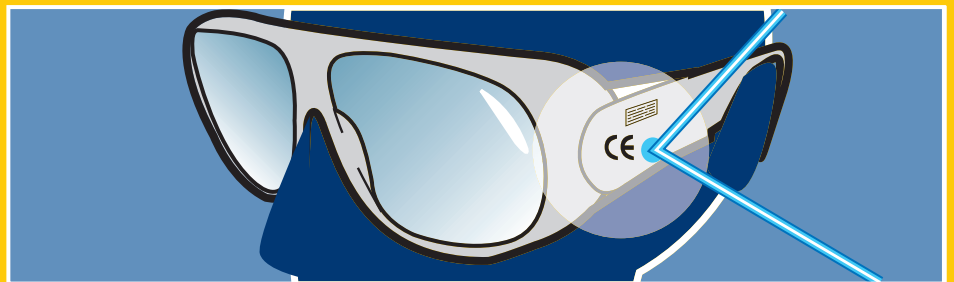
- b) For each laser emission, the selected eyewear must be able to safely withstand an exposure for 10 seconds (cw) or 100 pulses (pulsed lasers).



- c) The selected eyewear is required to be tested against the appropriate Standard and display the CE mark and required L-rating.



- d) The standards apply to the frame as well as the eyewear filters so the L-rating must apply to the complete spectacle or goggle.



BFI OPTILAS LTD gratefully acknowledges the help of Mike Barrett and Mike Green of Pro Laser Consultants in ensuring that the information contained in this publication is fair and accurate.

Pro Laser is a consultancy company expert in the field of laser safety and can be contacted at www.prolaser.co.uk



4) Recommended Practice

- a) Laser safety eyewear should be selected for greatest comfort and visible light transmission (VLT) where possible.
- b) For visible lasers (400nm to 700nm) eyewear meeting EN208 should be considered. This could greatly facilitate equipment set-up. Laservision offer their range of "Alignment Filters" for this purpose.

5) Common Objections

These goggles must be ok. They have a CE mark!

So have my sunglasses! CE marking is effectively permission to trade and tells you nothing unless the standards against which the product is tested are quoted. The important parameter is the "L" rating.

According to EN 60825 these goggles have the required OD!

OD tells you nothing about resistance to laser damage. The "L" rating according to EN207/208 is a measure of both optical density and damage resistance. Consideration of damage is important to ensure protection from the anticipated maximum exposure derived from the risk assessment.

My employees don't wear them because they are too dark or uncomfortable!

There are choices of frame style and eyewear filter available. The different options vary in price; we offer the complete range of products to suit your requirement.

I perform experiments with visible lasers but don't use eyewear as I can't see the beam during set-up!

Legislation still requires you to have adequate protection against accidental inadvertent exposure.

My laser system is Class 1!

O.k., but if your system has a higher class of laser embedded within, you may require eye protection when there is a need to reconfigure or service the system.

Laser Safety Eyewear is too expensive!

This argument will not stand up in court or be considered as "due diligence" in any litigation subsequent to an accident.

We've never had a laser accident!

I've never had a car accident but I'm not going to wait till I have one before wearing my seatbelt.

Laser Safety is complicated. I've done the best I can. Company Insurance will cover us in the event of an accident.

Unfortunately not. In the event of an accident due to error of judgement or negligence, the responsible person (i.e. Laser Safety Officer or MD) is held personally liable.

Expert assistance and the most comprehensive range of Laser Safety Eyewear can be found at BFi OPTILAS. Here we will help you select the most appropriate product for your application taking into account safety, comfort and VLT. Please contact: -

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