

Selecting Laser Safety Eyewear – Information for users.

Why wear laser safety eyewear?

- Hazards may arise due to accidental reflection of laser radiation e.g from optical components or other reflective parts.
- A reflected beam can be sufficient to cause serious eye damage.

→ You can prevent eye damage by wearing the correct eye protection and ensuring that all other persons in the area do so too.



LGF Full View



Laser alignment

What kind of eyewear do I need?

- Do you have a visible laser in the range 400 nm - 700 nm?
- Do you have to be able to see the laser beam for your application?

If the answer to BOTH of these questions is YES, then you need alignment eyewear certified to EN 208. In ALL other cases you need laser safety eyewear certified to EN 207.

What should I look for when selecting laser safety eyewear?

- Laser safety eyewear must be marked with the protection level with wavelength range and the CE sign.
- To conform to the European Directive 89/686/EEC governing personal protective equipment, a notified body must test and certify the eyewear in accordance to EN 207 or EN 208 and issue an EC-type examination certificate, which indicates the protection levels that the eyewear meets.
- The protection offered should be geared to the wavelength of your laser and be suitable for a worst-case scenario i.e. the maximum power density or energy density which the user could be exposed to.
- Generally, the smallest accessible beam diameter is used for this calculation. However, in the case of diverging beams, then the beam diameter 10cm from the divergence point may be used to calculate the power density or energy density.
- Note that EN 208 assumes you have a normal blink reflex (0,25 sec).
- If several different products offer sufficient protection, then compare:

1. visible light transmission → the higher the better.
2. filter colour → do you need to see specific colours (e.g. warning lights or signals?)
3. must the product fit over a corrective spectacle?
4. weight, comfort and secure fit
→ the eyewear must be worn in order to protect!



LGM Millennia

What is the difference between Optical Density (OD) and EN 207 L-ratings?

- EN 207 takes the length of time for which protection is guaranteed into account, namely 10 seconds for cw lasers or 100 pulses. This time factor in EN 207 aims to give you sufficient time to react. This is not reflected in the OD.
- EN 207 demands that both the frame and the lens meet the L-rating. The OD of the lens says nothing about the protective capability of the frame.

