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SELECTING LASER SAFETY EYEWEAR

Why wear laser safety eyewear?

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

Prevent eye damage by wearing the correct eye protection and ensuring that all other persons in the area do so too.
Replace scratched or cracked eyewear.

LGF Full View

What kinds of eyewear do I need?

Laser alignment

- Do you have a visible laser in the range 440nm – 700nm?
- 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 EN208.

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 EN 207 or EN 208 protection level with wavelength range, the CE sign and be tested and certified by an appropriate notified body.
- The protection provided should be appropriate to the wavelength/s of your laser and be suitable for a worst case scenario i.e. the maximum power density or energy density to which the user could be exposed.
- 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!)

What's 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 cow lasers or 100 pulses.
- The 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 rating of the lens says nothing about the protective capability of the frame.

What does the EN 207 L-rating mean?

SpectraView patient eyewear

- The L-rating (L1 to L10) signifies the power density or energy density up to which the eyewear should be used. These values are defined in EN 207.
- The L-rating is only meaningful in conjunction with the relevant wavelength or wavelength range and the laser mode: D, I, R or M.
- EN 207 contains details on how to calculate the required protection level and general guidance.

Care

- Keep your eyewear in the pouch it came in at normal room temperature when not in use.
- Check before use for any mechanical damage or any colour changes to the filter and if damage or discolouration is observed then replace the eyewear immediately.
- Laser safety eyewear is only intended to give protection against accidental radiation and both the limiting values and the stability test are based on a maximum period of 10 seconds or 100 pulses.
- NEVER look directly into the beam even when wearing eyewear !
- Always check before use that the protection provided is suitable for the laser you will operate.

Request for quotation

We would be glad to assist you in selecting the best eyewear for your application.
Please send us the specifications below (where appropriate) for each of your laser wavelengths and please ensure you include your contact details.

Select eyewear protection requirement type: ☐ EN 208 alignment protection or ☐ EN 207 protection

Wavelength/s, nm					
Maximum power (CW) or max. average power (pulsed) , W					
Smallest accessible beam diameter/dimensions, mm					
Beam divergence (half angle), mrad					
Pulse energy range (from-to), J					
Pulse length range (from-to), s					
Pulse repetition rate (from-to), Hz					
Additional notes or comments:					

Company:		Contact name:	
Address:		Tel:	
		Email	

Note: This information is intended as guidance only and does not claim to be complete.
Ask your laser safety officer for assistance. If you have any questions, please do not hestitate to contact us.