

Working Safely with Lasers

Handout

The word laser stands for “Light Amplification by Stimulated Emission of Radiation.”

- Lasers are cavities that are filled with crystal, liquid, gas, or dye and have mirrors at each end.
- They produce and amplify light into an intense beam focused on a small area.
- Low-level lasers are used in grocery and other types of scanners.
- Lasers can be used in various types of surgery.
- Very powerful lasers can be used for industrial cutting or welding.

A laser’s greatest hazard is eye damage.

- Lasers produce such bright light that less than a second’s direct exposure can cause permanent blindness.
- Even lesser exposures can burn employees’ eyes or damage their vision.
- Select eye protection according to the type of laser being used.
- Even if you are wearing laser protective eyewear, never look directly into any laser beam.

Failure to use protective eyewear is the most common cause of accidents with lasers.

Lasers have other hazards as well.

- Some lasers can burn the skin and even cause cancer.
- Welding or cutting with a laser can create hazardous fumes and vapors.
- High-pressure lamps or welding equipment and laser targets can explode or disintegrate.
- Some laser beams can cause fires.
- Electrical laser equipment also poses fire and shock risks.

Engineering and administrative controls can help to protect workers.

- Use a protective housing to enclose the laser except for the beam opening.
- Use automatic interlocks, alarms, and instant disconnect switches in case of emergency.
- Allow only trained, authorized operators to use the powerful Class III B and Class IV lasers.
- Conduct high-powered laser operations in limited-access controlled areas where warning signs are posted.

