

Machine and Equipment Safety

Safety Recommendations for Laboratories and Shops

Laboratory and shop machines, such as mills, lathes, and grinders, allow precise and complex work that would be difficult to perform by hand. However, these machines can cause serious injuries if safety procedures are not followed. Emphasizing proper guarding, pre-use inspections, training, and personal protective equipment ensures that machine operations remain safe and controlled for all users.

Machine Safety Tips

- Operate machines only for their intended purpose.
- Ensure all guards, safety devices, and emergency stop mechanisms are installed, functional, and accessible.
- Never bypass guards, interlocks, or other safety features.
- Inspect machines before use, including belts, pulleys, gears, chains, cutting tools, and electrical cords.
- Equipment must be securely anchored
- Remove defective or unsafe machines from service immediately.
- Use properly grounded machines and keep liquids away from electrical components.
- Follow lockout/tagout procedures during maintenance or repair.
- Secure workpieces using clamps, vices, or fixtures.
- Keep hands, hair, and clothing clear of moving parts; avoid loose clothing or jewelry.

Compressed Air

- Use chip guarding.
- Never direct air toward personnel.
- Maximum 30 psi for cleaning

Personal Protective Equipment (PPE)

Note: PPE should not replace engineering or administrative controls.

- Safety glasses or goggles to protect eyes from debris or foreign particles.
- Gloves appropriate for the task (avoid near rotating equipment).
- Closed toe or safety shoes to protect feet.
- Hearing protection when noise levels are high.
- Respiratory protection when exposed to dust or fumes.

Housekeeping Tips

- Keep floors clean and dry to prevent slips and falls.
- Maintain an organized workspace with enough room to work safely.

Additional Resources:

[Makerspace and Shop Safety](#)

[Electrical Safety Guide](#) – Division of Research & Safety

[Machine Guarding Guidelines](#) – Facilities & Services

[Lockout/Tagout \(LOTO\) Program](#) – Facilities & Services