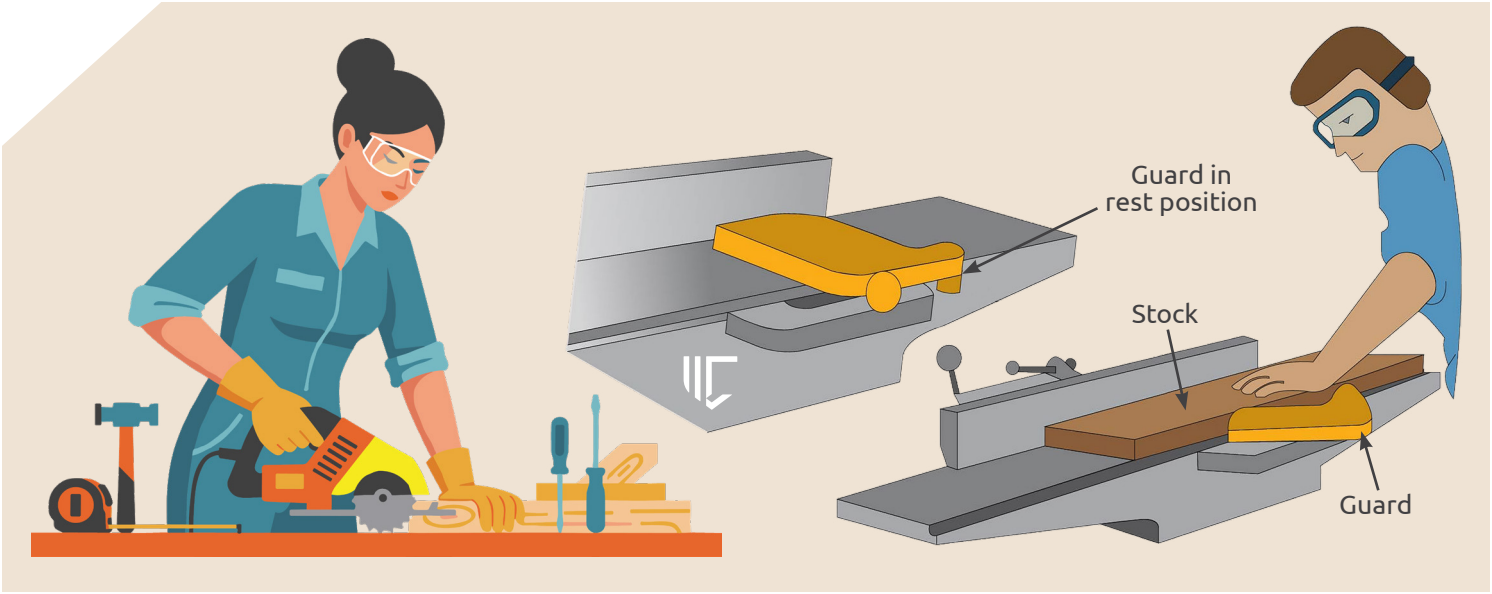


COMMON FINDS: MACHINE GUARDING

BACKGROUND:

Municipalities and school districts routinely rely on a wide range of tools and equipment to maintain operations and ensure safe environments. These tools can range from small handheld devices, such as angle grinders, to more hazardous equipment, such as chainsaws.

A commonly overlooked risk is the equipment itself—for both employees and others in the surrounding area. Whether conducting roadwork, construction activities, equipment repairs, or basic maintenance, public entities must evaluate their environments and equipment under **OSHA 29 CFR 1910.212**. This standard sets action levels and outlines employer responsibilities for machine guarding and for protecting employees from the risks of improper guard or barrier placement on hand tools and machines. CIRMA Risk Management frequently observes that public entities are uncertain whether a machine needs a guard and, if so, what type.

RECOMMENDATIONS:

Public entities and their department leaders should assess the equipment their employees use to ensure employees are protected from hazards created at the point of operation, in accordance with **OSHA standard 29 CFR 1910.212**. Examples of hazards can include: ingoing nip points, rotating parts, flying chips, and sparks. The types of guards used can vary depending on the tool, such as barrier guards, two-hand tripping devices, electronic safety devices, etc.

RECOMMENDATIONS (continued)

1910.212(a)(2)

General requirements for machine guards. Guards shall be affixed to the machine where possible and secured elsewhere if attachment to the machine is not possible for any reason. The guard shall be such that it does not pose an accident hazard in itself.

1910.212(a)(3)(ii)

The point of operation of machines whose operation exposes an employee to injury shall be guarded. The guarding device shall conform to any appropriate standards therefor or, in the absence of applicable specific standards, shall be designed and constructed to prevent the operator from having any part of his body in the danger zone during the operating cycle.

1910.212(a)(3)(iii)

Special hand tools for placing and removing material shall permit easy handling of material without the operator placing a hand in the danger zone. Such tools shall not be used in lieu of other guarding required by this section, but may only supplement the protection provided.

TRAINING

Provide regular training to employees exposed to hazards, covering the following topics:

- The appropriate use of the tool or machine being used
- The purpose and importance of using a guard or protective barrier when using the machine or tool
- The point of contact of the guard or protective barrier of the machine fails

- continued

RECOMMENDATIONS (continued)

- The repair or replacement process of the machine guard or protective equipment if one is needed

OTHER EQUIPMENT TO CONSIDER

1910.212(a)(4)

Barrels, containers, and drums: Revolving drums, barrels, and containers shall be guarded by an enclosure interlocked with the drive mechanism, so that the barrel, drum, or container cannot revolve unless the guard enclosure is in place.

1910.212(a)(5)

Exposure of blades: When the periphery of a fan's blades is less than seven (7) feet above the floor or working level, the blades shall be guarded. The guard shall have openings no larger than one-half (½) inch.

1910.212(b)

Anchoring fixed machinery: Securely anchor machines designed for a fixed location to prevent movement.



TOPICS TO DISCUSS WITH THE TEAM

Supervisors: Use these open-ended questions to drive a quick safety discussion during your next team meeting or tailgate talk.

1. Identifying Potential Danger Zones

- **Question to ask:** "What specific tools or equipment do we use every day that have rotating parts, sparks, flying debris, or nip points?"
- **Goal:** Get the team to identify specific equipment (like angle grinders, saws, or drills) and recognize where the "point of operation" hazard is located.

2. Spotting Missing or Broken Guards

- **Question to ask:** "Have you noticed any equipment lately where a guard feels loose, is damaged, or has been completely removed? What is our exact process for getting it fixed?"
- **Goal:** Remind employees that they should never operate a machine with a compromised guard. Reiterate your department's exact process for tagging equipment out of service and for reporting it for repair.

3. Checking Our Everyday Workspaces

- **Question to ask:** "Are all of our drill presses, grinders, or other fixed machinery securely bolted down?"
- **Goal:** Conduct a visual audit of the workspace. Remind them that fixed machinery must be securely anchored and that any fan under seven feet high must have a guard with openings no larger than half an inch.

4. Keeping Bystanders Safe

- **Question to ask:** "When we are out doing roadwork, repairs, or maintenance, how do we make sure bystanders or other coworkers don't accidentally step into the danger zone around our equipment?"
- **Goal:** Emphasize that machine guarding includes protecting the operator and anyone in the surrounding area.

visit **CIRMA.org** to learn more

CIRMA

This material is intended for informational purposes only and is intended exclusively for CIRMA Members. This material does not amend, extend, or otherwise affect the provisions or coverages of any insurance policy issued by Connecticut Interlocal Risk Management Agency (CIRMA), nor is it a representation that coverage does or does not exist.

©2026 Connecticut Interlocal Risk Management Agency. All rights reserved.