WEEKLY SAFETY MEETING
All Euramax Subsidiaries

MACHINE SAFETY

Safety Meeting Contents

- Meeting Notice
- Leaders Guide
- Employee Handout
- Employee Quiz
- Meeting Sign-In Sheet
- Employee Puzzle

PRIOR TO THE WEEKLY MEETING:

- Post the meeting notice by the timeclock
- Read through the Leaders Guide and Employee Handout to familiarize yourself with the topic for the week
- Make copies of the employee handout (one for each employee)
- Make copies of the employee quiz (one for each employee)
- Make copies of the weekly puzzle (one for each employee)

AT THE SAFETY MEETING:

- Pass around the meeting sign-in sheet – ensure all employees present at the meeting print and sign their names
- Pass out the employee hand-out
- Pass out the employee quiz
- Pass out the weekly puzzle
- Keep the meeting simple
- Encourage discussion and questions
WEEKLY SAFETY MEETING NOTICE

THIS WEEK, OUR SAFETY MEETING WILL COVER
MACHINE SAFETY

TIME: __________________________________________

DATE: __________________________________________

PLACE: _________________________________________
MACHINE SAFETY

Leaders Guide

EURAMAX PROCEDURE REFERENCE:
C-2.0: Machine Guarding Safety Program

MEETING OBJECTIVE:
Machines play a huge role in our productivity. But those same machines can become extremely hazardous when used incorrectly. The purpose of this meeting is to help you review with your employees the basics of machine and equipment safety. During the meeting you will have the chance to reinforce our rules and heighten employees’ awareness of the hazards associated with incorrect use of machines and equipment.

Moving machine parts continue to take their toll on unsuspecting workers, costing employees their limbs – and sometimes their lives. Meanwhile, OSHA’s machine guarding standard is one of the most frequently violated. The purpose of this meeting is to alert your employees to the hazard; to familiarize them with the various types of machine guards they may encounter and to emphasize the importance of these guards in preventing accidents.

MEETING PREPARATION:
- Read the Euramax procedure, understand the contents, and ensure compliance.
- Be prepared to talk about maintenance and repair, as well as your maintenance schedule and assignments.
- List and/or photograph the different machine guards at your facility. Bring your list and/or photos to the meeting.
- Be prepared to discuss the different types of guards used on machines at your facility and how to make emergency stops on the machines and equipment.
- Make a list of the safety devices that are used with machines and equipment at your facility (for example, interlock switches, presence-sensing devices, two-handed controls, gates).
- Be prepared to discuss lockout/tagout rules for machines and equipment.
- Review the employee handout to see if there are any other materials you wish to bring to the meeting.
MACHINE SAFETY

Leaders Guide

- Use a flip chart during the discussion to write key points and employee responses. This technique visually reinforces your instruction.

MATERIALS CHECKLIST:
- List and/or photo’s of machine guards
- List of safety devices
- Flip chart and marketing pens

MEETING
INTRODUCTION
Machines help us get our work done. They make our lives a lot easier. But all machines are potentially dangerous. Today, we’re going to talk about the hazards, review the rules, and make sure everybody is taking the necessary precautions to protect themselves when working on or around machines and equipment. Whether you are being trained on a new machine or have used the same machine for years, one minute of inattention or one overlooked safety procedure could lead to serious injury or even death.

Numerous accidents associated with machines and equipment occur every year. Accidents happen in the home, as well as in the workplace. The injuries involved are often severe. People lose fingers, hands, and eyes to machines. However, most machine accidents can be prevented. If people pay attention to what they are doing and take simple precautions to protect themselves, injuries can be avoided.

Machine guarding was created for a good reason—because many people were caught in exposed moving machine parts and badly injured or mauled. So if the importance of machine guards is so obvious, why is it necessary to hold a meeting? Because some people think it’s okay to bypass guards in order to speed things up, or they forget to put the guards back on after working on a machine. All of you who work on or around machines must take machine guarding seriously.

- OSHA’s general requirements for machines and machine guarding was the sixth most cited rule violation in one recent year, with more than 3,000 citations issued.

- Penalties for these violations of machine and machine guarding rules totaled more than $7.5 million!

- More than 5,000 amputations occur each year in manufacturing industries.
MACHINE SAFETY

Leaders Guide

Question: Before you begin working on a machine, it’s important to make a preliminary assessment of the machine. What’s the purpose of this assessment?

Answer: To determine whether you’re qualified to operate that piece of equipment. To determine whether the machine is safe to operate.

Question: What qualifies you to operate a particular piece of equipment?

Answer: You’ve been trained to operate it. You are authorized to operate it.

Discuss current authorizations for the machines and equipment used at your facility.

Question: How do you determine if a machine is safe to operate? What’s involved in the pre-operation inspection process?

Answer: Check to make sure the machine is clean. Clear any materials that could get in the way of moving parts. Make certain that guards are in place and working properly.

Discuss with your employees the PPE that’s required for the machines and equipment in our department.

Question: In addition to wearing required PPE, what other steps should you take to ensure that you’re dressed safely when working around machinery?

Answer: Keep loose shirttails tucked in. Wear short sleeves or keep sleeves rolled up to above the elbow. Remove bandanas, scarves, ties, and jewelry. Tie up long hair.

Question: What other precautions should you take when working on or near machines?

Answer: Avoid operating machines if you’re ill, extremely fatigued, or under medication that causes drowsiness. Don’t allow unauthorized personnel to operate your machine. Report machine and equipment problems and unusual noises immediately.
MACHINE SAFETY

Leaders Guide

Always concentrate on the task at hand.
Stay out of restricted machine areas unless authorized.
Know what to do in an emergency involving machines and equipment.
Observe machine and equipment safety rules at home just as you do at work.

Question: Why must a machine be guarded?
Answer: Any part of a machine that moves presents a hazard. Guards eliminate or control this danger.

Question: What do you need protection from, specifically?
Answer: Points of operation, where cutting, boring, and forming of stock takes place
Power transmission apparatus
In-running nip points
Rotating, reciprocating, and transverse moving parts
Small objects that may fall into the machine and emerge as dangerous projectiles
Flying chips and sparks

Question: What are the two ways to cheat on guarding?
Answer: The first way is failure to replace guards that were removed when a machine was cleaned or repaired. The second way is to try to get around the guard, either by jury-rigging a way to trick it or by reaching over or around it.

Discuss the types of machine guards used at your facility. Refer to your list and/or photographs and the information below, as it pertains to the guards at your facility.

- **Enclosure guards** are preferable to all other types because they prevent access to dangerous moving parts by enclosing them completely.
  - They are used on power presses, sheet leveling or flattening machines, milling machines, gear trains, drilling machines, etc.
  - Fixed guards may be adjusted to accommodate different sets of tools or various kinds of work. However, once they have been adjusted, the guards should remain fixed.
MACHINE SAFETY

Leaders Guide

- Interlocking guards are the first alternative when fixed guards or enclosure guards are not practical. Automatic guards must prevent the operator from coming in contact with the dangerous part of the machine while it is in motion, or they must be able to stop the machine in case of danger. The types of interlocking guards include…

  - A barrier that when removed shuts off or disengages power, preventing the machine from starting when the guard is not in place.

  - Electrical/mechanical devices that shut off or disengages power, preventing they machine from starting when the guard is not in place.

  - Restraints, pullback devices, and two-hand buttons on power presses.

- Other guards may be used to complement a different type of guard or be used as a substitute. Remote control, placement, feeding, ejecting may be used to protect the operator.

  - Examples: two-handed operating devices; chutes, hoppers, conveyors, etc., to feed stock automatically’ special jigs or feeding devices; mechanical or air-operated ejecting devices.

  - Presence-sensing devices are used where access to machine components is needed for adjustment and maintenance or when large areas of a machine need to be guarded. The electronic devices move when sensing the presence of an employee at the point of operation.

**Question:** Why is it important for a machine to be zero mechanical state before it is maintained or repaired?

**Answer:** Zero mechanical state is when all sources of energy have been neutralized so that no unexpected movement occurs. Air under pressure, hydraulic pressure in a hose, and unsecured machine parts are all examples of potentially dangerous energy that is often stored in a shutdown machine.

**Question:** What can you do about this stored energy?
MACHINE SAFETY

Leaders Guide

Answer: Before removing a machine guard…
- Follow required lockout/tagout procedures.
- Release stored energy that could cause sudden movement.
- Drain the pressure on those parts and lock off.
- Secure loose and movable machine parts before you begin.
- Be sure material that is supported or controlled by the machine cannot move or cause the machine to move.
- Lock off or reduce accumulators and air surge tanks to atmospheric pressure.

Question: What safe practices should you follow regarding machine guarding?

Answer: No guard, barrier, or enclosure should be adjusted or removed for any reason unless that person has specific permission and has been trained to do the job.

Before safeguards or other guarding devices are removed so that repairs or adjustments can be made or equipment can be serviced, the power for the equipment must be turned off and the main switch locked out and tagged. Machine must be in zero mechanical state.

Check guards daily to make sure they are securely in place. Check again before each shift and after adjustments, repairs, and shutdowns. No machine should be started unless the guards are in place and in good condition.

Defective or missing guards should be reported immediately.

Workers should not wear loose clothing or jewelry when working on or around machinery.

Discuss your facilities machine and equipment maintenance and repair rules with employees. Be sure to cover the following information:

Who’s authorized to repair, maintain, and service machines?

How to report machine and equipment problems.

Review lockout/tagout procedures to be used when equipment is being maintained or repaired.
MACHINE SAFETY

Leaders Guide

SUMMARY:
The machines and equipment we have at work can be our greatest allies in getting all the things done we need to do. But they can also be hazardous, if you fail to follow the simple safety rules we’ve discussed today. Please remember the information we’ve covered and use it every day to make our facility a safer place to work.

Machine guarding is a vital part of our overall safety program. Whether you work on – or just around – machines, you need to be aware of the purpose served by machine guards and the rules concerning their proper use and maintenance. Today, you learned all those things and more. I hope you will put this knowledge to good use and help prevent machine accidents.

EMPLOYEE HANDOUT

A. Employee Handout
B. Fire Safety Quiz
C. Fire Safety Crossword

QUIZ ANSWERS:

1. Answers will vary, but may include: mechanical power presses, power press brakes, powered and non-powered conveyors, printing presses, roll-forming and roll-bending machines, food slicers, meat grinders, meat-cutting band saws, drill presses and milling machines, as well as shears, grinders and slitters.

2. Such activities include: setting up, threading, preparing, adjusting, cleaning, lubricating and maintaining machines, as well as clearing jams.

3. The point of operation is where work is performed on the material, such as cutting, shaping, boring or forming of stock.

4. The power transmission apparatus refer to all components of the mechanical system that transmit energy to the part of the machine performing the work. These components include fly-wheels, pulleys, belts, connecting rods, couplings, cams, spindles, chains, cranks and gears.

5. An in-running nip point or pinch point is created when two machine parts move together and at least one moves in a rotary or circular motion.

6. Circular movement of couplings, cans, clutches, fly-wheels and spindles, as well as shaft ends and rotating collars, may grip clothing or otherwise force a body part into a dangerous location.

7. Guards provide physical barriers that prevent access to hazardous areas.

8. Guards should be secure and strong, and you should not be able to bypass, remove or tamper with them. They should also not obstruct your view or prevent you from working.

9. Do not take matters into your own hands and remove or disable the guard.
Machine Safety

- FORKLIFT
- SENSOR
- SEGMENT
- HYDRAULIC
- SOOPAC
- SOURSES
- PPE
- LO
- M
- OPERATOR
- V
- M
- IM
- TAGOUT
Machines in motion mean danger

Would you recognize a machine hazard before it caused an injury?

Workplace machinery is often fast and huge and powerful. It’s strong enough to bend, cut, crush and otherwise mutilate wood, metal, glass, plastic and other materials.

The human body is no match for machinery capable of performing work like this. So, as a worker, you have to recognize and avoid hazardous machine actions.

All mechanical motion is potentially hazardous. Machine motion can create a situation known as an in-running nip point or a pinchpoint. This situation occurs when two parts move together and at least one moves in a rotary or circular motion. Gears, rollers, belt drives and pulleys generate these pinchpoints.

The following are also common types of hazardous mechanical motion:

Rotating is circular movement of couplings, cams, clutches, flywheels and spindles, as well as shaft ends and rotating collars. These parts may grip clothing or otherwise force a body part into a dangerous location.

Reciprocating is back-and-forth or up-and-down action that may strike or entrap a worker between a moving part and a fixed object.

Transversing is movement in a straight, continuous line that may strike or catch a worker in a pinch or shear point created between the moving part and a fixed object.

Cutting is action generated during sawing, boring, drilling, milling, slicing and slitting.

Punching is motion resulting when a machine moves a slide (ram) to stamp or blank metal or other material.

Shearing is movement of a powered slide or knife during metal trimming or shearing.

Bending is action that occurs when power is applied to a slide to draw or form metal or other materials.

Safe work practices are the key to preventing injuries from machines in motion. Make sure you are alert at all times to the hazards, and perform your job as instructed to avoid contact.

- Do not wear loose-fitting clothing or jewelry which can become entangled in moving equipment.
- Follow correct lockout procedures to prevent unintentional startup of equipment during adjustments and repairs.
- Use machine guards correctly. These guards prevent you from being injured at the point of operation, where the work is performed by the machine, such as cutting, shaping, boring or forming of stock. Guards also keep you from contact with the power transmission devices. These are the machine parts that transmit energy to the part of the machine doing the work. A power transmission device most of us are familiar with is the drive shaft on a motor vehicle.

Unintended contact with moving machinery continues to cause terrible injuries in the workplace. Never forget a machine can destroy you.
## WEEKLY SAFETY MEETING
All Euramax Subsidiaries

### MACHINE SAFETY Quiz

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<tr>
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<th>Question</th>
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<td>1</td>
<td>Amputations occur most often when workers operate unguarded or inadequately safeguarded machinery. Name some of the machines commonly involved in such incidents.</td>
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<td>Besides normal operation, what kinds of activities involving stationary machines also expose workers to potential amputation hazards?</td>
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<td>3</td>
<td>What is the point of operation?</td>
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<td>4</td>
<td>What is the power transmission apparatus?</td>
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<td>5</td>
<td>What is an in-running nip point?</td>
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<td>6</td>
<td>Why is a rotating part on a machine dangerous?</td>
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<td>7</td>
<td>The best way to protect oneself from machine hazards is to use guards. How do guards work?</td>
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<td>When checking the guard on a particular machine, what should you look for?</td>
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<td>9</td>
<td>If a machine guard is in your way or somehow hampers your ability to do your job, what should you NOT do?</td>
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# MACHINE SAFETY

Meeting Sign In Sheet

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WEEKLY SAFETY MEETING
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MACHINE SAFETY
Employee Puzzle

Machine Safety
Moving machinery is more powerful than a human, so many safeguards have been developed to prevent contact which could cause injuries. Study the clues and give some thought to working safely around machines.

ACROSS
4 vehicle for lifting and carrying loads
6 connection of metal links
7 detection signalling device
10 making use of pressurized liquid
13 goggles, gloves and earplugs are all forms of this (abbr)
15 circulating
18 person who controls machine
19 circular band that drives a machine
21 place between moving and stationary objects
22 set of toothed wheels that control motion
23 notice used when machine is being serviced
26 attempts to save time or effort
27 machine safety features
33 maintain or repair
35 input side of a roller (hyphen)
36 machine pre-maintenance procedure (abbr)
37 in motion
38 wedged
39 tubing

DOWN
1 faulty
2 use of machines that carry out series of tasks automatically
3 ray of light
5 the LO in LOTO
8 attempts to save time or effort
9 machine safety features
11 maintain or repair
12 input side of a roller (hyphen)
14 machine pre-maintenance procedure (abbr)
16 in motion
17 wedged
20 tubing