

Warehouse Safety: Walking & Working Surfaces, Dock Safety, Egress, etc.

June 20, 2019

Presented By | John T. Flanagan, CDS, CDT



OVERVIEW

Warehouses May Perform Many Different Functions:

- Cross-dock Operations
- Merchandise Storage
- Distribution
- Third Party Logistics Services



OBJECTIVES

- Identify Hazards In The Warehouse
- Preventing Slips, Trips & Falls
- Safe Operation Of Powered Industrial Equipment
- Working Safely With Material-handling Equipment
- Preventing Back Injuries
- Protecting Against Accidents On The Loading Dock
- Stacking & Handling Materials Safety
- Housekeeping
- PPE & Emergency Equipment
- Setting Up An Action Plan



OSHA

Top Ten OSHA Violations in the Warehouse

1. **Forklifts** - operator training, certifications, pre-shift safety checklist and inspections, enforcement of speed limits, management of congestion and the routing of traffic
2. **Hazard communication** – employee education regarding risks, spill and control plans, and proper disposal protocol
3. **Electrical, wiring methods** – Factors that pose electrical hazards must be controlled or eliminated.
4. **Electrical, system design** – OSHA requires that employers provide ground fault circuit interrupters (GFCIs) for receptacle outlets. Charging stations should have adequate ventilation and fire extinguishers.
5. **Guarding floor & wall openings and holes** – eliminating and controlling fall hazards by use of guardrails/standard railings, full body harness, warning lines and safety nets
6. **Exits** – Routes must be clearly established and training provided for best, safest means of egress.
7. **Conveyers and mechanical power transmission** – regularly inspected conveyors, adequately guarded pinch points, proper lighting, methods in place to lock out conveyors in need of repairs, and employees trained in safety procedures
8. **Respiratory protection** – Employees must have and use personal protective equipment to protect from dust, fumes, paint spray, pesticides and other substances that could bring about injury or death
9. **Lockout/tagout** – Access to broken or damaged equipment must be prevented by tagging with an “Out of Service” sign and/or locking out its operation
10. **Portable fire extinguishers** – An adequate number of fire extinguishers, fully charged, must be in place, and employees must know locations and how to operate



Pop quiz:

How Much Do You Know?

TRUE

To prevent back injuries when lifting, you should lift with your leg muscles, not your back muscles.

FALSE

The safest place for pedestrians to be in relation to a forklift is walking right alongside.

FALSE

It's less stressful for your back to pull hand trucks and pallet jacks rather than push them.

TRUE

You should always stabilize pallet loads by interlocking, wrapping, or strapping them.

HAZARD IDENTIFICATION

Common Hazards Include:

- Walkways
 - Pedestrian Aisles
 - Stairways
- Loading Docks
- Powered Industrial Equipment
 - Forklifts
 - Conveyors
 - Order Pickers
 - Elevated Work Platforms
- Material Handling
 - Manual
 - Powered
- Cargo
 - Stacking
 - Storage
 - Hazardous Materials



SLIPS & FALLS

Slips, Trips & Falls Cause:

- The majority of general industry accidents;
- 15 percent of all accidental deaths;
- More fatalities than all other causes but motor vehicles.

Some recent history:

Insurance Industry estimates in 2017 more than, \$61 billion per year is spent on disability claims in America with \$15.57 billion, or 25.1 percent, resulting from falls (16.4 percent of falls to same level, 8.7 percent falls to a lower level). It is noteworthy that there is a category of slips and trips without a fall that cost another \$2.35 billion, or 3.8 percent. ¹



SLIPS & FALLS

OSHA states the Employers must:

- Maintain areas free of hazards
- Ensure loads can be supported
- Provide safe access and egress
- Conduct inspections, maintenance and repair
- Provide clean, orderly, dry, and sanitary conditions

Inspections must occur for all WWS:

- Regularly
- On a schedule, formal or informal, adequate enough to identify slip, trip and fall hazards in the workplace (must be conducted according to the frequency established by the employer).
- As Necessary
- When workplace conditions, circumstances, or events occur that warrant an additional check in the workplace to ensure that WWS are safe for employee use.



FALLS FROM ELEVATION

Additional Safety Exposures For Slip & Fall

- Ladders
- Stairs
- Racks/Shelving
- Scissor lift/Manlifts



POWERED INDUSTRIAL EQUIPMENT - FORKLIFTS

Key Factors

- Applicable Training & Recertification
- Only Authorized Personnel To Operate
- Daily/Shift Inspection
- Proper Equipment For The Job – Capacity & Size
- Safe Operation – Speed, Location, Restricted Areas



OTHER MATERIAL HANDLING EQUIPMENT

- Pallet Jacks - Electric & Manual
- Powered Conveyors
- Dollies & Hand Trucks



BACK INJURY PREVENTION

Recognize The 5 Leading Back Injury Risk Factors

- Poor Posture
- Poor Physical Condition
- Improper Body Mechanics
- Incorrect Lifting
- Jobs That Require High Energy



Did you know?

At age 65, the average person's strength is 75% of someone who is 20 or 25.

Endurance remains similar.

Manual material handling accounts for 30% to 40% of the workers' compensation claims in the United States?

Therefore...?

Lift with common sense!

Remember - no single technique will work in all circumstances.

Be careful!

Assess the situation and ask yourself these questions...

Is the load big, bulky, heavy?



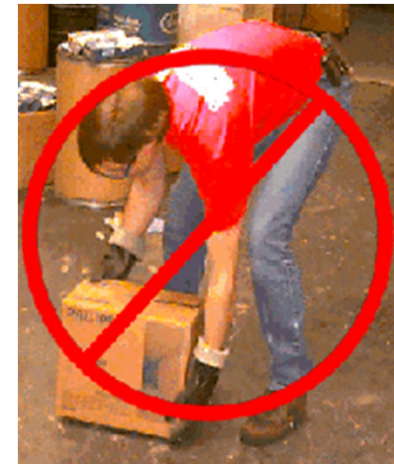
BACK INJURY PREVENTION

When You Lift...

- Plant your feet firmly - get a stable base.
- Bend at your knees - not your waist.
- Tighten your abdominal muscles to support your spine.
- Get a good grip - use both hands.
- Keep the load close to your body.
- Use your leg muscles as you lift.
- Keep your back upright, keep it in its natural posture.
- Lift steadily and smoothly without jerking.
- Breathe - If you must hold your breath to lift it, it is too heavy – GET HELP.

Do NOT...

- Lift from the floor.
- Twist and lift.
- Lift with one hand (unbalanced)
- Lift loads across obstacles.
- Lift while reaching or stretching.
- Lift from an uncomfortable posture.
- Don't fight to recover a dropped object.
- Don't hold your breath while lifting.



Exercise

Which statements are true?

It's OK to hitch a ride on a forklift.

Bend at the waist when you lift to protect your back.

Never go under or over a powered conveyor.

Pinch points are a common hazard when using hand trucks.

Anyone with a driver's license is permitted to operate a forklift in the warehouse.

You don't have to watch out for forklifts; they have to watch out for you.



LOADING DOCK SAFETY - GENERAL

Critical Safety Area For All Warehouses

- Congested Area
- Trailer Loading & Unloading Hazards
- Fall Hazard - 29 CFR 1910.23(b)
- Early Departure From Dock
- Restraint Systems & Load Levelers



LOADING DOCK SAFETY – FORKLIFT OPERATION

Loading & Unloading Hazards For The Forklift Operators

- Chock Trailer Wheels/Secure With Restraint System – (Dock Lock)
- Trailer Nose Supported
- Inspect Trailer Floor
- Secure & Inspect Dock Plate
- Avoid Unprotected Dock Edges



MATERIAL STACKING & STORAGE

Safety Considerations

- Stability
- Size & Weight
- Housekeeping
- Nature Of Cargo
- Palletized
- Secure



MATERIAL HANDLING – DRUM SAFETY

- Difficult To Handle Due To Size/Shape
- Be Conscious Of Material Contents
- If Haz Mat Follow GHS Product Information & H/M Handling Procedures



HOUSEKEEPING

- First Line Of Defense In Removing Workplace Hazards
- Disposing Of Combustible/Flammable Materials
- Allows Free Access To:
 - Exits
 - Stairways
 - First Aid Supplies
 - Emergency Equipment
 - Electrical Panels



PERSONAL PROTECTIVE EQUIPMENT & EMERGENCY EQUIPMENT

- Assess PPE Needs With Comprehensive Analysis
- Look At Job Tasks & Potential Areas On Person To Be Affected

Job Title/Task	Potential Hazard	Required Personal Protective Equipment
Shop - handling of spray paints, Freon, cleaners, foam sealants, polishes, corrosives, degreasers, aerosols, other misc. chemicals	Chemical burns to skin and eyes	Chemical resistant gloves, eye protection
Torching	Optical radiation, high temperatures, impact from flying objects, noise levels	Safety glasses with side shields, typical shades: cutting 3-6, brazing 3-4, leather gloves and sleeves, hearing protection
Grinder	Impact to eyes from flying objects	Safety glasses with side shields, goggles, face shield
Electric drill	Impact to eyes from flying particles, noise levels	Safety glasses with side shields; hearing protection
Saw	Impact to eyes from flying particles, noise levels	Safety glasses with side shields; hearing protection
Use of compressed air	Impact to eyes from flying particles, noise levels	Minimum of safety glasses with side shields; for severe exposure, use face shield and goggles; hearing protection
Power Drill	Impact to eyes from flying particles	Safety glasses with side shields



PERSONAL PROTECTIVE EQUIPMENT & EMERGENCY EQUIPMENT

Typical Warehouse PPE

- Hard Hats
- Eye Protection
- Earplugs
- Dust Masks
- Gloves
- Work Shoes
- Cold Weather Gear



PERSONAL PROTECTIVE EQUIPMENT & EMERGENCY EQUIPMENT

Be Knowledgeable & Train Staff On:

- Available Equipment
 - Extinguishers
 - First Aid
 - Sprinkler System
 - Electrical Panels
 - Utilities
- Equipment Location
- Emergency Exits
- How To Use
- Emergency Notification Systems/Emergency Action Plan
- Evacuation Procedures



Exercise

Fill in the blanks.

•Communication with truck drivers at the loading dock prevents the hazard of early departures.

•Never stack materials closer than 18 inches from sprinkler heads.

•When stacking materials, larger, heavier items should go on the bottom.

•You can stabilize pallet loads by interlocking, strapping, or wrapping the load.

•Be careful when opening trailer doors on the loading dock because the load might have shifted in transit and materials could fall on you.

SAFETY ACTION PLAN

Systematic Approach Needed:

- Use Risk Assessment
- Recognize any Potential Hazards
- Identify Actions/Resources To Correct
- Assign Responsible Department/Person
- Set Timeline For Completion
- Monitor Progress
- Once Completed Assess Effectiveness
- Adjust Actions As Needed



SAFETY ACTION PLAN - CONTINUED



Facility Inspection Checklist

DOCID#

Inspector: _____ Date: _____

This inspection checklist monitors the compliance activities at the facility. It also serves as a hazard assessment to current activities. The inspection shall be completed in all areas of the facility, including warehouse and office areas as it is applicable. Issues shall be summarized on the last page. Corrections will be made and documented completion date on the summary page. All corrections are expected to be completed in a timely manner.

REVIEW OF PRIOR CORRECTIONS	Yes	No	N/A	Comments
Have all identified issues been corrected and noted on the previous facility inspection summary?				
Are all corrections of previously identified issues still effective and not recurring?				
**If issues are recurring a corrective action must be opened.				

EMERGENCY LIGHTING	Yes	No	N/A	Comments
All exit signs illuminated and remain illuminated when battery tested?				
All exit signs free of damage?				

EMERGENCY PREPAREDNESS	Yes	No	N/A	Comments
Are all walkways and aisle ways free of obstructions?				
Are all exits free of storage and clutter?				
Are stairwells and corridors free of storage and clutter?				
Are all employees trained on Emergency Evacuation Procedures?				
Are all employees aware of the proper meeting location in the event of an emergency?				
Are all materials stored in racks wrapped and stable to prevent falling?				
Is the First Aid cabinet fully stocked?				
Is the fire alarm panel indicating an alarm condition?				
Are all manual pull stations unobstructed and accessible?				

Owner: Management Representative	Published Revision: 1.0
Revision Date:	PAGE: 1 of 1
Paper documents not stamped "controlled" are not official and should not be relied on. Always verify the official version of this procedure in a controlled copy in the online EHSMS	



Facility Inspection Checklist

DOCID#

Date of Review: _____ Mgmt Reviewer: _____

	Unsafe condition or work practice	Person Assigned	Corrective Actions	Due Date	Resolution Date
1					
2					
3					
4					
5					
6					
7					

Owner: Management Representative	Published Revision: 1.0
Revision Date:	PAGE: 1 of 1
Paper documents not stamped "controlled" are not official and should not be relied on. Always verify the official version of this procedure in a controlled copy in the online EHSMS	



SAFETY ACTION PLAN - CONTINUED

Equipment Checklist



Facility Inspection Checklist

DOCID#

Other Equipment Maintenance	Working	Broken	N/A	Comments
Electric Drill				
Drill Press				
Pallet Jacks				
Fans				
Tables				
Ladders				
Lighting				
Carts				
Storage Racks				
Storage Cabinets				
Dumper Bins				
Computer Equipment				
Truck Stands				
Chock Blocks				
Hard Drive Shredder				
Power Tools				
Air Tools				

Owner: Management Representative	Published Revision: 1.0
Revision Date:	PAGE: 1 of 1
Paper documents not stamped "controlled" are not official and should not be relied on. Always verify the official version of this procedure in a controlled copy in the online EHSMs	



SAFETY ACTION PLAN - CONTINUED

A Typical Inspection Checklist May Include:

- Review Prior Corrective Actions
- Electrical Panels
 - Labeled & Free of Obstructions
- Emergency Lighting Systems
- Fire Extinguishers
- Sprinkler System
- Exits/Egress
 - Clear
 - Marked
- Eye Wash Stations
- Ladders



SAFETY ACTION PLAN - CONTINUED

- Forklifts & Material Handling Equipment
 - Daily Inspections
 - Operators Trained
 - Visible Damage
 - Battery Charging Area - If Applicable
- Haz Mat Storage – If Applicable
 - Haz Com (GHS) & SDS Records
 - Flammables Secured
 - Training
- Personal Protective Equipment
 - Issued
 - Used Properly
- OSHA & Legal Postings



SAFETY ACTION PLAN - CONTINUED

- Racking
 - Secure
 - Damage Free
- Cargo Storage
 - Orderly
 - Stacking
- Loading Docks
 - Dock Levelers
 - Dock Locks
 - Dock Doors
- Housekeeping
 - Aisles
 - Spills
 - Stairways



SAFETY ACTION PLAN - CONTINUED

- Personnel Training
 - Safety Meetings
 - Training Records
- Pedestrian Areas
 - Marked
 - Proper Use
- Building Exterior
 - General Condition
 - Handrails
 - Snow & Ice Removal
- Facility/Building Security & Public Safety
 - Emergency Action Plan
 - Interior General Condition
 - Roof Leaks



QUESTIONS?

