SAFETY MANUAL

Section 2 (1926):

Construction and Field Work

Updated October 2023

Contents

Forward

This safety manual encapsulates the company safety policies as of October 2023. This is not a restatement of state or Federal OSHA standards. These policies attempt to adopt OSHA standards for the scope of our work. At every turn, OSHA standards must be followed. This policy does not, and should not be interpreted to, replace any OSHA standard. When in doubt, or should there be any conflict between this manual and OSHA standards, the OSHA standards prevail.

Proof of Training

I have been presented with the company's Safety Manual regarding the following topics:

Topics Reviewed	Employee Initials
Potable Water	
Personal Protective Equipment	
Medical Services & First Aid	
Incident Reporting	
Hazard Recognition	
Emergency Action Planning	
Heat & Cold Illness Prevention	
Material Storage	
Confined Spaces	
Fall Protection	
Ladder Safety	
Stairways	
Aerial Lifts	
Scaffold Safety	
Powered Industrial Lifts	
Carbon Monoxide Safety	
Electrical Safety	
Hazardous Communication	
Material Handling	
Hand, Power Tools, and Equipment	
Bloodborne Pathogens	
Respiratory Protection	
Silica Protection	
Trench Safety	

By signing here, I attest that I have read and understand the above topics presented to me. I understand that I am required to follow the Safety Manual at all times.

_____	_____	_____
Printed name of Employee	Signature	Date

Introduction: Employee Safety

This Company is sincerely concerned about each employee's safety and health – and will strive to provide the safest working conditions possible.

We will endeavor to maintain a workplace as free from recognized hazards as possible, by providing each employee with proper training and safe equipment and tools.

As an employee, you are encouraged and expected to follow recognized safety practices – including federal, state and local safety regulations, and the safety rules of the Company which are outlined in the company safety program manual.

We believe most accidents can be avoided by using common sense and personal initiative, and we ask you to be a part of our commitment to safety.

We look forward to your employment with us being accident-free and productive.

Company Safety Rules Overview

To ensure that the company safety rules will be effectively followed, the company will:

- Provide each employee with his or her own copy of the company safety rules.
- Review the rules with all new employees before they begin work.
- Discuss the rules periodically at company safety meetings.
- Maintain accessible copies of the rules.

Although the safety rules in this program are not all inclusive, they should be considered – along with other regulations that may be issued from time to time – the safety rules of the Company.

Violation of any of these rules is cause for disciplinary action, up to and including possible dismissal, even on the first violation.

- Employees must adhere to all federal, state and local laws and standards, as well as employer regulations and policies**.**
- Common sense is the most important safety rule of all and is to be followed at all times.
- Horseplay causes accidents and is strictly prohibited.

- Employees must be alert to hazards and potential hazards, and must immediately report any unsafe conditions, acts, tools, or equipment to the supervisor. Employees should never perform any assignment that is unsafe.

- If an employee does not know the safe procedures for a job operation, he or she should ask the supervisor to demonstrate the approved safe methods.

- Employees must report any injury or accident to the foreman / supervisor immediately.

- Employees must be aware of the location of all fire extinguishers and first aid kits.

- The company prohibits any employee from being at work or working under the influence of alcohol or drugs. Violation of this rule will lead to immediate disciplinary action, up to and including possible dismissal, even on the first violation. Additional details are available in the Company Drug & Alcohol Policy.

- Employees must follow all applicable local, state, and federal laws regarding carrying firearms while working.

- For all walking/working surfaces, it is required that the employee use fall protection methods, such as guardrails, body harnesses, etc., when working in the field at heights over 6 feet. Note the use of stilts, ladders or scaffolds near an opening could create a fall hazard.

- Do not jump off docks or out of trucks. Use stairs or steps and handrails.

- Do not climb on boxes, bags, equipment, or materials. Use ladders provided.

- Tools should be inspected frequently by employees for defects and turned in to the supervisor for repair or replacement if they are damaged.

- Hand tools may not be used for any purpose other than those intended and should be promptly repaired or replaced when necessary.

- Work area guidelines include:

    - Employees must practice good housekeeping in all work areas at all times.
    - Walkways must be clean and free of obstacles including cords.
    - Tools and working materials must be stored properly and safely.
    - A general cleanup of job sites must be done prior to and after each job is complete.
    - Office areas, work areas and the warehouse must be clean and organized at all times.
    - Trash and scrap must be in correct container.

- Use proper lifting technique by stooping and lifting with legs, keeping back straight.

- Employees should stretch each day before beginning physical work activities and throughout the day as needed.

- Jewelry such as earrings, watches, key chains, identification bracelets, neck chains and finger rings may become caught on a tool or piece of moving equipment and result in injury; Therefore, they must not be worn when working around machines.

- Hair should be cut reasonably short and or hair protection must be worn by men and women while working around machinery to prevent entanglement in belts, pulley's gears, etc.

- Report all fires by turning on fire alarm, notifying the local fire department, or by notifying your supervisor immediately.

- Fully inspect all job sites before beginning work. Look for any potential safety problems. Before beginning work, be sure to look for any: floor openings, drop-offs in level without protective barriers, ungrounded electrical cords or appliances, any obstructions that may cause falls, and any other potentially dangerous items. If any of the situations like this occur, make sure that you take measures to eliminate danger prior to beginning work and report to your supervisor.

- Avoid overloading electrical outlets with too many appliances or machinery.

- Use flammable items, such as cleaning fluids with caution.

- Smoke only in designated smoking areas.

- Stack materials only to safe heights.

- Watch out for the safety of fellow employees.

- Use the right tool for the job and use it correctly.

Delegation of Responsibility

To ensure that the safety program is implemented, the following assignments of responsibility have been established.

All employees have the full support of management in executing their assigned duties and are expected to fulfill their responsibilities.

Management Responsibilities

Upper management is responsible for establishing the overall company safety and health program. Upper Management will:

- Show 100% commitment to the safety and health of all employees.
- Ensure that all personnel are properly trained for the task they will be performing.
- Establish rules and programs to promote the safety and health of all employees.
- Have an active field safety audit program with retraining and progressive discipline.
- Delegate safety responsibilities among employees, and stress the importance of a complete team-effort to ensure a safe work environment.
- Make available the necessary training for employees to perform their jobs safely.
- Make available all necessary personal protective equipment for employees.
- As appropriate, investigate accidents and "near-miss" accidents.
- Implement a safety incentive program – to reward employees for the safety efforts.

Regional Risk Manager Responsibilities

The Regional Risk Manager works closely with and reports directly to upper management and is responsible for coordinating and maintaining the company safety and health program. Your Regional Risk Manager will:

- Work directly with job supervisors regarding their safety responsibilities.
- Be familiar with and advise management of all standards, regulations and enforcement procedures -- including new and changed laws.

- Make recommendations to management regarding compliance with regulations and any necessary additional company policies.
- Monitor the company inspection program and make periodic inspections.
- Review accident reports and monitor accident record keeping; as necessary, investigate accidents and "near-miss" incidents.
- As needed, work with insurance company representatives, attorneys and others regarding company safety policies.
- Coordinate training programs for supervisors and employees.
- Coordinate the purchase of materials and equipment to assist company safety efforts.
- Ensure that all OSHA record keeping and posting requirements are fulfilled.
- Work with the personnel department to coordinate disciplinary procedures; as necessary, discipline employees who willfully disregard the company safety policy.
- Periodically evaluate the effectiveness of the safety program.
- Implement safety incentive program that promotes good safety practices on all levels.
- Conduct periodic safety inspections on jobsite and branch locations.

Branch Management Responsibilities

Branch Management will:

- Implement the company safety program at the work or jobsite level, setting a good example for all employees.
- Remain knowledgeable about all safety regulations and safe working practices that apply to the work being supervised.
- Conduct job inspections.
- Act immediately to eliminate hazards and/or remove employees from any hazardous areas.
- Conduct necessary employee training -- including "toolbox talks," specialized job training and hazardous communication training.
- Ensure that all machines and personal protective equipment are properly maintained and correctly used.

- Investigate accidents and "near-miss" incidents -- at times, with management and/or the Regional Risk Manager.

- Ensure that all injuries are cared for properly and promptly, providing for medical treatment, if necessary.

- Periodically evaluate the safe work practices of all employees.

- Record and report all necessary information -- including accident investigation forms, training attendance records and performance evaluation reports.

- Advise the safety committee, safety coordinator or management of outstanding safety efforts by employees.

- As necessary, discipline employees who willfully disregard the company safety policy.

- Require that all other contractors, suppliers and visitors adhere to all government safety standards and the company safety program.

- Review incident reports and recommend action. Coach associates on corrective actions.

- Ensure that all record keeping and posting requirements are fulfilled at your branch.

Employee Responsibilities

Every employee is a member of the safety team and expected to follow common safety practices, exercise mature safety awareness, report all accidents immediately and report unsafe equipment or conditions. Each employee agrees to:

- Work in a safe manner to ensure your own safety and the safety of those around you.

- Conduct equipment checks prior to any use of equipment to ensure that all equipment meets manufacturer standards and that all safety guards are in place and have not been modified. Any piece of equipment found to be broken or unsafe will not under any circumstance be used and will be locked or tagged-out and manager notified immediately.

- Maintain a mental and physical health conducive to working safely.

- Adhere to all government standards and company safety policies.

- Follow all safe-working rules outlined in the company safety program.

- Request instruction from the supervisor when unsure of how to perform any task

safely, including handling of hazardous materials.

- Refrain from any obvious or questionable hazards or unsafe work practices, and report them immediately to the supervisor.
- If possible, correct any hazards or unsafe practices, and communicate this to your supervisor.
- Properly use all tools, machines and personal protective equipment, as instructed by the supervisor.
- Maintain and take responsibility for personal protective equipment.
- Keep all work areas clean and free of debris.
- All accidents, whether resulting in personal injury or not, must be reported **immediately** to your supervisor.

Sales Staff Responsibilities

- Identify and report to production any safety problems or hazards that the crews might encounter on the jobsite (i.e. staircases that do not have railing, site hazards outside the building) through the use of job checks.
- Notify the builder of any safety problems and/or safety hazards to be corrected, and notify the builder to have the job site clean of debris before our crew is scheduled.
- List safety equipment (i.e. scaffolding, ladder heights) that will be needed to do the job.

Other Contractor and Supplier Responsibilities

- Abide by all government standards and safety rules of the owner or controlling party.
- Notify other contractors when actions or activities could affect the safety of employees of other companies.
- Report all injuries and accidents to the controlling party.
- Report any unsafe conditions or work practices immediately to the controlling party.

Visitor and Guest Responsibilities

- Abide by all government and company safety regulations.
- Register with proper personnel upon arriving at the site.

Safety Committee Responsibilities

- The committee will act in an advisory capacity only and is not responsible for the safety and health of employees.
- Meet on a regular basis and make meeting notes available.
- Rotate committee members periodically -- to allow as many employees as possible to participate.
- Review accidents to help verify causes and make recommendations on corrective action.
- Review feedback from employees -- including suggestions and complaints.
- "Brainstorm" with other committee members and employees on how to create a safer workplace.
- Recommend employees to management and/or the company safety coordinator for safety recognition or disciplinary action.
- Review current safety policy and procedures for ongoing improvement.

Discipline for Safety Violations

Any employee who is found to violate a provision of the Safety Manual, or who is found to behave in an unsafe manner (regardless of whether the behavior violates a specific provision of the Safety Manual), will be disciplined as follows:

> **First** violation will result in a verbal warning – this warning will be documented and put in your safety file. The company reserves the right to request that you receive additional safety training if deemed appropriate.
>
> **Second** violation will result in you receiving a written warning – this warning will be maintained in your safety file. The company reserves the right to request that you receive additional safety training if deemed appropriate.
>
> **Third** violation will result in a three-day, unpaid suspension from work. The company reserves the right to request that you receive additional safety training if deemed appropriate.
>
> **Fourth** violation will result in **TERMINATION.**

Management employees and supervisors will be subject to a three-step disciplinary policy, as follows:

> **First** violation will result in a written warning – this warning will be maintained in your safety file. The company reserves the right to request that you receive additional safety training if deemed appropriate.
>
> **Second** violation will result in a three-day, unpaid suspension from work. The company reserves the right to request that you receive additional safety training if deemed appropriate.
>
> **Third** violation will result in **TERMINATION.**

Each employee will be given a "clean slate" at the start of each new calendar year, provided that the employee was not terminated during the previous calendar year for violation of the Safety Manual or other unsafe behavior.

The company reserves the right to proceed to immediate termination for egregious safety violations, or if otherwise justified by the circumstances.

Safety Training

Safety training is key to the effectiveness of the company's safety program and to the prevention of as many injuries and illnesses as possible.

All employees will be trained in hazard recognition. All employees will be trained to recognize and avoid or eliminate unsafe conditions in the work environment and will be instructed in the regulations applicable to the work.

Certain employees will be required to attend specialized training classes in particular areas, and / or to become designated as a "competent person."

In addition, all employees will be taught to understand and to follow all company safety policies and procedures.

Training will be conducted at various times and locations as follows:

- New hire orientation: Orientation will be conducted on an employee's first day of work. The employee will not be allowed to go to a jobsite until all orientation training has been completed and documented.

- Job site orientation: Before an employee begins work at a new jobsite, he or she may be advised of the hazards specific to that jobsite and of site-specific safety policies and procedures. The employee must always familiarize themselves with job site hazards and all site-specific safety policies and procedures applicable to a jobsite.

- Daily Safety Briefing: Each day before starting work, the crew will meet to discuss the work to be performed that day, the hazards that may be encountered when performing this work, and the steps to eliminate or avoid each hazard.

- Toolbox Talks : Short, 15-20 minute safety meetings will be held regularly with crew personnel before work begins. Each meeting will address a different safety topic. An effort will be made to address safety topics relevant to the work being performed.

- Annual Safety Meeting / Training: All employees will attend an Annual Safety meeting. Discussion will include a refresher of safety policies and procedures. This will be an opportunity for hands-on and immersive safety instruction.

Each employee's participation in every safety meeting, whether daily, weekly, quarterly, or annually, will be documented. Documentation of the training will be maintained either electronically or physically, and organized so that it can be easily accessed in the future. This documentation includes attendance lists, subjects covered, and questions discussed. Unexcused absences from training classes could lead to disciplinary action.

Competent Persons

Definition: A competent person is someone who

1) Knows the OSHA standards and company safety rules applicable to the work being performed.

2) Is capable of identifying existing and predictable hazards in the workplace.

3) Has authority to take prompt corrective measures to eliminate hazards, up to and including shutting down the job site.

Responsibility:

The designated Competent Person is responsible for recognizing and correcting safety hazards. This person has the authority to stop work in the event if any potential safety concern on the job site.

The competent person does not need to be a dedicated safety professional. A competent person can be a foreman or leadman who works with co-workers and other employees at the jobsite. However, that competent person must have knowledge about safety and authority to address hazards.

Some types of work require their own specialized competent persons. These include, but are not limited to:

- Ladders
- Fall Protection
- Scaffolding
- Confined Space
- Asbestos
- Manlifts
- Air Contaminants
- Gases, vapors, fumes, dusts, & mists
- Trenches

Sanitation / Potable Water

Potable water

Potable (i.e. drinkable) water must be provided *in all places of employment*. *Potable water* means water that meets the standards for drinking purposes.

Containers used to dispense drinking water must be capable of being tightly closed and equipped with a tap and must be inspected frequently.

Water shall not be dipped from containers.

Any container used to distribute drinking water shall be clearly marked as to the nature of its contents and not used for any other purpose.

Single service cups (to be used once) may be supplied. In this case, both a sanitary container for the unused cups and a receptacle for disposing of the used cups shall be provided.

Washing facilities

Washing facilities must be available for employees working with paints, coating, herbicides, or insecticides, or in other operations involving potentially harmful contaminants.

Washing facilities shall be in near proximity to the worksite and must be equipped with supplies that will allow employees to remove the contaminants.

Washing facilities shall be maintained in a sanitary condition.

Eating and drinking areas

No employee shall be allowed to consume food or beverages in a toilet room nor in any area exposed to a toxic material.

Vermin control

Every enclosed workplace must be maintained, so far as reasonably practicable, free of rodents, insects, and other vermin.

A continuing and effective extermination program must be instituted where their presence is detected.

Personal Protective Equipment

Proper personal protective equipment and training in the use of that equipment will greatly reduce exposure to hazards in the workplace. All PPE must be approved by the employer. The company will provide PPE, at no cost to employees, as follows:

- Hard Hat
- Non-prescription Safety Glasses with side shields
- Cut-Resistant Gloves
- Ear Plugs
- Fall Protection Equipment (specify what fall protection equipment is provided – harness, lanyard, etc.)
- N95 dust masks (remember, if you permit the voluntary use of dust masks, you must provide your employees with a copy of Appendix D to the OSHA personal respiratory equipment standard, 1910.134)

Each employee must inspect their PPE every day before it is worn EACH TIME. If any damage or defect is discovered, the employee must return the PPE to the supervisor, who will issue replacement PPE. The company will supply replacement PPE at no charge, except for PPE that is lost or intentionally damaged by the employee.

Protective Footwear: Each employee must purchase their own safety-toe footwear (i.e. steel-toed shoes) to be worn on the jobsite when necessitated by job hazard assessment. All safety-toe footwear must meet ANSI Z41.1-1967.

Protective Headwear: Hardhats must be worn as required while on a jobsite. In addition, anytime an employee is working in an area where there is a possible danger of head injury from impact, from falling or flying objects, or from electrical shock and burns, he or she must wear a hardhat. The company will supply hardhats meeting the ANSI Z89.1 standards.

Eye Protection: Safety glasses must be worn as required while on a jobsite. In addition, safety glasses must be worn anytime an employee is performing a task such as chipping, grinding, welding and cutting. The company will supply non-prescription eye protection meeting the ANSI Z87.l. standards.

Cut-Resistant Gloves: Cut-Resistant Gloves must be worn when working with steel and glass. Although gloves will not totally eliminate the possibility of a cut injury, they are likely to greatly reduce the severity of any injury. Gloves should be inspected before and during each use to ensure they are not torn, punctured or made ineffective in any way. All cut-resistant gloves will meet the ANSI/ISEA Cut Level 4 standard.

Personal Fall Protection: All fall protection equipment shall meet ANSI Z359.1-1992 and ANSI A 10.14-1991 standards. Fall protection provided includes:

- Lanyards with double action snap hooks

- Full body harnesses
- SRL / Shock absorbing lanyard
- Fall restraint lanyard
- Anchor

Respiratory Protection: To protect employees from dusts created by grinding or cutting, N95 dust masks are provided. Individuals wearing respirators when not required must have a signed Appendix D, 1910 CFR on file.

Personal protective equipment must be worn and used properly, as directed by the supervisor and per company risk assessment.

Medical Services and First Aid

ANY EMPLOYEE HURT AT WORK REQUIRING MEDICAL ATTENTION BEYOND MINOR FIRST AID SHOULD BE TAKEN TO THE NEAREST AFFILIATED CLINIC OR HOSPITAL. IF AN AMBULANCE IS NEEDED, CALL 911.

First Aid

First aid supplies must be easily accessible when required. Each truck should be equipped with a first aid kit.

The contents of the first aid kit will be placed in a weatherproof container with individual sealed packages for each type of item.

The first aid kit must be checked at the start of each workday to ensure all necessary supplies are in the kit and restocked as necessary.

Emergency Eye Wash: Where a person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body will be provided within the work area for immediate emergency use.

Near-Miss / Incident / Injury Reporting

All safety incidents must be identified, reported to supervisors, and investigated. This procedure is designed to promote safe work environments, identify process or procedures that require corrective measures, and help prevent incidents from reoccurring. As data is gathered, training needs will become apparent along with the ability to spot trends and take action to prevent these incidents from reoccurring.

Incident Report

When an injury does occur, an incident report must be completed as soon as reasonably practical after the employee becomes aware of the work-related injury. This is true for any injury, no matter how minor.

Any supervisor report of an employee's reported injury, must be separate from the employee's report and clearly state "**the employee reported the following**…." Supervisors are cautioned to clearly indicate that the supervisor is not diagnosing, rejecting, endorsing, or accepting any employee injury report. Simply note what the employee stated. This report is not an investigation report, but a report of an employee's reported injury.

Incident Investigation

Incidents and near misses should be reported to management as soon as reasonably possible.

Once a near miss or injury (or illness) is reported, management will designate an individual or team of individuals to investigate whether any resulting injury or illness is recordable on the OSHA logs.

Management will further determine whether an injury or illness must be reported to OSHA.

Only individuals authorized by management to conduct an investigation will do so. The individual designated by management to investigate will do so as promptly as reasonably possible.
This investigation may include:

- observing the work location where the accident occurred
- taking photographs
- interviewing witnesses
- interviewing the injured employee (if possible),
- drug testing employees who are involved in the incident, and
- by taking any additional action needed to determine the cause of the accident

All facts learned during the investigation shall be documented. The employee conducting the investigation shall then supply the information to management, and management will explore the cause(s), whether disciplinary action for unsafe behavior is warranted, as well as measures that can be taken to prevent similar occurrences in the future.

EMPLOYEES MAY BE DISCIPLINED FOR UNSAFE BEHAVIOR REGARDLESS OF WHETHER THERE ARE ANY INJURIES.

After the cause(s) have been determined and procedures established to prevent a future similar occurrence, employees shall be trained regarding the new procedure.

Note about drug testing: Individuals involved in a near miss or incident are subject to drug testing when the event may be the result of human error, negligence, etc. That is, if an injurious or potentially injurious near miss was caused by one or more employees, then they are subject to post-accident drug testing to determine if their actions were influenced by intoxication. Drug testing may be administered to employees without regard to whether they have or caused an injury. The main factor to determine whether an employee is drug tested is whether that employee's action was a cause of the incident.

Notes about witness interviews: When possible, witnesses should be kept separate from each other until interviewed and their statements have been taken.

Alerting OSHA: Recordable and Reportable Injuries and Illnesses

Management will determine whether an injury or illness must be *reported* to OSHA.

Jobsite Hazard Recognition

Before starting the project

Before work begins on any new project, employee will identify potential hazards associated with the jobsite, the tasks to be performed, and any tools or equipment that will be used on that specific project. If an unsafe item cannot be corrected then notify the branch and continue to work in areas of jobsite not exposed to the unsafe issue.

Before work each day

Employee must walk the jobsite when first arriving at the site to identify any potential hazards before starting work for the day.

Throughout the day

Throughout the day, spot checks of the jobsite may be conducted to ensure workers are in compliance with safety rules and OSHA standards.

Employees should always be on the lookout for hazards and be prepared to eliminate or otherwise minimize those hazards. These hazards may be created by other contractors on the job site, the property owner, the property owner's employees, or visitors to the site.

Emergency Action Planning for Field Work

Worksites may have emergency action plans to prepare for unplanned emergencies. This document is the written EAP.

In the event of a fire or other emergency likely to cause death or serious physical harm,
call 911 immediately.

Exits and Evacuation Routes

All exits must be clear of all obstructions and identified prior to work beginning. Their locations must be known to everyone on the jobsite.

- Emergency exit doors should never be obstructed.
- Exit routes must remain free and clear.
- Always use stairs; never use an elevator in an emergency.
- Do not re-enter the jobsite after an emergency evacuation until the jobsite has been deemed safe to occupy by the proper authority or designee.

Emergency Evacuations

- Before work begins, employees must:

    1. Determine the evacuation routes from the jobsite in the event of fire or other emergency.
    2. Communicate that to all employees on the jobsite.
    3. Determine the evacuation meeting point (across the street or as designated).
    4. Account for all personnel following the evacuation.
    5. Call 911.
    6. Call his or her manager for further information or explanation of duties.

- Evacuation from the facility for any reason shall be done in an orderly fashion. No running.
- When given the alarm to evacuate, either verbal or audible, all personnel shall evacuate the area as soon as possible.

- Follow details of your branch site specific emergency action plan or general contractor's site-specific emergency action plan.

EAP Training

The Branch Manager (or designee) shall designate and train a sufficient number of persons to assist in safe and orderly emergency evacuations.

The Branch Manager (or designee) will review the plan with employees at the following times:

- Initially when the plan is developed.
- Whenever the employee's responsibilities or designated actions under the plan change.
- Whenever the plan is changed.
- When employees are initially assigned those parts of the plan which the employee must know to protect the employee in the event of an emergency.

Heat Illness Prevention

Heat illness is an increasingly common, yet totally avoidable, health hazard.

The following plan elements will dramatically reduce if not eliminate the risks of heat illness:

1. Acclimatize workers to the heat
2. Implement a work/rest regimen
3. Direct employees to drink water or suitable hydrating fluids
4. Implement environmental/work practice controls
5. Training

Heat illness prevention can be summed up as follows: As temperatures increase, employees must have more water, rest, and shade.

Implementation

Heat illness prevention is critical at all work locations, indoors and outdoors, whether a construction jobsite or a warehouse.

The following are high heat index environments. Follow these heat illness prevention rules when:

1. The temperature of the work environment actually is or is forecasted to be 80ºF or above.

2. The temperature is forecasted to be 77ºF or above, **and** one or more of the following conditions exist:

   - There is high humidity

   - Work is conducted near sources of radiant heat (asphalt, roof tops, steam pipes, boilers, or heating vessels)

   - PPE such as Tyvek coveralls, respiratory protection (like an N-95, half face respirator, full face respirator, or supplied air respirator), or semi-permeable chemical suits are utilized

   - Moderate to heavy physical labor is required

   - Work requires direct physical contact with a hot object

   - Work requires use of powered tools or equipment which generate heat

   - Work is to be performed in enclosures or other environments with minimal air movement (such as attics), where heat can build up

- The work is being performed in direct sunlight.

Prior to the start of work each day, and throughout the day, the supervisor shall determine whether any of the above conditions exist or will exist.

The procedures below shall be implemented when any of the conditions described above are present on a jobsite.

1. Work-Rest Schedules. Supervisors shall implement an appropriate work-rest schedule based upon the heat and site conditions. The more heat, the more rest is necessary.

2. Hydration. Frequently drinking water is critical to preventing heat illness. Employees are strongly encouraged to drink up to one quart of water per hour in high heat conditions.

3. Cooling-off area. A shaded, well-ventilated area will be provided for rest breaks. The shaded area will be as close as practicable to the areas where employees are working.

4. Additional rest and recovery periods. If an employee complains of heat-related symptoms or if an employee believes that a rest break is needed to prevent heat stress, access to a shaded area will be provided for no less than five minutes.

5. Clothing. Employees shall wear breathable, loose-fitting, lightly colored clothing and shall avoid wearing clothing that is dark colored, heavy, or tight-fitting.

6. Acclimatization program. New employees and employees who are not accustomed to working in the heat shall be acclimatized to working in the heat. These employees should gradually increase their workload over a period of 7-14 days when in hot conditions.

Signs of heat illness. All employees and supervisors must be vigilantly observing co-workers for signs of heat illness. Signs of heat illness include, but are not limited to:

- Muscle cramps, pain, or spasms in the abdomen, arms and/or legs
- Headaches
- Rapid heartbeat
- Heavy sweating
- Extreme weakness or fatigue
- Dizziness
- Nausea/vomiting
- Irritability
- Fast, shallow breathing
- Slightly elevated body temperature / High body temperature
- Confusion
- Loss of coordination
- Hot/dry skin or profuse sweating
- Seizures
- Loss of consciousness or unresponsiveness

Cold Injury Prevention Program

Exposure to cold temperatures can cause illness and injury, including hypothermia, trench foot, and frostbite. Employees must:

- Dress for cold temperatures.
- Wear several loose-fitting layers. Wool, silk or synthetic clothing is best to keep moisture away from the skin. Wear a water-resistant, breathable outer layer. (Cotton retains moisture and is not ideal for working in cold weather).
- Wear a hat or a knit mask.
- Use insulated gloves.
- Wear insulated and waterproof boots.
- Stay dry. Keep an extra set of clothing on the job site with you in case you get wet. Pay special attention to your feet and be sure to change into dry socks whenever the socks you are wearing get wet.
- Drink warm fluids (no alcohol).

The following additional measures may be taken to reduce the effects of cold temperatures, at the discretion of the supervisor:

- Consider shielded work area from drafts or wind to reduce wind chill
- Provide "warming" areas such as crew trucks or nearby heated building
- Allow workers to set their own pace and take extra breaks
- Rotation of workers - Some warming up, while others working

Signs of cold stress: All employees and supervisors must be vigilantly observing co-workers for signs of cold stress. Signs of cold stress include, but are not limited to:

- Shivering
- Loss of coordination
- Confusion/disorientation
- Slowed pulse
- Dilated pupils
- Loss of consciousness
- Red skin with gray/white patches
- Numbness
- Blistering
- Swelling of the skin

Material Storage, Stacking, & Disposal

All materials stored in tiers shall be stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling, or collapse.

Material stored inside buildings under construction shall not be placed within 6 feet of any hoist way or inside floor openings, nor within 10 feet of an exterior wall which does not extend above the top of the material stored.

Each employee required to work on stored material in silos, hoppers, tanks, and similar storage areas must utilize personal fall arrest equipment.

Non compatible materials must be segregated in storage.

Materials shall not be stored on scaffolds or runways in excess of supplies needed for immediate operations.

Structural steel, poles, pipe, bar stock, and other cylindrical materials, unless racked, shall be stacked and blocked to prevent spreading or tilting.

Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage.

Vegetation control will be exercised when necessary.

Drywall Storage and Safety

Do not to perform any work or physically be in the vicinity (within 5 feet) of any unsecured drywall.

Vertically stacked drywall, when tipped over, will gain momentum as it falls. For example, 1000 pounds of vertically stacked drywall can reach up to 6,000 pounds upon impact by the time it reaches the floor.

Employees must never be exposed to this extremely dangerous hazard.

When drywall is delivered to a jobsite and leaned upright against a wall, special precautions must be taken to ensure the safety of nearby employees.

- Drywall sheets placed on edge must always be secured against tipping with a restraint method that can be easily reapplied.

- The stack of drywall should be labeled with a caution sign warning of the potential danger when attempting to move heavy drywall sheets.

- Secure drywall with a restraint system that allows the drywall to be secured to the wall structure. Such a restraint system must be in place before entering the work area. **Employees are not authorized to secure the drywall themselves.**

The salesforce will ensure that customers are aware of this policy, and inform customers that if installers find this unsafe condition they are not permitted to perform any work within 5 feet of any vertically stacked, unsecured drywall **under any circumstance**.

Any employee found to be in violation of this policy will face disciplinary action up to, and including, possible termination.

Storing compressed gas cylinders

Compressed gas cylinders must be secured in an upright position at all times, except for brief periods of time while cylinders are hoisted or carried.

Oxygen cylinders must be stored separately from fuel-gas cylinders or combustible materials (especially oil or grease). They must be separated by a minimum distance of 20 feet or by a noncombustible barrier at least 5 feet high having a fire-resistance rating of at least one-half hour.

Inside of buildings, cylinders must be stored in a well-protected, well-ventilated, dry location, at least 20 feet from highly combustible materials such as oil or excelsior.

Cylinders should be stored in definitely assigned places away from elevators, stairs, or gangways.

Assigned storage places shall be located where cylinders will not be knocked over or damaged by passing or falling objects, or subject to tampering by unauthorized persons.

Cylinders shall not be kept in unventilated enclosures such as lockers and cupboards.

Material Disposal

Branches must have a plan in place for disposal of spray polyurethane foam barrels. Barrels must be properly disposed of and will have all bung caps in place to prevent rain water from collecting in barrels. All scrap lumber, waste material, and rubbish shall be removed from the immediate work area as the work progresses.

All solvent waste, oily rags, and flammable liquids shall be kept in fire resistant covered containers until removed from worksite.

Confined Spaces

Introduction

A confined space is a space that:

1. has limited or restricted means of entry and exit
2. Is not designed for continuous employee occupancy
3. Is large enough and configured so that a person can enter the space and maneuver

Examples of confined spaces include attics and crawl spaces.

A confined space is a "permit required" confined space if it contains, or has the potential to contain a hazardous, flammable, or toxic atmosphere, or contains a material with the potential to engulf someone entering the space. Company employees are not to work in any permit-required confined space.

All question questions regarding confined spaces should be directed to a Regional Risk Manager.

Confined Space Program

The Company is committed to providing a safe and healthful work environment. In pursuit of this endeavor, the following written program is in place to identify confined spaces and to eliminate or control any hazards associated with entry into these spaces.

The purpose of this Confined Space Entry Program is to set procedures and policies that will ensure workers' safe entry into Confined Spaces to perform tasks. This procedure is designed to provide the minimum safety requirements in accordance with the Occupational Safety and Health Administration's (OSHA) standard found at 29 CFR 1926 Subpart AA.

Scope

This program applies to all employees, entering any identified Confined Space at the associated worksite for the Company. As a matter of policy, the Company will only conduct operations as Non-Permit Confined Space entry. Should an employee of the Company encounter a Permit-Required Confined Space, they must contact their Regional Risk Manager for further assistance.

Hazard Elimination and Control

The supervisor will identify all potential hazards in the confined space. Each hazard must be eliminated before employees begin work there.

Hazards may exist in any of the following categories:

1. Atmospheric Hazards/Ventilation: Fresh air ventilation is the first option for correcting an atmospheric hazard.

- Force fresh air into the space.
- Get airflow to bottom of the space.
- Use continuously.

2. Contents and Residue: Contents should be removed from the space when possible. Entrants must assume that residues may be present and protect themselves from contact with harmful materials.

- Remove contents
- Clean and isolate space.
- Wear appropriate PPE to protect against contact with materials.

3. Potential Energy: Potential energy sources must be secured. They include:

- Electrical equipment and circuits.
- Mechanical equipment and systems.
- Thermal energy equipment and systems.

4. Environment in the Space: Entrants will need to address any safety issues, including the following:

- Slippery surfaces
- Extreme temperatures

5. Configuration of the Space: The configuration of the space can make safe operations more difficult. Use particular care when any of the following are present:

- Unusual shape or slope
- Low overhead clearance
- Drop-offs in floors
- Complex layout

Fall Protection

Strength and Structural Integrity of Walking / Working Surfaces

Do not assume that the working surface will support employees safely.

Each day before work begins, wherever that is, and whenever work on a new job begins, the employee and leadman must determine whether the walking/working surfaces on which employees will work have the strength and structural integrity to support employees and their equipment safely.

Employees shall be allowed to work on those surfaces only when the surfaces have the requisite strength and structural integrity.

Each time there is a change in conditions that could affect the structural integrity of the walking/working surfaces (ex. roof tear off), the surface must be reevaluated to ensure it will support employees safely.

Duty to use fall protection

Each employee on a walking/working surface 6 feet on the field job site (4 feet in warehouse or existing workplace/facility where commerce is taking place) or more above lower levels must be protected from falling by a guardrail system, safety net system, or personal fall arrest system.

The fall protection system must be installed before that employee begins work that necessitates the fall protection.

Attics

Except around access opening (scuttle hole), fall protection is not required in attics where the ceiling directly below the attic floor is dry walled. When entering and exiting the attic, the ladder must be secured by extending 3 feet into the attic or secured at the top by a rigid support that will not deflect, and at the bottom by another employee holding the ladder. If the walking/working surface is insufficient to support the weight of the employee and their equipment, then one of the following must occur:

- Installation of temporary flooring in areas where employee will be working; or
- Use of personal fall arrest system.

Unprotected sides and leading edges

Each employee on a walking/working surface with an unprotected side or edge which is 6 feet or (4 ft in warehouse or existing workplace/facility where commerce is taking place) more above a lower level must be protected from falling by one of the following fall protection systems: guardrail systems, safety net systems, or personal fall arrest systems.

> EXCEPTION: When it is technically infeasible or creates a greater hazard to use these systems, you may develop and implement a fall protection plan. *See control access zone, below*.
>
> CAUTION: There is a presumption that it is feasible and will not create a greater hazard to implement the use of conventional fall protection systems. The Company must be able to prove that it is appropriate to implement a fall protection plan which complies with 1926.502(k) for a particular workplace situation, in lieu of implementing any of those systems.

If using a guardrail system, safety net system, or personal fall arrest system is technically infeasible or creates a greater hazard, then use a control access zone as part of the alternative fall protection plan.

Where a controlled access zone has been established for leading edge work, each employee on a walking/working surface 6 feet or more above a lower level, but who is not engaged in the leading edge work, may use the control line in lieu of a guardrail along the edge that parallels the leading edge.

Control Access Zone and Control Lines (only applies to Leading Edge Work)

A controlled access zone is an area where certain work may occur without the use of a guardrail, personal fall arrest systems, or safety net systems. The controlled access zone may be used as part of the alternative fall protection plan when it is technically infeasible or creates a greater hazard to use these systems.

However, employee access is restricted only to certain employees.

A safety monitor must observe the control access zone to restrict access to only employees authorized to work within the control access zone. *See safety monitor, below*.

The area that makes up the controlled access zone must be defined (and obviously indicated) by use of a control line.

Control lines that indicate the control access zone must be erected at least 6 feet and not more than 25 feet from the unprotected or leading edge.

Note: When erecting precast concrete members, the control line shall be erected not less than 6 feet nor more than 60 feet or half the length of the member being erected, whichever is less, from the leading edge.

The control line shall extend along the entire length of the unprotected or leading edge and shall be approximately parallel to the unprotected or leading edge.

The control line shall be connected on each side to a guardrail system or wall.

When used to control access to areas where overhand bricklaying and related work are taking place:

- The control line must be erected at least 10 feet and at most 15 feet from the working edge.
- The control line shall extend for a distance sufficient for the controlled access zone to enclose all employees performing overhand bricklaying and related work at the working edge and shall be approximately parallel to the working edge.
- Additional control lines shall be erected at each end to enclose the controlled access zone.
- Only employees engaged in overhand bricklaying or related work shall be permitted in the controlled access zone.

Control lines shall consist of ropes, wires, tapes, or equivalent materials, and supporting stanchions as follows:

- Each line shall be flagged or otherwise clearly marked at not more than 6-foot intervals with high-visibility material.
- Each line shall be rigged and supported in such a way that its lowest point (including sag) is not less than 39 inches from the walking/working surface and its highest point is not more than 45 inches [or 50 inches when overhand bricklaying operations are being performed] from the walking/working surface.
- Each line shall have a minimum breaking strength of 200 pounds.
- On floors and roofs where guardrail systems are not in place prior to the beginning of overhand bricklaying operations, controlled access zones shall be enlarged, as necessary, to enclose all points of access, material handling areas, and storage areas.
- On floors and roofs where guardrail systems are in place, but need to be removed to allow overhand bricklaying work or leading edge work to take place, only that portion of the guardrail necessary to accomplish that day's work shall be removed.

A control line is different than a mere warning line. *See warning lines, below*.

- A control line indicates an area in which only certain employees may go, whereas a warning line literally warns employees of a fall hazard posed by an unprotected edge.
- The warning line is used only for roofing work on low-slope roofs. Sometimes a control line against fall hazards, but sometimes other hazards.

- Warning lines are installed around all unprotected roof edges, but a controlled access zone is just one specific location.

- A warning line must have a minimum tensile strength of 500 pounds, but a control line - demarcating a controlled access zone, has a minimum tensile strength of 300 pounds.

Holes

All openings greater than 12 in. x 12 in. will have perimeter guarding or covering.

All predetermined holes will have plywood covers.

Prior to cutting holes on the job, proper protection for the hole must be provided to protect the workers.

Perimeter guarding or covers will not be removed without the approval of the foreman / supervisor / safety manager.

Hole covers must be secured from displacement.

Ramps, runways, and other walkways: Guardrails must be installed on ramps, runways, and other walkways where employees may fall 6 feet or more to lower levels.

Excavations: The edges of excavations 6 feet or more in depth must be guarded by guardrail systems, fences, or barricades when the excavations are not readily seen because of plant growth or other visual barrier.

Wells, pit, shafts: Wells, pits, shafts, and similar excavations 6 feet or more in depth must be guarded by guardrail systems, fences, barricades, or covers.

Dangerous equipment: Each employee *less* than 6 feet above dangerous equipment shall be protected from falling into or onto the dangerous equipment by guardrail systems or by equipment guards.

Each employee 6 feet or more above dangerous equipment shall be protected from falling by guardrail systems, personal fall arrest systems, or safety net systems.

Roofing Work on Low-Slope Roofs

Employees engaged in roofing activities on low-slope roofs, with unprotected sides and edges 6 feet or more above lower levels must be protected from falling by one of the following means:

- Guardrail systems
- Safety net systems
- Personal fall arrest systems, **OR**

- Combination of :

    - warning line system and guardrail system
    - warning line system and safety net system
    - warning line system and personal fall arrest system
    - warning line system and safety monitoring system

- On 50-feet or less in width, the use of a safety monitoring system alone [i.e. without the warning line system] is permitted.

When engaged in ***roofing*** *work* on a low-slope roof, use of the warning line as described above is acceptable even if using a guardrail, safety net, or personal fall arrest system is feasible.

Employees engaged in roofing work on a low-slope roof do not need to use a guardrail, safety net, or personal fall arrest system when working within the warning line. But work outside the warning line, between the warning and the roof edge, requires the additional use of a guardrail, safety net, personal fall arrest system, or safety monitor.

Warning lines on Flat Roofs for Roofing Work

The warning line shall be erected around all sides of the flat roof work area.

When mechanical equipment is not being used on the roof, the warning line shall be erected at least 6 feet from the roof edge.

When mechanical equipment is being used on the roof, the warning line shall be erected at least 6 feet from the roof edge that is parallel to the direction of mechanical equipment operation, and at least 10 feet from the roof edge which is perpendicular to the direction of mechanical equipment operation.

Points of access, materials handling areas, storage areas, and hoisting areas shall be connected to the work area by access paths formed by two warning lines.

When the path to a point of access is not in use, it must be barricaded at the point where the path intersects the warning line.

Warning lines shall consist of ropes, wires, or chains, and supporting stanchions erected as follows:

- The rope, wire, or chain shall be flagged at not more than 6-foot intervals with high-visibility material;

- The rope, wire, or chain shall be rigged and supported in such a way that its lowest point (including sag) is no less than 34 inches from the walking/working surface and its highest point is no more than 39 inches from the walking/working surface;

- After being erected, with the rope, wire, or chain attached, stanchions shall be capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches (.8 m) above the walking/working surface, perpendicular to the warning line, and in the direction of the floor, roof, or platform edge;

- The rope, wire, or chain shall have a minimum tensile strength of 500 pounds, and after being attached to the stanchions, shall be capable of supporting, without breaking, the loads applied to the stanchions; and

- The line shall be attached at each stanchion in such a way that pulling on one section of the line between stanchions will not result in slack being taken up in adjacent sections before the stanchion tips over.

No employee shall be allowed in the area between a roof edge and a warning line unless the employee is performing roofing work in that area.

Mechanical equipment on roofs shall be used or stored only in areas where employees are protected by a warning line system, guardrail system, or personal fall arrest system.

Safety Monitoring Systems

A safety monitoring system means a fall protection system for roofing work on low slope roofs in which a competent person is responsible for recognizing and warning employees of fall hazards. **Warning lines must be used with safety monitoring systems, unless employees are working on a small roof area where the maximum dimension of the roof is less than 50 ft.**

The safety monitor must comply with the following requirements:

- The safety monitor shall be competent to recognize fall hazards.

- The safety monitor shall warn the employee when it appears that the employee is unaware of a fall hazard or is acting in an unsafe manner.

- The safety monitor shall be on the same walking/working surface and within visual sighting distance of the employee being monitored.

- The safety monitor shall be close enough to communicate orally with the employee.

- The safety monitor shall not have other responsibilities or engage in any activities, which could take the monitor's attention from the monitoring function.

Mechanical equipment shall not be used or stored in areas where safety monitoring systems are being used to monitor employees engaged in roofing on low-slope roofs.

No employee, other than an employee engaged in roofing work [on low-sloped roofs] or an employee covered by a fall protection plan, shall be allowed in an area where an employee is being protected by a safety monitoring system.

Each employee working in a controlled access zone shall be directed to comply promptly with fall hazard warnings from safety monitors.

The safety monitoring system shall not be used when the wind is strong enough to cause loads with large surface areas to swing out of radius, or result in loss of control of the load, or when weather conditions cause the walking-working surfaces to become icy or slippery.

A controlled access zone also requires a safety monitor.

Roofing Work on Steep Roofs

Each employee on a steep roof with unprotected sides and edges 6 feet or more above lower levels shall be protected from falling by guardrail systems with toe boards, safety net systems, or personal fall arrest systems.

Fall Protection for Residential Construction

Each employee engaged in residential construction activities 6 feet or more above lower levels shall be protected by guardrail systems, safety net system, or personal fall arrest system.

Exception: When the employer can demonstrate that it is infeasible or creates a greater hazard to use these systems, the employer shall develop and implement a fall protection plan, which contains the required elements.

Written Fall Protection Plans

When it is infeasible to use convention fall protection (guardrail systems, personal fall arrest systems, or safety nets systems) or conventional fall protection creates a greater hazard, the Company can rely on a written fall protection plan, provided it contains the following elements:

- The fall protection plan shall be prepared by a *qualified* person and developed specifically for the site where the residential construction work is being performed. Any changes to the fall protection plan must be approved by the qualified person. **If a written fall protection plan is required, please contact your regional risk manager.**
- The plan must be maintained up to date.
- Any changes to the fall protection plan shall be approved by a qualified person.
- A copy of the fall protection plan with all approved changes shall be kept at the job site.
- The implementation of the fall protection plan shall be under the supervision of a *competent* person.

- The fall protection plan shall document the reasons why the use of conventional fall protection systems (guardrail systems, personal fall arrest systems, or safety nets systems) are infeasible or why their use would create a greater hazard.

- The fall protection plan shall include a written discussion of other measures that will be taken to reduce or eliminate the fall hazard for workers who cannot be provided with protection from the conventional fall protection systems. For example, the Company shall discuss the extent to which scaffolds, ladders, or vehicle mounted work platforms can be used to provide a safer working surface and thereby reduce the hazard of falling.

- The fall protection plan shall identify each location where conventional fall protection methods cannot be used. These locations shall then be classified as controlled access zones.

- Where no other alternative measure has been implemented, a safety monitoring system must be implemented.

- The fall protection plan must include a statement which provides the name or other method of identification for each employee who is designated to work in controlled access zones. No other employees may enter controlled access zones.

- In the event an employee falls, or some other related, serious incident occurs, (e.g., a near miss) the employer shall investigate the circumstances of the fall or other incident to determine if the fall protection plan needs to be changed (e.g. new practices, procedures, or training) and shall implement those changes to prevent similar types of falls or incidents.

  Note: There is a presumption that it is feasible and will not create a greater hazard to utilize guardrail systems, safety net system, or personal fall arrest system. You must be able to prove that it is appropriate and necessary to implement a fall protection plan for a particular workplace situation, in lieu of implementing any of those systems.

Wall openings

Each employee shall be protected from falling 6 feet or more through a wall opening. Employees working on, at, above, or near wall openings (including those with chutes attached) where the outside bottom edge of the wall opening is 6 feet or more above lower levels and the inside bottom edge of the wall opening is less than 39 inches above the walking/working surface, shall be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system.

Types of Fall Protection

Guardrail systems

- The top edge height of top rails shall be 42 inches plus or minus 3 inches above the walking/working level.
- Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members shall be installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high.
- Midrails, when used, shall be installed at a height midway between the top edge of the guardrail system and the walking/working level.
- Screens and mesh, when used, shall extend from the top rail to the walking/working level and along the entire opening between top rail supports.
- Intermediate members (such as balusters – aka short vertical columns), when used between posts, shall be not more than 19 inches apart.
- Other structural members (such as additional midrails and architectural panels) shall be installed such that there are no openings in the guardrail system that are more than 19 inches wide.
- Guardrail systems shall be capable of withstanding, without failure, a force of at least 200 pounds applied within 2 inches of the top edge, in any outward or downward direction, at any point along the top edge.
- When the 200 pound test load is applied in a downward direction, the top edge of the guardrail shall not drop or otherwise droop to a height less than 39 inches above the walking/working level.
- Midrails, screens, mesh, intermediate vertical members, solid panels, and equivalent structural members shall be capable of withstanding, without failure, a force of at least 150 pounds applied in any downward or outward direction at any point along the midrail or other member.
- The surface of the guardrail systems shall prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.
- The ends of all top rails and midrails shall not overhang the terminal posts, except where such overhang does not constitute a projection hazard.
- Steel banding and plastic banding shall not be used as top rails or midrails.

- When guardrail systems are used at hoisting areas, a chain, gate or removable guardrail section shall be placed across the access opening between guardrail sections when hoisting operations are not taking place.

- When guardrail systems are used at holes, they shall be erected on all unprotected sides or edges of the hole.

- When guardrail systems are used around holes used for the passage of materials, the hole shall have not more than two sides provided with removable guardrail sections to allow the passage of materials. When the hole is not in use, it shall be closed over with a cover.

- When guardrail systems are used around holes which are used as points of access (such as ladderways), they shall be provided with a gate, or be so offset that a person cannot walk directly into the hole.

- Guardrail systems used on ramps and runways shall be erected along each unprotected side or edge.

Personal Fall Arrest Systems

A Personal fall arrest system is a system used to stop an employee in a fall from a working level.

The Company will plan for using personal fall arrest systems before putting them into use. That is, plan for suitable anchorage points. This should ideally be done before the structure or building is constructed so that anchorage points can be incorporated during construction for use later. If properly planned, these anchorage points may be used during construction, as well as afterwards.

Personal Fall Arrest System Components

A personal fall arrest system consists of

- an anchor

- connectors

- body harness and

- lanyard, deceleration device, lifeline, or suitable combinations of these.

Body belts are not acceptable as part of a personal fall arrest system.

The attachment point of the body harness shall be located in the center of the wearer's back near shoulder level, or above the wearer's head.

Harnesses, and components shall be used only for employee protection (as part of a personal fall arrest system or positioning device system) and not to hoist materials.

Removal and inspection

Personal fall arrest systems shall be inspected prior to each use for wear, damage, and other deterioration. Defective components shall be removed from service. Any component with any significant defect must be withdrawn from service immediately, and should be tagged or marked as unusable, or destroyed. Significant defects include:

- cuts, tears, or abrasions
- mold
- undue stretching
- alterations or additions which might affect its efficiency
- damage due to deterioration
- contact with fire, acids, or other corrosives
- distorted hooks or faulty hook springs
- tongues unfitted to the shoulder of buckles
- loose or damaged mountings
- non-functioning parts
- wearing or internal deterioration in the ropes.

If a personal fall arrest system is actually used or subjected to the same forces as if being used (i.e. subjected to impact loading) then the personal fall arrest system shall be immediately removed from service and disposed.

In the event of a fall, employees shall be rescued promptly, or it must be ensured that employees are able to rescue themselves. The availability of rescue personnel, ladders or other rescue equipment should be evaluated. A rescue plan will be considered for each site.

Personal Fall Arrest System Anchorages

A qualified person with appropriate education and experience should design an anchor point to be installed before work begins at the height.

If it is necessary to devise an anchor point from existing structures, please contact your regional risk manager.

The anchorage used must not reduce the strength of a personal fall arrest system.

Personal fall arrest systems shall not be attached to guardrail systems or hoists.

Personal Fall Arrest System Training

Thorough employee training in the selection and use of personal fall arrest systems is imperative.

Employees must be trained in the safe use of the personal fall arrest system. This should include the following:

- application limits
- proper anchoring and tie-off techniques
- how to estimate free fall distance, including determination of deceleration distance, and total fall distance to prevent striking a lower level
- methods of use
- inspection and storage of the system.

Training will demonstrate that careless or improper use of the equipment can result in serious injury or death. For example, certain tie-offs (such as using knots, tying around sharp edges, etc.) can reduce the overall strength of the system and reduce and maximum permitted free fall distance.

Training will also stress the importance of inspections prior to use, the limitations of the equipment, and unique conditions at the worksite which may be important in determining the type of system to use.

Ladder Safety

Employees in many industries, especially construction, frequently use portable ladders. Falls from ladders are a leading cause of occupational fatalities and injuries. Employees must use great care when setting up and climbing ladders.

General Ladder Safety

The following general requirements apply to all portable ladders.

All ladders will be inspected daily and before every use. Use the Daily ladder inspection sheets. Prior to each use, inspect the ladder for:

- Cracks, splits or deterioration of the side rails
- Broken or missing rungs, cleats, or steps
- Loose rivets, screws, bolts or hardware
- Corroded components
- Damaged or non-functioning safety shoes
- Oil, grease or other slipping hazards
- Other faulty or defective components
- Ensure the manufacturer label, it must be on the ladder and legible.

Read and follow all labels/markings on the ladder.

If there are defects, immediately mark or tag the ladder with DO NOT USE or similar language and withdraw the ladder from service until repaired.

Do not repair unless manufacturer approved.

- Ladder repairs shall restore the ladder to a condition meeting its original design criteria, before the ladder is returned to use.
- When repairing a ladder, only authorized manufacturer's parts shall be used. If you cannot repair a ladder, place ladder out of service and destroy it before discarding it.

Ladders will not be used to extend the height of a scaffold and stilts will not be used on ladders.

Maximum height of straight ladder is 40 feet. Exceeding 40 feet requires notification to Regional Risk Manager.

Ladders 32 foot or larger requires two handlers when carrying 100% of load

- One person can handle longer ladders when weight of ladder is balanced on structure and moving a short distance.

Avoid electrical hazards!

- Look for overhead power lines or exposed energized electric equipment before moving and or handling a ladder.

- Do not use or carry a ladder within 10 feet of overhead electrical wires. Wires must either be covered by electrical company or power shut off.

- Any ladder used near energized electrical equipment shall have nonconductive siderails.

Employees must have a minimum of one fiberglass extension ladder available.

Only use ladders and appropriate accessories (ladder levelers, jacks, or hooks) for their designed purposes.

Do not exceed the maximum load rating of a ladder. Be aware of the ladder's load rating and of the weight it is supporting, including the weight of any tools or equipment.

The construction and design of portable and fixed ladders must be in accordance with 29 CFR 1926.1053(a).

Ladders shall be used only for the purpose for which they were designed.

A metal spreader or locking device shall be provided on each stepladder to hold the front and back sections in an open position when the ladder is being used. Be sure that all locks on an extension ladder are properly engaged.

Ladders shall be maintained free of oil, grease, and other slipping hazards.

Ladders shall not be moved, shifted, or extended while occupied.

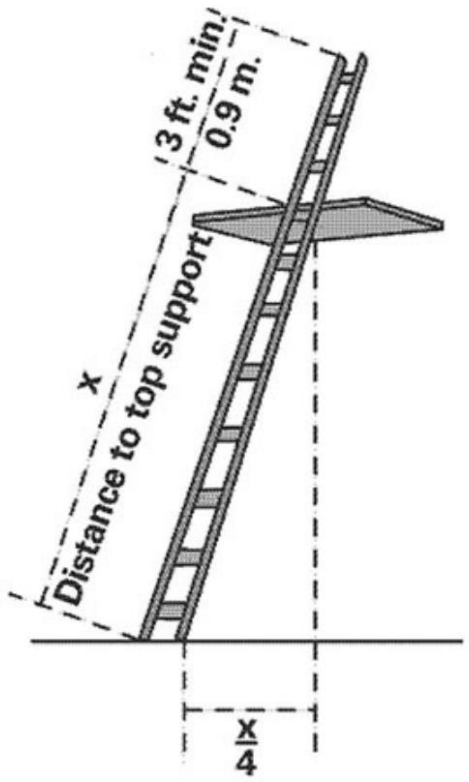
Ladder components shall be surfaced so as to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

The use of single-rail ladders is prohibited.

Ladder Setup

An extension or straight ladder used to access an elevated surface must extend at least 3 feet above the landing surface (see diagram).

When such an extension is not possible because of the ladder's length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder.



The proper angle for setting up a non-self-supporting ladder is to place its base a quarter (that is, ¼) of the working length of the ladder from the wall or other vertical surface (see diagram).

As a rule of thumb, when standing straight up with shins touching the bottom rung, employees should be able to reach straight out and grab the rung directly in front with both hands. This helps quickly achieve the "4-1 rule."

Do not lean ladders to the right or left.

Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement.

Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement.

Always be sure the ladder has firm footing with both feet planted firmly on the floor or ground surface.

Be especially careful on slick concrete or if wet or icy conditions are present.

Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used on slippery surfaces.

Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in passageways, doorways, or driveways, shall be secured to prevent accidental displacement, or a barricade shall be used to keep the activities or traffic away from the ladder.

The area around the top and bottom of ladders shall be kept clear.

Outriggers/standoff are recommended on ladders above 20 feet and secured at top or bottom.

Do not use a self-supporting ladder (e.g., stepladder) as a single ladder or in a partially closed position. Stepladders must only be used in an open and locked position, and must never be used in place of a straight ladder.

Do not place a ladder on boxes, barrels, or other unstable bases to obtain additional height.

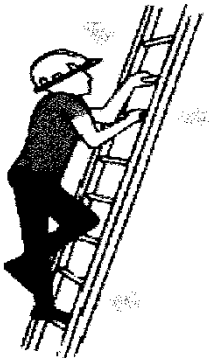
Do not move or shift a ladder while a person or equipment is on the ladder.
Ladder rungs, cleats, and steps shall be parallel, level, and uniformly spaced when the ladder is in position for use.

Ladders shall not be tied or fastened together to provide longer sections unless they are specifically designed for such use.

When two or more separate ladders are used to reach an elevated work area, the ladders must be offset with a platform or landing between the ladders. (And the requirements for guardrail systems and toeboards apply to the platform).

The top of a non-self-supporting ladder shall be placed with the two rails supported equally unless it is equipped with a single support attachment.

Climbing Ladders



Always maintain a 3-point (two hands and a foot, or two feet and a hand) contact on the ladder when climbing or descending.

Always face the ladder when climbing up or down. Always keep your belt buckle between the rails to maintain your body's center point properly.

Never carry any object or load that could cause a loss of balance and fall.

Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed and provided with steps for climbing on both front and rear sections.
The top or top step of a stepladder shall not be used as a step.

Do not stand on the three top rungs of a straight, single or extension ladder.

Never jump or walk ladders.

Stairways

General Requirements

1. A stairway or ladder must be provided at all worker points of access where there is a break in elevation of 19" or more and there is no ramp, runway, embankment, or personnel hoist.

2. When there is only one point of access between levels, it must be kept clear to permit free passage. If free passage becomes restricted, a second point of access must be provided and used.

3. Where there are more than two points of access between levels, at least one point of access must be kept clear.

4. All stairway and ladder fall protection systems must be installed and all duties required by the stairway and ladder rules must be performed before employees begin work that requires them to use stairways or ladders and their respective fall protection systems.

STAIRWAYS

The following general requirements apply to all stairways used during the process of construction, as indicated:

- Stairways that will not be a permanent part of the structure on which construction work is performed must have landings at least 30" deep and 22" wide (76 x 56 cm) at every 12 feet or less of vertical rise.

- Stairways must be installed at least 30 degrees – and no more than 50 degrees – from the horizontal.

- Variations in riser height or stair tread depth must not exceed ¼" in any stairway system, including any foundation structure used as one or more treads of the stairs.

- Where doors or gates open directly onto a stairway, a platform must be provided that extends at least 20" beyond the swing of the door.

- Metal pan landings and metal pan treads must be secured in place before filling.

- All stairway parts must be free of dangerous projections such as protruding nails.

- Slippery conditions on stairways must be corrected.

- Workers may not use spiral stairways that will not be a permanent part of the structure.

The following requirements apply to stairs in **temporary service** during construction:

- Except during construction of the actual stairway, stairways with metal pan landings and treads must not be used where the treads and /or landings have not been filled in with concrete or other materials, unless the pans of the stairs and/or landings have not been filled in with wood or other materials. All treads and landings must be replaced when worn below the top edge of the pan.

- Except during construction of the actual stairway, skeleton metal frame structures and steps must not be used (where treads and/or landings will be installed later) unless the stairs are fitted with secured temporary treads and landings.

- Temporary treads must be made of wood or other solid material and installed the full width and depth of the stair.

STAIR RAILS AND HANDRAILS

The following general requirements apply to all stair rails and handrails:

- Stairways having four or more risers, or rising more than 30" in height – whichever is less – must have at least one handrail.

- A stair rail also must be installed along each unprotected side or edge. When the top edge of a stair rail system also serves as a handrail, the height of the top edge must be no more than 37" nor less than 36" from the upper surface of the stair rail to the surface of the tread.

- Winding or spiral stairways must have a handrail to prevent using areas where the tread width is less than 6".

- Stair rails installed after March 15, 1991, must be not less than 36" in height.

- Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members must be provided between the top rail and stairway steps to the stair rail system.

- Midrails, when used, must be located midway between the top of the stair rail system and the stairway steps.

- Screens or mesh, when used, must extend from the top rail to the stairway step and along the opening between top rail supports.

- Intermediate vertical members, such as balusters, when used, must not be more than 19" apart.

- Other intermediate structural members, when used, must be installed so that there are no openings of more than 19" wide.

- Handrails and the top rails of the stair rail systems must be able to withstand, without failure, at least 200 lbs. of weight applied within 2" of the top edge in any downward or outward direction, at any point along the top edge.

- The height of handrails must not be more than 37" nor less than 30" from the upper surface of the handrail to the surface of the tread.

- The height of the top edge of a stair rail system used as a handrail must not be more than 37" nor less than 36" from the upper surface of the stair rail system to the surface of the tread.

- Stair rail systems and handrails must be surfaced to prevent injuries such as punctures or lacerations and to keep clothing form snagging.

- Handrails must provide an adequate handhold for employees to grasp to prevent falls and be free of nails or other objects that could cause injury to the employee.

- The ends of stair rail systems and handrails must be built to prevent dangerous projections, such as rails protruding beyond the end posts of the system.

- Temporary handrails must have a minimum clearance of 3" between the handrail and walls, stair rail systems, and other objects.

- Unprotected sides and edges of stairway landings must be provided with standard 42" guardrail systems.

Aerial Lifts

Aerial lifts require specific, specialized training and licensed operators. Training must be completed prior to operation. This certification is only valid from 3 years of use date. These policies and procedures are not applicable until this training is completed. Regional Risk Managers should be consulted prior to utilization of this equipment.

This section applies to the following types of vehicle-mounted aerial devices used to elevate personnel to job-sites above ground:

- Extensible boom platforms
- Aerial ladders (mechanically operated extendable ladder mounted on a truck)
- Articulating boom platforms
- Vertical towers

Aerial Lift Job Site Inspection

Before operating an aerial lift of any type, inspect the work area for the following hazards, and take corrective action to eliminate these hazards prior to operating the aerial lift:

- Drop-offs, holes, or unstable surfaces such as loose dirt
- Inadequate ceiling heights
- Slopes, ditches, or bumps
- Debris and floor obstructions
- Overhead electric power lines and communication cables
- Other overhead obstructions
- Other hazardous locations and atmospheres
- High wind and other severe weather conditions, such as ice
- The presence of others in close proximity to the work.

Pre-start Aerial Lift Inspection

Prior to each work shift, conduct a pre-start inspection to verify that the equipment and all its components are in safe operating condition. Follow the manufacturer's recommendations and include a check of:

- Vehicle components
- Proper fluid levels (oil, hydraulic, fuel and coolant)
- Leaks of fluids
- Wheels and tires
- Battery and charger
- Lower-level controls
- Horn, gauges, lights and backup alarms
- Steering and brakes.
- Lift components
- Operating and emergency controls
- Personal protective devices
- Hydraulic, air, pneumatic, fuel and electrical systems
- Fiberglass and other insulating components
- Missing or unreadable placards, warnings, or operational, instructional and control markings
- Mechanical fasteners and locking pins
- Cable and wiring harnesses
- Outriggers, stabilizers and other structures
- Loose or missing parts
- Guardrail systems.

Do not operate any aerial lift if any of these components are defective until it is repaired by a qualified person. Remove defective aerial lifts from service (tag out) until repaired.

Safely Operating an Aerial Lift

Fall Protection:

- Ensure that access gates or openings are closed
- Stand firmly on the floor of the bucket or lift platform
- Do not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position
- Do not climb on or lean over guardrails or handrails
- Do not use planks, ladders, or other devices as a working position
- Personal fall protection PPE MUST be worn attached to the boom or basket when working from an aerial lift
- Use a body harness with a fall restraint lanyard attached to the boom or bucket
- Do not belt-off to adjacent structures or poles while in the bucket
- If scope requires employee to leave confines of aerial lift bucket while elevated, employee must wear personal fall arrest.

Operation/Traveling/Loading:

- Do not exceed the load-capacity limits
- Take the combined weight of the worker(s), tools and materials into account when calculating the load
- Do not use the aerial lift as a crane
- Do not carry objects larger than the platform
- Do not drive with the lift platform raised (unless the manufacturer's instructions allow this)
- Do not operate lower level controls unless permission is obtained from the worker(s)in the lift (except in emergencies)
- Do not exceed vertical or horizontal reach limits
- Do not operate an aerial lift in high winds above those recommended by the manufacturer

- Do not override hydraulic, mechanical, or electrical safety devices

Overhead Protection:

- Be aware of overhead clearance and overhead objects, including ceilings
- Do not position aerial lifts between overhead hazards if possible
- Treat all overhead power lines and communication cables as energized, and stay at least 10 feet (3 meters) away
    - Ensure that the power utility or power line workers de-energize power lines in the vicinity of the work

Stability in the Work Zone:

- Set outriggers on pads or on a level, solid surface
- Set brakes when outriggers are used
- Use wheel chocks on sloped surfaces when it is safe to do so
- Set up work zone warnings, such as cones and signs, when necessary to warn others
- Insulated aerial lifts offer protection from electric shock and electrocution by isolating you from electrical ground
- However, an insulated aerial lift does not protect you if there is another path to ground (for instance, if you touch another wire)
- To maintain the effectiveness of the insulating device, do not drill holes in the bucket

Ladder and tower trucks

Aerial ladders shall be secured in the lower traveling position before the truck is moved for highway travel.

Extensible and articulating boom platforms

- An aerial lift truck shall not be moved when the boom is elevated in a working position with men in the basket.
- Articulating boom and extensible boom platforms, have both platform (upper) and lower controls. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.

- The insulated portion of an aerial lift shall not be altered in any manner that might reduce its insulating value.
- Before moving an aerial lift for travel, the boom(s) shall be inspected to see that it is properly cradled and outriggers are in stowed position.

Aerial Lift Training

Only trained and authorized persons are allowed to operate an aerial lift.

Each employee who performs work while on an aerial lift must be trained by a qualified person to recognize the hazards associated with the type of aerial lift being used and to understand the procedures to control or minimize those hazards.

The training shall include the following areas, as applicable:

- Recognizing and avoiding unsafe conditions on the job site;
- The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
- The correct procedures for dealing with electrical or other hazards;
- Procedures erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
- Instructions for the correct operation of the lift;
- Instructions for the proper handling of materials on the lift;
- The maximum intended load and the load-carrying capacities of the scaffolds used;
- Demonstrations of the skills and knowledge needed to operate an aerial lift before operating it on the job;
- When and how to perform inspections; and
- Manufacturer's requirements.

Aerial Lift Retraining

When there exists reason to believe that an employee lacks the skill or understanding needed for safe operation of the aerial lift, the employee will be retrained so that the requisite proficiency is regained. Retraining is required in at least the following situations:

- Where changes at the worksite present a hazard about which an employee has not been previously trained; or
- When an employee is assigned to use a different type of aerial lift for which he or she has not been previously trained;
- Where inadequacies in an affected employee's work indicate that the employee has not retained the requisite proficiency.

Scaffolds (Including Scissor Lifts)

This section applies to all types of scaffolds that may be used on your jobsite, including:

Aerial Lifts
Bricklayers' Square
Carpenters' Bracket
Catenary Scaffold
Chicken Ladder
Crawling Board
Decorators' Scaffold
Float Scaffold
Form Scaffold
Frame or Fabricated
Horse Scaffold
Interior Hung Scaffold
Ladder Jack
Mast Climbers
Mobile (Manually or Propelled)
Multi-Level Scaffold
Multi-point Adjustable
Needle Beam
Outrigger Scaffolds
Plasters' Scaffold
Platform Ladder Scaffold
Pole or Wood Pole
Pump Jack
Roof Bracket
Scissor Lifts
Ship Scaffold
Single-point Adjustable
Step Ladder Scaffold
Swing Stage
Trestle Ladder Scaffold
Tube and Coupler
Two-Point Scaffold
Window Jack

Depending on the type of scaffold in use, additional requirements will apply. Please refer to 1926 subpart M to identify the additional requirements that apply to the type(s) of scaffolds in use.

Scaffold Use

Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity.

Scaffolds and scaffold components shall not be loaded in excess of their maximum intended loads or rated capacities, whichever is less.

You may not use shore or lean-to scaffolds.

Any part of a scaffold damaged or weakened shall be immediately repaired or replaced, or removed from service until repaired.

Scaffolds shall not be moved horizontally while employees are on them. (Special provisions apply to mobile scaffolds, if used).

The clearance between scaffolds and power lines shall be as follows: Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer than 10 ft. to exposed and energized power lines:

Scaffolds and materials may be closer to power lines than 10 ft. where such clearance is needed to perform work. However, to work closer than 10 ft. to power lines, employees must:

- Notify the utility company, or electrical system operator, of the need to work closer.
- The utility company, or electrical system operator, must deenergize the lines, relocated the lines, or install protective coverings to prevent accidental contact with the lines, before work can begin.
- only begin work after confirmation from the utility company that this has been done.

A competent person in scaffolding is needed to supervise and direct the following activities:

- Scaffold erection
- Movement of scaffolds
- Dismantling of scaffolds

The only employees who may perform these activities are employees who are trained and experienced, and who are selected by the competent person to do the work.

Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance with that design.

Do not work on scaffolds covered with snow, ice, or other slippery material except as necessary for removal of such materials.

Where swinging loads are being hoisted onto or near scaffolds such that the loads might contact the scaffold, tag lines or equivalent measures to control the loads shall be used.

Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system.

Debris shall not be allowed to accumulate on scaffold platforms.

Makeshift items such as boxes and barrels shall not be used on top of scaffold platforms to increase the working level height of employees.

Ladders shall not be used on scaffolds to increase the working level height of employees, **except** on large area scaffolds where employers have satisfied the following criteria:

- When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the lateral force exerted by the ladder;
- The platform units shall be secured to the scaffold to prevent their movement;
- The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection, and
- The ladder legs shall be secured to prevent them from slipping or being pushed off the platform.

General Scaffold Safety

Footing or anchorage shall be sound, rigid, and not settle or displace under maximum load.

Supported scaffold poles, legs, posts, frames, and uprights shall rest on base plates and mud sills or other adequate firm foundation

Supported scaffold poles, legs, posts, frames, and uprights shall be plumb and braced to prevent swaying and displacement.

Footings shall be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement.

Unstable objects shall not be used to support scaffolds or platform units.

Unstable objects shall not be used as working platforms.

Front-end loaders and similar pieces of equipment shall not be used to support scaffold platforms unless they have been specifically designed by the manufacturer for such use.

Fork-lifts shall not be used to support scaffold platforms unless the entire platform is attached to the fork and the fork-lift is not moved horizontally while the platform is occupied.

Planking shall extend over their supports not less than 6" or more than 12". Work platforms shall be tightly planked.

Scaffold planking must be able to support, without failure, its own weight and at least four times the intended load.

Each scaffold platform and walkway shall be at least 18 inches wide.

- When it is infeasible to provide a work area at least 18 inches wide, guardrails and/or personal fall arrest systems must still be used at heights over 6 feet.

Access ladders or equivalent safe access shall be provided when the scaffold platform is more than 2 feet above the point of access.

- Equivalent safety access includes stairs, ramps, and walkways.

Poles, legs or uprights of scaffolds shall be plumb and properly braced.

Overhead protection shall be provided for workers on scaffolds exposed to overhead hazards.

Slippery conditions on scaffolds shall be eliminated as soon as possible.

When the height to base ratio is 4:1, or as manufacturer or state requirements specify, outriggers must be used.

All component of scaffolding must be specific to that manufacturer, this includes pins, clips, etc. Manufacturer pins will only be used.

Fall protection on Scaffolds

Each employee on a scaffold more than 10 feet above a lower level shall be protected from falling to that lower level.

Guardrails and toe boards shall be installed on all open sides and ends of platforms more than 10 feet above the ground floor. 3)

Guardrails shall be 2" x 4" or equivalent, approximately 42" high with midrail of 1" x 6" or equivalent.

A competent person must determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds.

Employees erecting or dismantling supported scaffolds must use fall protection where the use of such protection is feasible and does not create a greater hazard.

Guardrail systems shall be installed along all open sides and ends of platforms. Guardrail systems shall be installed before the scaffold is released for use by employees other than erection/dismantling crews.

Guardrails are not required, however:

- When the front end of all platforms are less than 14 inches from the face of the work.
- When outrigger scaffolds are 3 inches or less from the front edge.
- When employees are plastering and lathing 18 inches or less from the front edge.

The top edge height of toprails on supported scaffolds shall be installed between 38 inches and 45 inches above the platform surface.

When midrails, screens, mesh, intermediate vertical members, solid panels, or equivalent structural members are used, they shall be installed between the top edge of the guardrail system and the scaffold platform.

When midrails are used, they shall be installed at a height approximately midway between the top edge of the guardrail system and the platform surface.

When screens and mesh are used, they shall extend from the top edge of the guardrail system to the scaffold platform, and along the entire opening between the supports.

When intermediate members (such as balusters or additional rails) are used, they shall not be more than 19 inches apart.

Guardrails shall be surfaced to prevent injury to an employee from punctures or lacerations, and to prevent snagging of clothing.

The ends of all rails shall not overhang the terminal posts except when such overhang does not constitute a projection hazard to employees.

Steel or plastic banding shall not be used as a toprail or midrail.

Falling object protection

In addition to wearing hardhats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris, and other small objects through the installation of toe boards, screens, or guardrail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.

When the falling objects are too large, heavy or massive to be contained or deflected by any of the above-listed measures, potential falling objects must be moved away from the edge of the surface from which they could fall and must be secured to prevent them from falling.

Where there is a danger of tools, materials, or equipment falling from a scaffold and striking employees below, the following provisions apply:

- The area below the scaffold to which objects can fall shall be barricaded, and employees shall not be permitted to enter the hazard area; or
- A toe board shall be erected along the edge of platforms more than 10 feet above lower levels for a distance sufficient to protect employees below.
- Where tools, materials, or equipment are piled to a height higher than the top edge of the toe board, paneling or screening extending from the toe board or platform to the top of the guardrail shall be erected for a distance sufficient to protect employees below; or
- A guardrail system shall be installed with openings small enough to prevent passage of potential falling objects; or

A canopy structure, debris net, or catch platform strong enough to withstand the impact forces of the potential falling objects shall be erected over the employees below.

Scaffold Training

Every employee who works from a scaffold will be trained by a qualified person to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include the following areas, as applicable:

- The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
- The proper use of the scaffold, and the proper handling of materials on the scaffold;
- The maximum intended load and the load-carrying capacities of the scaffolds used; and
- Any other pertinent requirements.

Every employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold must be trained by a competent person to *recognize any hazards* associated with the work in question.

The training shall include the following topics, as applicable:

- The nature of scaffold hazards;
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question;
- The design criteria, maximum intended load-carrying capacity and intended use of the scaffold; and
- Any other pertinent requirements.

Scaffold Use Retraining

If there is reason to believe that an employee lacks the skill or understanding needed to safely erect, use, or dismantle a scaffold, the employee will be retrained to regain proficiency. Retraining will be performed in at least the following situations:

- Where changes at the worksite present a hazard about which an employee has not been previously trained; or
- Where changes in the types of scaffolds, fall protection, falling object protection, or other

equipment present a hazard about which an employee has not been previously trained; or

- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

Powered Industrial Trucks / Forklifts

Powered industrial trucks include forklifts, fork trucks, platform lift trucks, motorized hand trucks, and other specialized industrial trucks powered by electric motors or internal combustion engines. Each of these general types has a variety of different configurations and attachments. They are used primarily to move materials; raise, lower or remove large objects; or move smaller objects on pallets or in boxes, crates, or other containers. They are either ridden on or controlled by a walking operator.

These machines create risks of collisions, tip-overs, and struck-by hazards.

Daily Inspections are Required

Powered industrial trucks shall be maintained in proper working order. Each one in use must be inspected before use and at the start of each shift.

Daily checklists for each type of powered industrial truck are available from the manufacturer. The checklist can be modified as necessary: Refer to the owner's manual, specifications, and manufacturer's recommendations to modify the checklist.

Powered industrial trucks shall be equipped with backup alarm, rear view mirrors, seat belts, and readable load rating.

Items to check every day include, but are not limited to:

- Fluid leaks
- Tires
- forks
- hoses
- guards
- safety warnings
- engine belts
- horn
- lights
- brake fluid
- seat belt
- parking brake
- service break
- steering operation
- gauges
- oil and transmission levels

Operation

Safe operation of powered industrial trucks requires operators to:

- Keep arms and legs inside powered industrial trucks
- Handle only stable loads
- Always travel at slow speed when loaded; prepare for sudden stops
- Never make sharp turns when loaded
- Travel in reverse if load blocks view

- Never allow workers to ride on forklifts
- Always use seat belt
- Do not use handheld devices while driving
- Do not use headphones to listen to music and /or monitor incoming calls while driving
- Never drive with forks raised - rule of thumb is 4-6 inches off the ground
- Do not raise or lower forks while moving
- Use horns at cross aisles and obstructed areas
- Watch for pedestrians
- Never permit anyone to ride on the powered industrial truck, including standing, hanging from, or sitting on crane hooks, forklifts, hoists or other material handling equipment
- Never overload powered industrial trucks could result in tipping over
- Don't place weight on rear to counterbalance load
- When leaving the forklift:

    - Lower the forks
    - Shut off the power
    - Remove the ignition key
    - Set the brakes

Training Requirements

The company will provide training and evaluations for all operators of powered industrial trucks. Only operators certified by the qualified trainer can operate a powered industrial truck. The initial training and evaluation must be completed before the employee is assigned to operate any powered industrial truck.

Training will include the following topics:

- Operating instructions, warnings and precautions
- Operating limitations
- Differences between the truck and an automobile
- Any operating instructions, warnings or precautions listed in the operator's manual
- Truck controls and instrumentation
- Surface conditions
- Engine or motor operation
- Composition of loads
- Steering and maneuvering
- Load manipulation
- Visibility
- Pedestrian traffic
- Narrow aisles and other restricted places
- Vehicle capacity
- Hazardous (classified) locations where the vehicle will be operated
- Vehicle stability
- Ramps and other sloped surfaces that could affect the vehicle's stability
- Vehicle inspection and maintenance
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust
- Refueling and/or charging

- Fork and attachment adaptation, operation and use limitations
- Other unique or potentially hazardous environmental conditions in the workplace

Qualified Trainer: The training and evaluation will be conducted by a qualified trainer. A qualified trainer has:

- practical skills and judgment to operate the equipment safely under the conditions present in the employer's workplace, and
- knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

Evaluation

Evaluations must be practical and not just written. Evaluators will

1. Observe the operator during normal operations to determine if the operator is performing safely; and
2. Ask pertinent questions to ensure that the operator has the required knowledge or experience needed to operate a truck safely.

Retraining and Re-evaluation

Operators must be evaluated at least once every 3 years to ensure the effectiveness of their training. "Refresher" training is also required for operators under the following circumstances:

- Operator observed to be operating in an unsafe manner
- Operator involved in an accident or near-miss incident
- Regular evaluation reveals the operator is not operating the truck safely
- Operator is assigned to a different type of truck
- A condition in the workplace changes in a manner that could affect safe operation of the truck.

Training Records: The company will keep records of operator training, including the operator's name, date of training and evaluation, as well as the name of the trainer.

Carbon Monoxide Safety

Carbon Monoxide is an odorless and colorless gas. It can only be detected with a CO Monitor. CO can reach deadly concentrations in less than one minute, depending on its source. And it can linger for hours.

CO is a common industrial hazard resulting from the incomplete burning of material containing carbon such as natural gas, gasoline, kerosene, oil, propane, coal, or wood. The most common source of exposure in the workplace is the internal combustion engine.

Exposure Limits

The permissible exposure limit [PEL] for CO is 50 parts per million (ppm). OSHA standards prohibit worker exposure to more than 50 parts of CO gas per million parts of air averaged during an 8-hour time period.

Prevent CO Poisoning

The following measures can prevent CO poisoning:

- Install an effective ventilation system that will remove CO from work areas.
- When running fuel operated equipment in an enclosed area, such as warehouse, ensure proper ventilation like opening doors.
- DO NOT use fuel-powered tools indoors. These tools include gas-powered saws, pressure washers, water pumps, and power trowels.
- Prohibit the use of fuel-powered engines or equipment in poorly ventilated areas.
- NEVER run fuel-powered generators or compressors inside a building or in a semi-enclosed outdoor space.
- Locate them as far as practical from any occupied building (preferably 25 feet downwind from an occupied building as recommended by the National Institute of Standards and Technology).
- Maintain equipment and appliances that can produce CO in good working order to promote their safe operation and to reduce CO formation.
- Make sure air intake to blowing machine is away from motor exhaust to eliminate exposure to carbon monoxide.
- Fuel-powered powered industrial trucks, like forklifts, can cause CO poisoning indoors.

- Always ensure proper ventilation like opening doors.
- Avoid letting engines idle.
- Consider CO monitors that alarm when levels get too high.
- Fuel-fired heaters can produce CO.
- Make sure the unit is for indoor use and keep a CO monitor nearby.
- Provide personal CO monitors with audible alarms if potential exposure to CO exists.
- Test air regularly in areas where CO may be present, including confined spaces.
- Educate workers about the sources and conditions that may result in CO poisoning as well as the symptoms and control of CO exposure.

Any indoor use of a gas-powered generator or equipment must be approved by a competent person who must evaluate factors such as the size of the space and whether ventilation can effectively reduce CO levels. This type of use SHOULD BE RARE and NEVER on a residential jobsite.

Symptoms of CO Poisoning

Keep watch for symptoms of CO poisoning, especially when sources of CO are present. Symptoms of CO poisoning include tightness across the chest, chest pain, headache, fatigue, dizziness, drowsiness, and nausea.

During prolonged or high exposures, symptoms may include vomiting, confusion, and collapse in addition to loss of consciousness and muscle weakness.

Responding to CO symptoms

If an employee *or anyone at the worksite* exhibits ANY of these warning signs, turn off engines immediately, seek fresh air, and call 911.

- Promptly move the victim to fresh air in an open area.
- Call 911 or another local emergency number for medical attention.
- If available, administer 100% oxygen using a tight-fitting mask if the victim is breathing.
- Administer cardiopulmonary resuscitation if the victim has stopped breathing.

Warning: Rescuers may be exposed to fatal levels of CO poisoning in a rescue attempt.

Electrical Safety: Field jobsite

Electrical hazards are a leading cause of workplace injury. Before any work begins, a jobsite "walk-around" must be conducted to check, in part, for energized electric circuits (exposed or concealed) that may expose any person, tool, or machine to an electricity hazard.

Signs or barriers will be posted to show that such an area exists.

Employees will adhere to the following electrical safety protocols:

- The location of electrical power lines and cables (overhead, underground, under floor, other side of walls, etc.) must be determined before digging, drilling, or similar work is begun.
- If an employee will have to work within the minimum approach distance to a power line, the power line must be deenergized before work begins. Any time work may expose an employee to high voltage, the power source must be deenergized.
- No working within 10 feet of power lines outside of homes.
- Power lines will either be covered or de-energized by the local power company. This action should be coordinated by management.
- Working on unprotected electrical system or equipment is not authorized under any circumstance.
- Electrical equipment should be unplugged by grasping the plug and pulling. Never pull or jerk the cord to unplug the equipment.
- All equipment must be used in strict accordance with manufacturers' specifications. Any equipment that has been altered in **ANY** way is not to be used on the jobsite.
- Temporary or permanent storage of materials must not be allowed within three feet of any electrical panel or electrical equipment.
- All electrical conductors and equipment shall be approved.
- All electrical tools and equipment must be maintained in safe condition and checked regularly for defects and taken out of service if a defect is found.
- All employees must report any obvious hazard in connection with electrical equipment as soon as possible.
- Do not bypass any protective system or device designed to protect employees from contact with electrical energy.
- Electrical appliances /tools must be grounded.

- Multiple plug adaptors are prohibited.
- GFCIs must be installed on each temporary 15 or 20 amp, 210 volt AC circuit.
- All temporary circuits must be protected by disconnecting switches or plug connectors at the junction with permanent wiring.
- Clamps or other securing means must be provided on flexible cords or cables at plugs, receptacles, tools, equipment, etc.
- In wet or damp locations, electrical tools and equipment must be appropriate for the use or location or otherwise be protected.
- Metal measuring tapes, ropes, hand-lines or similar devices with metallic thread woven into the fabric are prohibited where they could come in contact with energized parts of equipment or circuit conductors.
- The use of metal ladders is prohibited where the ladder or the person using the ladder could come in contact with energized parts of equipment, fixtures, or circuit conductors.
- All disconnecting switches and circuit breakers must be labeled to indicate their use or equipment served.
- Disconnect power or otherwise de-energize before replacing fuses.
- All interior wiring systems must include provisions for grounding metal parts of electrical raceways, equipment, and enclosures.
- All electrical raceways and enclosures must be securely fastened in place.
- All energized parts of electrical circuits and equipment must be guarded against accidental contact by approved cabinets or enclosures.
- Sufficient access and working space must be provided and maintained around all electrical equipment to permit ready and safe operations and maintenance.
- All unused openings (including conduit knockouts) in electrical enclosures and fittings must be closed with appropriate covers, plugs, or plates.
- Electrical enclosures such as switches, receptacles, junction boxes, etc., must be provided with tight-fitting covers or plates.
- Employees who regularly work on or around energized electrical equipment or lines must be instructed in cardiopulmonary resuscitation (CPR).

- Employees are prohibited from working alone on energized lines or equipment over 600 volts.

- Work on new and existing energized (hot) electrical circuits is prohibited until all power is shut off and grounds are attached.

Extension cords / drop cords

All extension / drop cords will be construction grade and will be inspected before each use.

If the cord is found to be damaged, remove it from service. At no time will electrical tape be applied to the cord to repair it.

Extension cords shall not be fastened with staples, hung from nails, or suspended by wire. Protect extension cords when placed on the ground from high traffic areas. Always follow the directions on each extension cord.

Employees will adhere to the following safety protocols for extension cords:

- Use only GFCI extension cords or GFCI adapters.

- Never use damaged, frayed, or cut cords. Replace immediately!

- Only use contractor grade cords.

- Follow the manufacturer's instructions regarding the connection of a cord to other cords.

- Never run cords through water puddles. Keep cords dry.

- All electrical tools and equipment must be grounded unless they are of the double insulated type.

- All extension cords must have grounding prongs.

- Protect flexible cords and cables from damage. Avoid sharp corners, edges, and projections.

- Do not run flexible cords where they could be run over by any equipment.

- Use extension cord sets used with portable electric tools and appliances that are the three-wire type and designed for hard or extra-hard service. (Look for some of the following letters imprinted on the casing: S, ST, SO, STO.)

- Exposed wiring and cords with deteriorated or frayed insulation must be replaced immediately.

- Flexible cords and cables must be free of splices and taps.

- All cord, cable and raceway connections must be intact and secure.
- Never plug or unplug any electrical equipment with wet hands.

Hazard Communication

The Company has established the following Hazard Communication (Hazcom) Program – for the safety and health of all employees, and to comply with the OSHA Hazard Communication Standard (HCS) described in Title 29, Code of Federal Regulations, Part 1910.1200.

The program is designed to ensure communication of information to employees about exposure to hazardous chemicals in normal conditions, non-routine tasks and emergencies. Hazardous chemicals can be liquids, solids, gases, vapors, fumes and mists – including chemicals generated through work operations.

This Hazcom Program applies to any chemical known to be present in the workplace, to which employees may be exposed under normal conditions of use, or in a foreseeable emergency.

A copy of this written HazCom program will be kept at the company office and will be made available to employees and their designated representatives upon request.

This company does not manufacture or import chemicals, therefore hazard determination is performed by the chemical suppliers. In instances where the validity of the information provided by supplier is in question or where Safety Data Sheets (SDS) are not supplied, the company safety personnel shall be consulted.

List of Hazardous Chemicals

See SDS notebook for a list of hazardous chemicals known to be present.

Labeling Hazardous Chemicals

All containers of hazardous chemicals on site will be labeled, tagged, or marked by the supplier/manufacturer with the following information to comply with the revised HCS:

- Product Identifier: Chemical name and list of substances.
- Name, address, and telephone number of the chemical's manufacture or supplier.
- Pictogram: A symbol plus other graphic elements, such as a border, background pattern, or color that conveys specific information about the dangers of a chemical.
- Precautionary Statement: One or more phrases that describe measures to minimize or prevent adverse effects resulting from exposure, improper handling and storage of a hazardous chemical.
- Signal Words: Signal words used are "danger and warning."

- Hazard Statement: A statement assigned to a hazard class and category that describes the nature of the hazard a chemical present.

All workplace labels will be in legible English, and will be prominently displayed on the container or readily available in the work area during each shift.

Labels will be maintained on all containers, tanks, totes and drums. This means that labels must be maintained on chemicals in a manner that continues to be legible and so that the pertinent information does not get defaced or removed in any way.

Employers are responsible for replacing damaged or missing labels. If chemicals are transferred from the original, labeled container to another container, the employer will ensure that the new container receives the proper labeling.

Alternatively, the container of hazardous chemicals will be marked words, pictures or symbols that provide general information about the physical and health hazards associated with the chemical, and specific information about these hazards will be immediately available to employees under this HazCom program.

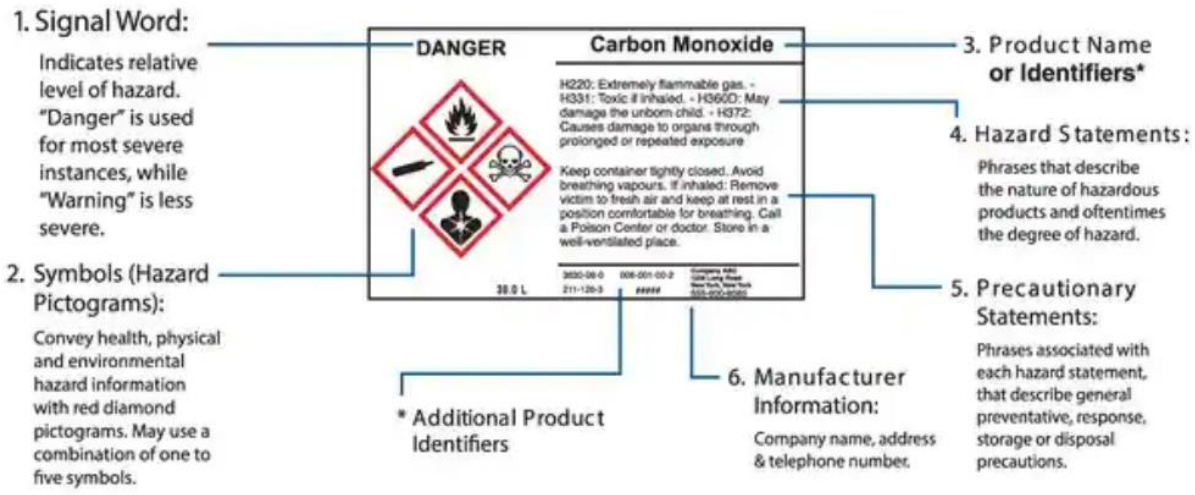
No label shall be removed or defaced. All labels will be legible, in English, and prominently displayed on the container.

Portable containers: If an employee is transferring a hazardous chemical from a labeled container into a portable container for IMMEDIATE use by that employee, the portable container need not be labeled. In such a case, the container may never be out of the control of the employee. After the employee completes his/her use of the material in the temporary container, the remaining material must be returned to the bulk container or properly disposed of along with the container. The container used must be of a type that is appropriate to contain the hazardous chemical in question. **Drinking containers, water bottles, etc. must NEVER be used to contain hazardous chemicals.**

If new, significant information becomes available regarding the hazards of a chemical, its label will be revised within 6 months of the time the company becomes aware of the new information.

New Hazcom Label (GHS – Globally Harmonized System):

GHS Label Elements



SIGNAL WORDS: Signal words: a single word used to indicate the relative level of severity of hazard and alert the reader to a potential hazard on the label. The signal words used are "danger" and "warning."

DANGER - - more severe hazard

WARNING - - less severe hazard
Pictogram: to alert users of the chemical hazards to which they may be exposed. Each pictogram consists of a symbol on a white background framed within a red border and represents a distinct hazard(s). The pictogram on the label is determined by the chemical hazard classification.

Safety Data Sheets [SDS]

Jobsites can contain various hazardous materials. These may include chemicals like gasoline, bleach, and treated. The company will maintain Safety Data Sheets or "SDS" in the workplace for each hazardous material that is used. SDS will be maintained in a location that is readily accessible during each work shift to all employees when they are in their work areas.

SDS will be provided in English, and contain 16 sections of information, in the following order:

1. Identification of the substance
2. Hazards identification
3. Composition/information on the ingredients
4. First Aid measures
5. Firefighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls I Personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information, including date of preparation or last revision

If safety data sheets are not automatically provided, safety personnel will be responsible for obtaining the information from the supplier/manufacturer, and for updating and distributing the sheets to the jobsites.

Safety data sheets will be obtained before chemicals are used on any site. If any new or significant information arises about a chemical already in use, the supplier/manufacturer must send an updated SDS to the user.

If a request to obtain this information from the responsible party is unsuccessful, a request will be made in writing, via certified mail, for the safety data sheet(s).

The safety data sheets will be maintained in a notebook in a highly visible and easily accessible location – for employees and all other contractors – on all jobsites in vehicles, during all shifts.

The first page of the SDS notebook will be an index or inventory of all hazardous chemicals that are produced, processed, stored or present on site. The safety data sheets will follow the index, in the same order as they are listed on the index.

As new chemicals are received, both the safety data sheets and the index will be updated.

Hazcom Employee Training:

Employees will be trained on the hazardous chemicals in their work area at the following times:

- At the time of initial assignment; and
- Whenever a new chemical is introduced into the work area (which employees have not previously been trained on);

Employees will be trained in:

- The requirements of the HazCom standard (29 CFR 1910.1200)
- Operations in the employees' work areas where hazardous chemicals are present
- The location and availability of this written HazCom program and lift of hazardous chemicals
- The location and availability of SDS
- Methods and observations used to detect the presence or release of a hazardous chemical in the work area
- The physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards of chemicals in the work area
- Measures employees can take to protect themselves from hazards posed by chemicals in the work area
- Specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, including work practices, emergency procedures, and PPE
- An explanation of the labels received on shipped containers and the workplace labeling system used
- SDSs, including the order of information and how to obtain and use hazard information.

HazCom on Multi-Employer Worksites

Where other contractors are present on the jobsite and may be exposed to hazardous chemicals used or stored by the company on the jobsite, then:

- Provide the controlling contractor access to SDS for each hazardous chemical

Material Handling

Handling materials can cause injury because it is heavy or because it may be an irritant. For example, some materials, such as insulation, can irritate the skin and damage the eyes. See the specific SDS for the appropriate clothing and Personal Protective Equipment recommendations and/or requirements. The use of certain adhesives, mastics, and liquid finishes containing solvents may cause dizziness and headaches and affect the eyes and breathing.

- Read the labels on containers prior to opening
- Use appropriate PPE and provide proper ventilation
- Promptly clean up all spills

To avoid injury while lifting and handling material, employees must:

- Place one foot next to the load and the other behind it. Stand as close as possible to the object
- Bend knees and keep back and head straight
- Grab the load with the whole hand (not just fingertips) and bring the object close to your body
- Lift with legs
- Hold the load close and keep it centered over legs
- Avoid lifting above shoulder level
- Plan the route in advance to avoid potential slip and fall hazards
- Never twist or turn while lifting. Shift feet first to turn the load. Don't bend.
- Seek help if materials are too bulky to properly lift or grasp
- If load is too heavy, break into smaller loads
- Stack materials on pallets when possible for access by forklifts or pallet jacks
- Limit height of stacked materials
- When moving materials with forklifts or pallet jacks, always provide sufficient clearance in passageways

Hand, Power Tools, And Equipment

Scope: This Hand & Portable Power Tools Safety Program establishes and outlines the supervisor and user responsibilities; identification of safety hazards and control measures; and training, inspection and recordkeeping for company-owned hand and portable power tools.

The program applies to all company employees whose work duties require them to utilize hand and portable power tools. All hand and portable powered tools and other hand-held equipment utilized for any purpose, including construction, alteration, repair, demolition, electrical, plumbing, vehicle maintenance, and general purposes are covered by this policy.

Only employees who are qualified by training or experience to operate equipment and machinery may operate the equipment or machinery. You must have the knowledge to complete the job properly and safely. Know your limitations. If something is beyond your capabilities, don't do it!

Personnel Responsibilities

Branch Manager – Each branch manager, where hand and portable power tools are utilized, is responsible for the following:

- Ensure the applicable components of the Hand and Portable Power Tool Safety Program are available to employees.
- Provide training to employees expected to utilize hand and portable power tools as part of their job duties.
- Ensure hand and portable power tools are properly maintained and any equipment deficiencies are addressed to ensure employee safety. Maintain manufacturer manuals and other applicable documentation related to the hand and portable power tools in use.

Supervisors - Employees who supervise personnel with responsibilities to work with hand and portable power tools must:

- be informed of the contents of this program
- identify authorized personnel to utilize equipment; address safety hazards in a timely manner
- ensure appropriate training is provided to all employees.

Authorized Person - Employees working with hand and portable power tools must be fully trained to ensure all applicable elements of the Hand and Portable Power Tool Safety Program are followed.

In addition, employees are responsible for completing adequate training, reporting equipment deficiencies, and safe use of hand and portable power tools at all times.

Defective tools/machinery/equipment

The use of unsafe hand tools, equipment or machinery is not permitted. All equipment must be approved by the employer before it can be used.

Inspect portable power tools prior to use. Any defects or deterioration of the equipment should result in the tool being removed from service. Portable power tools removed from service due to defects must be tagged with "DO NOT USE", or the equivalent, to prevent unauthorized use.

ALL TOOLS, EQUIPMENT AND MACHINERY MUST BE INSPECTED FOR DAMAGE OR DEFECTS PRIOR TO EACH USE.

- Any defective or damaged tools shall be immediately removed from service and shall not be placed back into use until repaired or replaced.
- Any defective machinery or equipment shall be tagged or locked out so as to render them inoperable, and may only be placed back into service once repaired.
- Wrenches, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs.
- Impact tools, such as drift pins, wedges, and chisels, must be kept free of mushroomed heads.
- The wooden handles of tools must be kept free of splinters or cracks and shall be kept tight in the tool.

Hand Tool (Unpowered) Safety

Hand tools are tools that are powered manually and do not require additional power sources such as electric, hydraulic, compressed air, etc. Like a hammer, axe, planers, pliers, saw, screw driver, tin snips, and wrench.

Hazards associated with hand tools are typically associated with misuse of the equipment and/or improper maintenance of the tools. To prevent injury when utilizing hand tools, the following precautions should be taken:

- Use hand tools only for their intended purposes. Inspect hand tools for damage prior to use.

- Maintain hand tools in good working condition and free from damage. Damaged hand tools must be removed from service and repaired or replaced.

- When using tools, such as knives, saws, or other cutting devices, always direct the tool away from the worker and any other personnel in the area.

- Maintain cutting tools so that the cutting edges are sharp. Dull cutting edges may present additional hazards.

- Cracked cutting blades must be removed from service and replaced. Wrenches must be used to prevent slippage, to prevent injury to the user.

- Impact tools, such as chisels, drift pins, and wedges must be kept free from mushroomed heads.

- Iron or steel hand tools may produce sparks when struck. Avoid use near flammable or combustible materials. If flammable or combustible materials are present, ensure the use of non-sparking hand tools.

- Maintain both the work area and tools in a clean and organized manner. This will help prevent potential injuries.

- Store hand tools in a clean and dry location.

- Wear the appropriate PPE.

Portable Power Tool Safety

Portable power tools must be equipped with safety mechanisms. Portable power tools, when used improperly, can result in serious injury or death.

Types of portable power tools are determined by their power source, each of which will be addressed in this program, and include electric, pneumatic, liquid fuel, hydraulic, and powder actuated portable power tools. To reduce hazards associated with the use of portable power tools, employees should observe the following general safety practices:

- Read and understand the owner's/user manual for each portable power tool expected to be used by the employee, addressing a tool's proper use, limitations, proper operation, hazards, PPE, storage and maintenance practices applicable to the equipment.

- Tools should not be carried or lowered from an elevated position by the power cord. Never pull a power cord or hose as a means to disconnect it from a power source. Ensure cords and hoses are kept clear from heat, oil and sharp edges during use.

- Ensure tools are properly grounded during use. Use a ground fault circuit interrupter (GFCI) for corded tools when required.

- When not in use, before service, cleaning and during blade/bit replacement procedures, power tools should be disconnected from their power source. For example, if a drill is powered by a battery, remove the battery before changing the drill bit.

- When portable power tools are in use, unauthorized personnel must be kept clear of the work area. Utilize appropriate signage to indicate when portable power tools are in use and clearly define restricted areas.

- It may be necessary to secure the work area with a vice or clamps to allow for proper use of equipment when two hands are required to be on the power tool during use.

- To avoid accidental start-up of power tools, do not hold fingers on the triggers during transportation of equipment.

- Maintain tools in a clean manner free from oil and grease.

- Maintain cutting surfaces in a sharp manner. Dull cutting edges present additional hazards.

- When operating power tools, ensure adequate footing and maintain good balance while in use.

Manufacturer's Specifications

All hand and portable power tools must be operated in accordance with manufacturer's specifications, including only using manufacturer parts for any replacements/repairs, and maintained in a useable condition. The following applies to all hand and portable power tool use and maintenance to minimize hazards associated with their use

Follow manufacturer recommendations for:

- Service

- storing tools in the appropriate manner to minimize exposure to excessive temperature, humidity and corrosive materials

- reporting defects or deficiencies associated with tools to departmental supervisors upon discovery

Use the appropriate tool for the job.

Hand and portable power tools are designed and manufactured for specific uses. **Employees must use tools and equipment in the manner intended by the manufacturer.**

To prevent misuse of existing equipment and to prevent injuries, the supervisor shall ensure the proper tools are available to complete a job. If a task is required to be completed by an employee where an appropriate tool is not present, the supervisor shall ensure the job is not completed until the appropriate tool is available.

Guarding of Power Operated Tools

Guards must be used on all power operated tools (not just limited to hand tools) that are designed to accommodate guards.

NEVER EVER REMOVE, DISPLACE, ALTER, OR OTHERWISE DEFEAT A GUARD WHILE THE POWER TOOL IS IN USE.

Belts, gears, shafts, pulleys, sprockets, spindles, drums, fly wheels, chains, or other reciprocating, rotating or moving parts of equipment must be guarded if parts are exposed to contact by employees.

Machine guards must be provided to protect the user from the following:

- Point of Operation Hazard
- In-Running Nip Points
- Rotating Parts, and
- Flying Particles and Sparks

Point of operation guarding: The point of operation is the area on a machine where work is actually performed upon the material being processed. This area must be guarded to prevent any part of the operator's body from entering the danger zone during the operating cycle.

Machine guards directly cover a hazardous area of a tool or piece of equipment to prevent contact by the user. An example of a machine guard is the retractable cover on a circular saw, which exposes only the area of the blade performing the cutting action.

The following are some of the machines which usually require point of operation guarding:

- Guillotine cutters
- Shears
- Alligator shears

- Powered presses
- Milling machines
- Power saws
- Portable power tools
- Forming rolls

Special hand tools for placing and removing material may be used to permit easy handling of material without the operator placing a hand in the danger zone. However, these tools can only be used to supplement protection provided. They cannot take the place of other guarding.

The blades of a fan lower than 7 feet above the working surface shall be guarded.

Machines designed for a fixed location must be securely anchored.

Abrasive wheel machinery must be guarded.

Safety switches. Safety switches are incorporated into many portable power tools to prevent unintended activation of the equipment. An example of a safety switch is a constant pressure switch, which requires the user to place pressure on the activation switch; and releasing of the switch results in the tool shutting off or stopping.

Machine guards, safety switches, and any other safety elements of a tool or power tool, must not be removed, manipulated or tampered with in any way. Ever.

PPE and Tools

Employees who use hand and portable power tools and are exposed to hazards, such as noise, vibration, particulate, sparks/chips, abrasive, splashing objects, harmful dusts, fumes, mists, vapors and/or gases will be provided with the appropriate personal protective equipment (PPE).

The following considerations should be evaluated, at a minimum, in the selection and use of PPE when utilizing hand and portable power tools (Review specific equipment safety guidance in operator's manual):

- Wear appropriate PPE during the use of power tools including hand, head, eye, foot, hearing, respiratory and body protection.

- Loose clothing, long hair, ties, and jewelry can become caught in moving parts; therefore, ensure employees are appropriately dressed to perform the necessary work with portable power tools.

Electric power-operated tools

- Electric power operated tools must be double-insulated or grounded.
- The use of electric cords for hoisting or lowering tools is prohibited.
- Battery operated tools must have the batteries firmly locked in place. Corroded batteries must be removed and replaced.

Pneumatic power tools

- Pneumatic power tools shall be secured to the hose to prevent the tool from becoming accidentally disconnected.
- Safety clips or retainers shall be securely installed on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
- All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 p.s.i. pressure at the tool shall have a safety device on the muzzle to prevent the tool from ejecting fasteners, unless the muzzle is in contact with the work surface.

Compressed air

- Do not use compressed air for cleaning purposes (i.e. to blow dust off your person, equipment, work area, etc.) except where reduced to less than 30 p.s.i. and then only with effective chip guarding and personal protective equipment.
- Do not exceed the manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings.
- The use of hoses for hoisting or lowering tools is prohibited.

Fuel powered tools

- All fuel powered tools shall be stopped while being refueled, serviced, or maintained.
- When fuel powered tools are used in enclosed spaces, follow the respiratory protection program applies.

Hydraulic power tools

- Do not exceed the manufacturer's safe operating pressures for hoses, valves, pipes, filters, and other fittings.

Powder-actuated tools

- Only employees who have been trained in the operation of the particular tool shall be allowed to operate a powder-actuated tool. This training is an annual requirement.
- The tool must be tested each day before loading to ensure that safety devices are in proper working condition. You must follow the manufacturer's recommended procedure for testing.
- Any tool found not in proper working order, or that develops a defect during use, shall be immediately removed from service and not used until properly repaired.
- Tools shall not be loaded until just prior to the intended firing time.
- Do not point loaded or empty tools at any employees.
- Hands must be kept clear of the open barrel end.
- Loaded tools must not be left unattended.
- Do not drive fasteners into very hard or brittle materials, including, but not limited to, cast iron, glazed tile, surface-hardened steel, glass block, live rock, face brick, or hollow tile.
-
- Avoid driving into materials that are easily penetrated unless such materials are backed by a substance that will prevent the pin or fastener from passing completely through and creating a flying missile hazard on the other side.
- Do not drive fasteners into a spalled area caused by an unsatisfactory fastening.
- Do not use tools in an explosive or flammable atmosphere.
- Always use the correct shield, guard, or attachment recommended by the manufacturer

Woodworking Tools

- All fixed power-driven woodworking tools shall be provided with a disconnect switch that can either be locked or tagged in the off position.
- All circular saws over 20 in. in diameter or operating at over 10,000 peripheral feet per minute will be permanently marked with the operating speed. The saw is not to be operated at any speed other than the speed marked on the blade.
- Automatic feeding devices will be installed on machines whenever the nature of the work will permit.

- Feeder attachments will have the feed rolls or other moving parts covered or guarded so as to protect the operator from hazardous points.

- All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe.

- Other requirements. All woodworking tools and machinery shall meet other applicable requirements of American National Standards Institute, 01.1-1961, Safety Code for Woodworking Machinery.

- Do not operate saws or any other equipment or tools with defective or missing guards. For example, always be sure a circular saw has a properly working guard that deploys immediately. Avoid holding saw guards open manually.

- Check controls, chain tension and all bolts and handles to ensure they are functioning properly and are adjusted according to the manufacturer's instructions.

- Fuel the saw at least 10 feet from sources of ignition and use an approved fuel container.

- Keep hands on the handles and maintain secure footing while operating the chainsaw.

Circular Saws

- Use ALL PPE, including safety glasses and hearing protection.

- Do not operate saws or any other equipment or tools with defective or missing guards. For specific example-always be sure a circular saw has a properly working guard that retracts immediately. Do not hold saw guards open manually.

- Use in compliance with manufacturer guidelines and specifications.

Jacks – Lever, Ratchet, Screw, and Hydraulic

- The manufacturer's rated capacity shall be legibly marked on all jacks and never exceeded.

- All jacks shall have a positive stop to prevent over travel.

- When necessary to provide a firm foundation, the jack base must be blocked or cribbed.

- Where there is a possibility of slippage of the metal cap of the jack, a wood block shall be placed between the cap and the load.

- After the load has been raised, it shall be cribbed, blocked, or otherwise secured immediately.

- Hydraulic jacks exposed to freezing temperatures must be supplied with adequate antifreeze liquid.

- All jacks must be properly lubricated at regular intervals.

- Each jack must be thoroughly inspected at times which depend upon the service conditions, and at a minimum, at the following times:

    - For constant or intermittent use at one locality, once every 6 months,
    - For jacks sent out of shop for special work, and when returned,
    - For a jack subjected to abnormal load or shock, immediately before and immediately thereafter.

- Repair or replacement parts must be examined for possible defects.

- Jacks which are out of order must be tagged accordingly and shall not be used until repairs are made.

Bloodborne Pathogens

The company does not anticipate that employees' duties will cause exposure to bloodborne pathogens. The OSHA standard regarding bloodborne pathogens does not even explicitly apply to construction work. However, the standard does apply to construction maintenance operations with or potential exposure to blood or other potentially infectious materials. It also applies to general industry settings such as workshops and warehouses.

The company adopts these safety precautions because there may be a potential for exposure to bloodborne pathogens, such as when administering first aid in any work setting.

What are bloodborne pathogens?

Bloodborne pathogens are microorganisms present in human blood that can cause disease. These include but are not limited to Hepatitis B virus (HBV), Hepatitis C (HCV) and Human immunodeficiency virus (HIV).

Bloodborne pathogens are dangerous. Contamination sources include:

- Blood
- Other human body fluids like mucus and saliva
- Any unfixed (i.e. unattached) human tissue or organ (such as a severed fingertip)
- Other potentially infectious materials

Warning: Bloodborne pathogens can survive in dried fluids. For example, week-old dried blood might still be actively and highly contaminated.

Exposure to Bloodborne Pathogens

The spread of bloodborne pathogens occurs through:

- direct contact
- indirect contact
- respiratory transmission
- vector-borne transmission (i.e. biting parasites like mosquitoes)

Exposure can occur through:

- needlesticks
- cuts from other contaminated sharp objects
- contact of mucous membrane or broken skin with contaminated fluids or objects

Occupational exposures occur mainly to:

- first aid responders

- housekeeping personnel
- healthcare workers
- those who clean up following workplace injuries.

Protection from bloodborne pathogens

When responding to an emergency involving blood or bodily fluids follow these precautions:

- Wear disposable gloves.
- Remove jewelry, including rings before wearing disposable gloves.
- Keep any cuts, scraps or sores covered prior to putting on protective clothing.
- Wear protective clothing such as musk or eye ware when in contact with blood or other body fluids that may splash.
- Remove disposable gloves without contacting the soiled part of the gloves and dispose of them in sealed container.

< Disposable non-porous gloves (like latex or nitrile) shall be worn when offering first aid.>

Basic Guidelines to Handling Blood and Other Potentially Infected Material:

- Wear disposable gloves and other PPE.
- Clean up immediately or as soon as possible.
- If blood or other potentially infected material is mixed with sharp objects such as glass, do not pick these up with your hands, use a broom and dust pan, or two pieces of cardboard.
- Flood the soiled area with disinfectant solution and allow to stand at least 10 minutes. Mixture can be one part bleach per 10 parts water.
- Use appropriate material to absorb the solution and dispose of it immediately in a sealed container.
- Handle all soiled supplies and equipment with care until they are properly cleaned and disinfected.
- Place all soiled clothing in a marked plastic bag for disposal or washing.
- Scrub soiled boots with soap, a brush and hot water.

- Floors, decks and countertops and vehicle seats must be cleaned before use, using a disinfectant solution. Mixture can be one part bleach per 10 parts water.

- Use soap and water to thoroughly wash hands (and any body part potentially exposed) following any potential exposure to a bloodborne pathogen.

Post-exposure Vaccination

The company will offer a confidential Hepatitis B vaccine, at no cost, to any employee exposed to a bloodborne pathogen.

The vaccine must be administered by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional.

The employee may refuse the vaccine only by signing a statement that contains the following:

> "I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me."

Respiratory Protection

It is the policy of this company to provide its employees with a safe and healthful work environment. The guidelines in this program are designed to ensure employees are protected from exposure to respiratory hazards. This is accomplished as far as feasible by accepted work practice control measures. When effective controls are not feasible, respiratory protection is required. In this situation, respiratory protection is provided at no cost to the employees.

It is management's responsibility to determine what applications require the use of respiratory protective equipment as required under OSHA and any other applicable health and safety standards.

Mandatory use of respirators

The company has determined that some employees in certain tasks are exposed to respiratory hazards. All employees performing these tasks must wear the designated equipment, or equipment providing greater or equivalent protection.

If a respirator is required to perform a task, the company must the provide respirator, along with training, and medical evaluations at no cost to the employee.

Employees required to use respirators are must participate in the company's respiratory protection program, as a condition of continued employment. An employee's failure to do so may result in disciplinary action, up to and including termination for serious repeat infractions.

Continuous air flow respirator

The primary sprayer of Spray Polyurethane Foam (SPF) will use a continuous airflow respirator at all times. During no time will the wearer of a continuous air flow respirator be allowed in an area where there is a possibility of oxygen concentration less than 19.5%. Respirator/ compressor manufacturer guidelines should be followed.

Voluntary use of respirator

If an employee desires to wear a respirator during certain operations in a non-hazardous area, the company will review each such request on a case-by-case basis. If the company permits the voluntary use of the respirator, the company may provide the respirator or permit employees to use their own respirators.

An employee may use the respirator provided or may provide his/her own for voluntary use, if:

- Doing so does not jeopardize employee's health or that of co-workers;
- The equipment itself does not create a workplace hazard; and,
- The branch manager approves after coordination with company risk department.

Employees who choose to voluntarily wear respirators are required to receive a copy of "(Mandatory) Information for Employees Using Respirators When Not Required Under the Standard," *See attached Appendix D of OSHA Standard 1910.134*.

Employees voluntarily using tight fitting respirators (cartridge respirator) must follow the medical surveillance, cleaning, maintenance and storage procedures in this program. Employees voluntarily wearing dust masks (filtered face piece) are not subject to the program's medical evaluation. However, their equipment must be clean and free of contamination and not interfere with the employee's ability to work safely.

Personnel Responsibilities

Management is responsible for the administration of the Respiratory Protection Program. The program includes assisting field personnel in identifying processes or tasks that require respirators, selection of respiratory protection options, and evaluating the program.

Risk Manager Responsibility

The Risk Manager will monitor branch compliance and assist branch managers in ensuring that the program is implemented. This includes evaluating hazards, training, enforcement, fit testing, and ensuring proper storage, cleaning, and maintenance of equipment.

Branch Management's Responsibility

Branch management is responsible for ensuring that the Respiratory Protection Program is implemented and enforced at their branch in accordance with all OSHA standards. This includes evaluating hazards, training, enforcement, fit testing, and ensuring proper storage, cleaning, and maintenance of equipment at his/her branch.

Supervisor's Responsibilities

Each supervisor is responsible to monitor the Respiratory Protection Program in their work area and take corrective action when necessary to enforce the program.

Employees' Responsibility

Employees have a responsibility to wear his/her respirator when required, and care for and maintain their respirator as instructed.

Medical Evaluation

Employees who are required to wear a respirator must pass a medical exam before they are permitted to wear or even get fit tested for a respirator.

A questionnaire will be filled out by the employee and reviewed by the physician or licensed health care professional (PLHCP). If the physician finds it necessary, the employee will receive an examination, provided by the company. The company will provide a follow-up examination when

the PLHCP recommends it and if the employee's responses to the questionnaire compel it. *See §1910.134(e)(3) and §1910.134 Appendix C.*

The purpose of the questionnaire and examination is to ensure that the employee is physically able to perform the assigned work while wearing respiratory protective equipment.

Recordkeeping: Written records must be kept regarding medical evaluations, fit testing, and the respirator program.

Respirator Selection

Respirators are selected and approved for particular uses by management. The selection is based upon A.N.S.I. standards and physical and chemical properties of the air contaminants and concentration level likely to be encountered by the employee.

The company shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.

The company will make a respirator available immediately to each employee who is assigned to a job that requires respiratory protection. Replacement respirators, cartridges and filters will be made available as required.

See approved respirators listed on Table 1:

INSTALLING	AIR CONTAMINANTS	FILTER	
Fiberglass	Fibers & Dust	N95 *	TC-21C-151
Cellulose-Dry	Fibers & Dust	N95	TC-21C-151
Polyurethane Spray Foam (primary sprayer)	M.D.I. C02, C0, NOX	Continuous Air Flow	N/A
Polyurethane Spray Foam (helper)	M.D.I. C02, C0, NOX	Organic cartage	
Stabilized Cellulose Spray	Fiber & Dust	N95	TC-23C-75
Fire Protection (Sprayed Fiberglass)	Fiber & Dust	N95 *	TC-23C-75
Residential Renovator Program	Lead Dust	N100	
Levelrock	Silica	N95	

- Use of full-face continuous airflow respirator for SPF primary sprayer is mandatory.
- Use of the N95-N100 for cellulose and Residential Renovator Program is not voluntary and requires a medical evaluation and documented fit test.

Filtering Facepiece N-95

In 1910.134(b), OSHA defines "filtering facepiece (dust mask)" as: "a negative pressure particulate respirator with a filter as an integral part of the facepiece or with the entire facepiece

composed of the filtering medium." OSHA considers N95 respirators to be dust masks. (Information on NIOSH approval for dust masks is at 42 CFR Part 84 Section 84.170.)

OSHA has an exception for voluntary use of respirators outlined at 1910.134(c)(2). Under these provisions, when employees wear dust masks on a voluntary basis, the employer, must determine "that such respirator use will not in itself create a hazard," and provide the respirator users with the information contained in the standard's Appendix D. A medical evaluation, fit testing, etc. is not required for voluntary use of a dust mask.

Fit Testing

Employees will be properly fitted and tested for a face seal prior to use of the respirator in a contaminated area. Qualitative fit testing will be the preferred method of fit testing

Fit testing will be done initially upon employee assignment to an area where respirators are required. Fit testing will be repeated annually and when there are changes in the employee's physical condition that could affect respiratory fit. All tight-fitting respirators will be tested. Positive pressure tight-fitting respirators will be fit tested in the negative pressure mode.

Fit testing will not be done on employees with facial hair that passes between the respirator seal and the face or interferes with valve function. Such facial hair includes stubble, beards, and long sideburns.

Respirator Use

Tight fitting respirators shall not be used with beards or other facial hair that prevents direct contact between the face and the edge of the respirator whenever they detect the warning properties of contaminant or increased breathing resistance.

Employees will use their respirators under conditions specified in this program and in accordance with the training they received. All employees shall conduct user seal checks each time that they wear their respirator. Employees are not permitted to wear tight-fitting respirators if they have any conditions such as facial hair or jewelry that prevents them from achieving a good seal.

**Employees that are unable to wear a tight-fitting respirator due to facial hair (beard) or other obstructions to the respirators seal will use a hood in lieu of a tight-fitting respirator.

Cleaning, maintenance, and storage

Respirators will be cleaned as often as necessary, but at least once a day by the user and will be stored in a dry plastic bag or other airtight container. Maintenance involves a daily visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. Defective parts and respirators shall be taken out of service immediately. Employees wearing APR's shall change the cartridges on their respirators when they first begin to experience difficulty breathing while wearing their mask.

Identification of filters, cartridges, and canisters: The company shall ensure that all filters, cartridges, and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

Cartridge and canister changeout schedule

Organic vapor/acid gas cartridge/canister with a P-100 prefilter that are used in the application of product containing MDI must be changed after 8 hours of use or at the end of the shift whichever is shorter. This change out schedule is per the recommendation of the Alliance for the Polyurethanes Industry.

Service life determination for particulate filters is only required for gases and vapors. Often the particulate filtration efficiency will improve during use as the filter loads and a "cake" layer forms on the surface of the filter.

Respirators or filters should be changed if they become damaged soiled, or an increase in breathing resistance becomes noticeable. In addition to these considerations, N series filters should not be used against oily aerosols, R series filters should be changed every 8 hours if used against oily aerosols; and P series filters used in environments containing oily aerosols should be limited to 40 hours of use or 30 days, whichever is first.

Program evaluation and update

The safety coordinator will conduct periodic evaluations of the workplace to ensure that

- the provisions of this program are properly implemented
- that the provisions of the current written program are being effectively implemented and
- that it continues to be effective.

The safety coordinator shall regularly consult employees required to use respirators to assess the employees' views on program effectiveness and to identify any problems. Any problems that are identified during this assessment shall be corrected. Factors to be assessed include, but are not limited to:

- Respirator fit (including the ability to use the respirator without interfering with effective workplace performance).
- Appropriate respirator selection for the hazards to which the employee is exposed.
- Proper respirator use under the workplace conditions the employee encounters; and
- Proper respirator maintenance.

Respirator Training

Employees will be trained prior to using a respirator and supervisors will be trained prior to supervising employees that must wear respirators. The training will cover all elements of this Respiratory Protective Program, including:

- Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator.
- The limitations and capabilities of the respirator.
- How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions.
- How to inspect, put on and remove, use, and check the seals of the respirator.
- What the procedures are for maintenance and storage of the respirator.
- How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators.
- The general requirements respirators.

Retraining: Retraining is necessary annually, whenever changes in the workplace or the type of respirator render previous training obsolete, whenever the employee's knowledge or use indicate he has not retained the required understanding or skill, or any time retraining appears necessary to ensure safe respirator use.

Important Notice

The information contained within this policy represents the key elements of a written respiratory protection program as stated in OSHA's general industry standard for respiratory protection. (29 CFR 1910.134)

Respirable Silica Protection

The goal of this program is to prevent employees' injurious exposure to respirable silica dust above the permissible exposure limit of 50 micrograms per cubic meter averaged over 8 hours.

This program must be followed when employees are exposed to respirable silica dust above the action level, which is 25 micrograms per cubic meter, averaged over 8 hours.

Written Exposure Control Plan for Each Jobsite

The company will create a written exposure control plan where employees will encounter respirable silica dust. That plan will:

- Describe all anticipated work activities that cause exposure to silica dust;
- Describe the engineering controls, work practices, and respiratory protection to limit silica dust; and
- Describe acceptable housekeeping activities (like wet sweeping or vacuuming with a HEPA-filtered vacuum) that will not expose employees to respirable silica dust.
- Describe procedures to restrict access to work areas to limit the number of employees exposed to respirable silica dust (such as scheduling, posting warning signs, or warning employees to stay clear of an area).

Appoint a Competent Person

Appoint and train a competent person to determine when there is an exposure and when that exposure requires a response. The Competent person must:

- Be trained to identify existing and silica dust hazards in the workplace;
- Have authority to eliminate, or reduce respirable silica dust exposure; and
- Regularly walk the jobsite to insure that the silica exposure protocols are followed.

Assess Exposure Potential

Before work begins and whenever worksite conditions change, the competent person must determine whether employees will be exposed to respirable silica dust.

- Respirable silica dust is quartz, cristobalite, and/or tridymite contained in airborne particles that can be breathed.

- Review safety data sheets regarding the materials on the jobsite to determine if working with them will generate respirable silica dust containing quartz, cristobalite, and / or tridymite.

Alert: Drywall may contain silica and must be evaluated for silica content before sanding and cutting.

Alert: Exposure to silica may come from the employer's activities, or those of other contractors.

Limit Exposure by Following Table 1

If the jobsite activities involve construction materials containing quartz, cristobalite, and/or tridymite, refer to *§1926.1153 Table 1 attached* to determine whether those jobsite activities are listed there.

If the jobsite activity is listed in Table 1, follow the instructions in Table 1 to limit the potential silica dust exposure. *There is no need to do any assessment or measuring to determine the amount of breathable silica dust on the jobsite.*

Use the equipment and PPE required in Table 1 to limit exposure to respirable silica dust.

Alternative Assessment

If the jobsite activity is not listed in Table 1, or if another jobsite contractor is not following Table 1, then assess the exposure, if any, and limit exposure if necessary.

The assessment must occur before work begins and whenever there is a change in jobsite activity involving materials containing quartz, cristobalite, and/or tridymite.

Use either the performance option or scheduled monitoring to assess the amount of respirable silica dust:

The Performance Option

Consult reliable data regarding the particular jobsite activity to determine whether that activity is generating respirable silica dust above the action level. Objective data includes industry-wide surveys; calculations based on the composition of a substance; and historic air monitoring data.

Alternatively (or in addition to using reliable data) use direct reading instruments to measure silica exposure and / or rely on data regarding the amount of respirable silica.

If necessary, work with an industrial hygiene and safety professional to obtain direct reading instruments.

Scheduled Monitoring

Use scheduled monitoring if Table 1 or the performance option are not available or do not apply. Exposure testing results are analyzed in a lab, not in real time on the jobsite. Work with an industrial hygiene and safety professional to obtain monitoring equipment.

Perform initial monitoring to assess the exposure over an 8 hour average for each employee in each work area.

- If the scheduled monitoring lab results show an exposure below the action level, the discontinue monitoring.
- If the exposure is above the action level, but *below* the PEL, then repeat monitoring within 6 months.
- If the scheduled monitoring shows an exposure *above* the PEL, repeat monitoring within 3 months.

Limit Silica Dust Exposure

Use engineering controls to keep silica dust exposure below the PEL, unless engineering controls are not technically feasible.

Use water to liquefy silica dust, or use equipment with a vacuum designed to trap silica dust before it becomes airborne.

If those engineering controls do not reduce silica dust exposure below the PEL, add respirators. Only add respirators as a control measure after implementing engineering controls. Continue to use the engineering controls in addition to the respirators.

Housekeeping

Limit jobsite housekeeping when silica is present. Housekeeping, such as sweeping can generate silica dust above the action level and even above the PEL. Instead use "wet sweeping," HEPA-filtered vacuuming, or other cleaning methods that minimize the likelihood of exposure to silica dust.

Medical Examinations

The company will provide medical exams every 3 years to employees who wear a respirator for silica protection for at least 30 days (which do not need to be consecutive days) within the year. Using a respirator, for any amount of time on any day, counts as one day of respirator use. If the medical examination results in a referral to a specialist, provide that exam to the employee within 30 days of the referral.

Employee Training

Before they are assigned to a position involving exposure to silica dust at or above the action level, train and inform employees about silica dust hazards and the methods to limit exposures to those hazards.

Employees must demonstrate knowledge and understanding regarding the following:

- Health hazards associated with exposure to silica dust;
- Specific tasks in the workplace that could result in exposure;
- Specific measures implemented by the employer to protect employees from exposure;
- The contents of the OSHA silica dust standard;
- The identity of the competent person; and
- Purpose and description of the medical surveillance program.

Record Keeping

The company will keep records of:

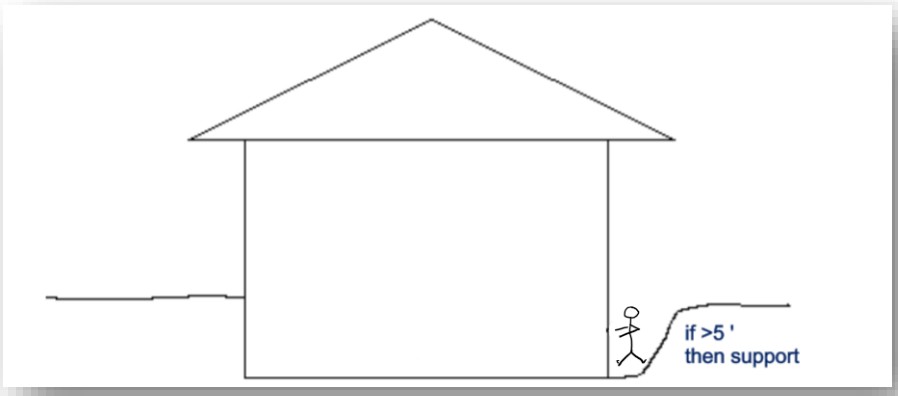
- Air monitoring data;
- Any objective data relied on for compliance; and
- Medical surveillance records for each employee provided medical surveillance under the standard.

Trench Safety

A trench is an excavation with a depth and width that are narrower than the length.

A trench that is deeper than 5 feet must be protected from cave in unless both sides are entirely stable. If one side is rock or concrete, and other side is loose soil, the loose soil side must be supported if the trench depth is greater than 5 feet.

Occasionally, employees will work on the exterior of foundation walls on a building, such as a residential structure. Doing so may result in a trench along the foundation wall, where one sidewall of the trench consists of the structure's concrete foundation, and the opposite trench wall is soil:



When the work requires employees to work in a trench:

If the project will require employees to work in a trench deeper than 5 feet (like that pictured above) then there must be contract terms to protect those employees.

During the contract negotiations with the general contractor or property owner, the company will insist that the contract requires that contractor / property owner to:

- Slope back the side(s) of the trench to a stable slope;
- Bench the sides (cutting stair-steps in the sides); or
- Provide a shoring system. The shoring system can be shielding such as an aluminum trench box or even a timber (wood beam) shoring system rated for the trench depth.

If this has not happened, employees must:

- Slope back the side(s) to a stable slope;
- Bench the sides (cutting stair-steps in the sides);

- Use a shoring system rated for the trench depth. The shoring system can be shielding such as an aluminum trench box or even a timber (wood beam) shoring system;
- Devise a way to perform the work without entering the trench; or
- **Do not work in the trench.**

Whatever method used, it must be strong enough to resist all reasonably foreseeable loads that would result from a cave-in.

If necessary, a trench box can be rented from local construction equipment suppliers.

Other Trenching Safety Requirements

- Keep heavy equipment away from trench edges.
- Identify and eliminate other sources that might affect trench stability.
- Keep any excavated soil (spoils) and other materials at least 2 feet from trench edges.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm or other water intrusion.
- Inspect trenches after any occurrence that could have changed conditions in the trench.
- Do not work under suspended or raised loads and materials.