



APPENDIX C. Ladder Safety Policy

Purpose

VSC Fire & Security, Inc. (hereinafter "VSC") has established a consistent set of procedures to ensure the safety of all employees while working on or around Ladders.

Regulatory Scope

These procedures address OSHA regulatory requirements under 29 CFR 1926.1053, 1926.1060, 29 CFR 1910.25, 1910.26, 1910.27, ANSI A14.4-1979, and 1915.72 (b).

Training

VSC will provide training for each employee whose job requires the use of a ladder. Training will be provided prior to use and will include the following:

- Recognizing hazards associated with ladders.
- Procedures to follow to minimize the hazards associated with ladders.
- Understanding the application and limits of the equipment.
- Demonstration of the proper use, inspection, and storage of equipment.

As a result of the training a competent person will be qualified in the following areas:

- The nature of fall hazards in the workarea.
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used (if applicable).
- The proper construction, use, placement, inspection, and care in handling of all ladders.
- The maximum intended load-carrying capacities of ladders used.

Training records will be maintained by VSC's Risk Management & Safety Department (hereinafter "Risk-Safety"). Records will include employee name, training topic-to include course content and level of training, date of training, certification (where applicable), and date of future training to maintain certification. Any employee who does not comply with this training will be subject to discipline, up to and including termination of employment.

Retraining

If VSC management has reason to believe that an employee does not have the understanding and knowledge in ladder use, then the employee will be retrained. Circumstances where retraining is required can include:

- Change in job assignment.
- Change in type of ladder used by the company or employee.
- Change in policy and procedure on ladder safety.
- Employee is observed not following ladder safety requirements.
- Employee is involved in an incident where ladder safety requirements were not followed.

Inspection and Maintenance Criteria

Ladders will be inspected prior to each use and after any occurrence that could affect the ladder's integrity. Ladders will be inspected for:

- Oil, grease, dirt, and other slipping hazards.
- Loose fittings.
- Structural defects (i.e. broken or missing rungs, cleats, or steps; broken or split rail; damage to footpads or halyard).
- Loose spreader assembly that can lead to ladder wobble.
- Corrosion of any metal parts or components.
- Missing or illegible manufacturer markings that identify the classification and load capacity.

Defective or damaged ladders will not be used. If a ladder requires repair, or does not have a legible classification or load capacity sticker, remove it from service immediately and tag it "Out of Service" and notify your supervisor. If the ladder cannot be repaired, destroy it prior to discarding. Do not place a defective ladder on a truck or allow it to remain in the workplace without an "out of service" tag prominently displayed.

VSC will only issue fiberglass ladders. Wooden ladders should not be used as they are easily damaged, and the life span is too short.

General Ladder Requirements

- Ensure you have a ladder of appropriate height for each task.
- Ladders must be Type IA or Type 1AA (Extra Heavy Duty) 300-pound load capacity or higher
- Metal ladders will NOT be used
- Do not exceed the maximum load capacity indicated by the manufacturer's label for the ladder – this includes the weight of tools and equipment that you may be carrying or lifting.
- If the ladder is defective, immediately tag it "out of service" and remove it from the workplace.
- All ladders must be inspected by a competent person prior to use for cracks, breaks, or defects, of steps, rungs, spreaders, rails, foot pads and halyard and after any occurrence that could affect the ladders safe use.
- Steps or rungs must be uniformly spaced, not to exceed 12" intervals.

- Ladders placed in any location where they can be displaced by workplace activities or traffic, such as in hallways, doorways, passageways, 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.
- If it is necessary to place a ladder in or behind a doorway, barricade the work area and post warning signs on both sides of the door.
- The access area at the bottom and top of a ladder must be kept clear. Ensure access at the bottom of a ladder has a 36" square area clear of any trip hazards or obstructions.
- If it is necessary to use a ladder close to an open edge, roof, or floor opening, tie off the ladder and use properly anchored fall protection.
- Wear shoes that provide good support and traction. No Barefoot, Socks Only, or Sandals/Flip-Flops!
- When ascending or descending a ladder maintain "three points of contact", which means three of your four limbs must be always in contact with the ladder - keeping either two hands and one foot, or one hand and two feet in contact with the ladder at all times. Use a handline to raise or lower materials.
- When ascending or descending a ladder, the user shall face the ladder.
- Each employee shall use at least one hand to grasp the ladder when progressing up and/or down the ladder.
- An employee shall not carry any object or load that could cause the employee to lose balance and fall.
- While working from a ladder keep both feet on the ladder steps or rungs. Do not reach out too far and keep your belt- buckle area inside the rails of the ladder. Do not place one foot on a line or piece of equipment while the other foot is on the ladder step/rung. Change the position of the ladder as often as necessary to keep within reach of the work.
- Face a ladder when working from it. When that is not possible, properly anchored personal fall protection is to be used.
- Look below a ladder before descending and stepping off to ensure there are no obstacles or hazards.
- More than one person on a ladder is NOT permitted unless the ladder is designed to support more than one person.
- Never use a ladder for anything but its intended purpose.
- Never use a ladder on an unstable base such as snow, ice, gravel, or uneven surfaces where all legs cannot be firmly set.
- Never move, shift, or extend a ladder while occupied. "Walking" a ladder is prohibited.
- Never jump off a ladder.
- Never use a bucket, chair, or other furniture as a substitute for a ladder.
- Loaning VSC ladders to other trades or borrowing ladders from other trades is prohibited.
- Never leave ladders free standing and keep secure from the general public

Working on ladders near fall hazards

When Guard rails are in use, they must be within 39" to 45" in height from walking or working surface (at your feet) to the top rail for unprotected sides or edges of buildings, elevator openings, holes and

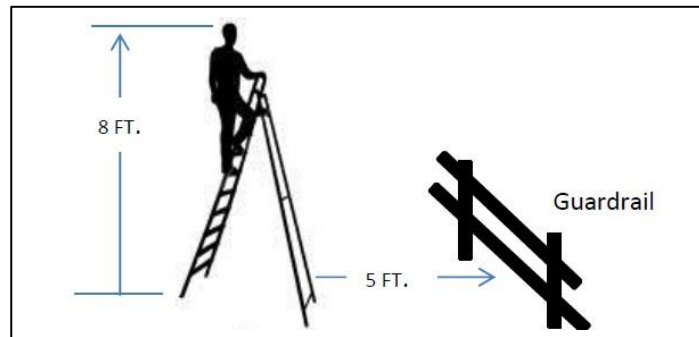
stairwells. When working from a ladder near these areas the guard rail will not protect you from the fall hazard.

Just the first rung of a portable ladder can elevate you 10" above the top rail. Plus, the impact of you and the

ladder will break the guardrail.

When working from ladders near these fall hazards a personal fall arrest system (PFAS) must be used. After ascending to working height on the ladder attach your lanyard to an appropriate anchorage point.

When the distance between the ladder and a fall hazard is equal to or less than the height of the ladder and the height of the person on the ladder then PFAS must be in use as illustrated in this figure:



Types of Ladders & Requirements

Straight or Extension Ladders

- The top of the ladder must extend at least 3 feet above the supporting object when the ladder is used as access to another work area. When this is not possible, the ladder must be secured to a rigid support at its top and a grab rail should be available to help employees get off the ladder.
- After an extension section has been raised to the desired height, ensure that the safety dogs or latches are engaged and that the extension rope is secured to a rung on the base section of the ladder.
- The extension section must overlap the base section a minimum of three rungs.
- Do not step, climb or stand higher than the step indicated on the label marking the highest standing level. If there is no such marking, take the ladder out of service.
- Follow the “Four-to-One Rule”: For every four feet of ladder height, the base of the ladder will be 1 foot (12 inches) away from the object the ladder rests against.
- Trestle ladders are prohibited!

Step Ladders

- Set a stepladder on all four feet with spreaders locked in place. A stepladder must NOT be used as a straight ladder, leaned against a wall or object.
- Do not climb, sit, or stand on the top of a stepladder, or the first step from the top.

- Remove tools and equipment from the ladder before moving it.
- Tie off a stepladder when using it close to the edge of an elevated platform, roof, or floor opening and utilize fall protection.
- Ladders must be Type IA or Type 1AA (Extra Heavy Duty) 300-pound load capacity or higher
- Stepladders must only be climbed and used on the proper side.
- Do not fold a step ladder to lean against a wall or object unless the ladder is designed for that use.



Safe lean or shelf ladders are designed to lean against walls, pipe, or corners.

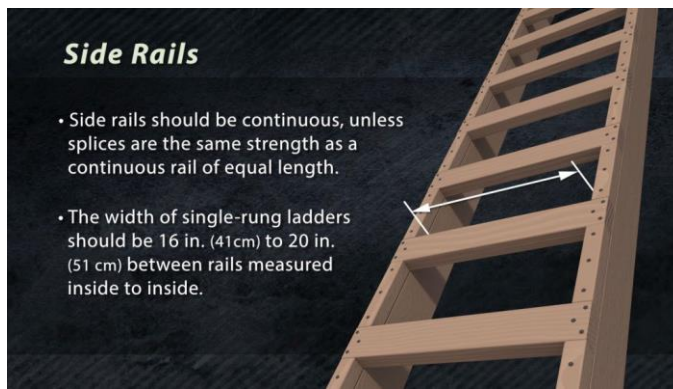
When step ladders are needed in small, restricted areas that do not allow the ladder to be fully opened to engage the locking spreader bar a safe alternative is to use a **Safe clean or shelf ladders** as seen here.

Wood Job Made Ladders

VSC employee are not allowed to construct or repair job made ladders provided by the general contractor.

Job made ladders are only used primarily for constructions sites and VSC employees may use them for access if the ladders comply with the following ANSI A14.4-1979 requirements as described in OSHA CFR29 1915.72 (b):

Job made ladders must meet the design specification and be constructed with approved materials as required by OSHA as seen in this diagram:



Job made wood ladders for means of egress on construction sites.

A job-made wooden ladder is a ladder constructed at the construction site. It is not commercially manufactured. A job-made wooden ladder provides access to and from a work area. It is not intended to serve as a work platform. These ladders are temporary and are used only until a particular phase of work is completed or until permanent stairways or fixed ladders are installed. These ladders must meet design standards as described in OSHA 1915.72 and ANSI A14.4-1979 requirements not to exceed 30 feet in length.

Means of emergency exit

If the ladder is the only way of entering or exiting a work area with 25 or more workers, or up and down traffic is expected on that same ladder, a double cleat ladder must be used, essentially creating two ladders in one. Cleats are also known as rungs or steps.



Single rung extension ladder like this This is an **incorrect** ladder and in violation of standards.

Ladder shown in the above photo taken on an actual VSC job site, does not comply with these standards and must not be used. When the only means of access between floor levels is a single extension ladder setup in this configuration VSC must not use the ladder and report the violaiton to VSC Safety Team and the general contractor. No work can be perform on upper floor levels until this violaiton is corrected.

Ladders set up in this confrgation also restrict employees ability to evacuate the job site in case of an emergency such as a fire and increase the risk of serious injury.



The photo above illustrates a Double cleated ladder. This is a **Correct** made job ladder that meets OSHA and ANSI requirements.

Once a stairwell or other permanent means of access are provided job made ladders must not be used.

Emergency Response & Evacuation.

Project sites with multi story buildings must have an approved stairwell or a scaffold stair tower between floor levels for emergency escape.

Examples of approved access:



As per OSHA 1926.34(a) Construction standard for Means of Egress,

In every building or structure exits shall be so arranged and maintained as to provide free and unobstructed egress from all parts of the building or structure at all times when it is occupied. No lock or fastening to prevent free escape from the inside of any building shall be installed except in mental, penal, or corrective institutions where supervisory personnel is continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.

Obstructed egress: impedes employees' ability to exit swiftly in the event of a fire or other emergency, and unsafe storage of materials exposes employees to crushing and struck-by hazards.

Job site with only a single ladder between floors can impede employees ability to exit and prevent prompt medical attention in case of serious injury and delay the administration of medical attention to an injured employee, particularly in the case of serious injury, where even a few minutes can

make a difference.

Fixed Ladders

- Maintain a 7-inch perpendicular clearance between ladder rungs, cleats, steps, and any obstruction on the climbing side of the ladder.
- Allow a 30-inch perpendicular clearance between the centerline of fixed ladder rungs, cleats, steps, and any obstruction on the climbing side of the ladder.
- Each step or rung of a fixed ladder must be capable of supporting a load of at least 300 pounds (114kg) applied in the middle of the step or rung.
- The rungs and steps of fixed metal ladders manufactured after January 14, 1991, must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.
- The step-across distance between the center of the steps or rungs of fixed ladders and the nearest edge of a landing area must be no less than 7 inches (18 cm) and no more than 12 inches (30 cm). A landing platform must be provided if the step-across distance exceeds 12 inches (30 cm).
- Where the total length of a climb equals or exceeds 24 feet, fixed ladders must be equipped with one of the following:
 1. Ladder safety devices.
 2. Self-retracting lifelines and rest platforms at intervals not to exceed 150 feet (45.7m).
 3. A cage or well and multiple ladder sections – each ladder section will not exceed 50 feet (15.2m) in length. These ladder sections must be offset from adjacent sections and landing platforms must be provided at maximum intervals of 50 feet (15.2m).

Note: If access to any job task in a customer's facility requires the use of a fixed ladder, you must inspect the ladder for all safety features and any damage. Report damaged or missing safety equipment to the customer/owner and notify your supervisor to review alternate means of access to perform the task. DO NOT USE THE FIXED LADDER

Ladder Storage

- Use a well-ventilated area.
- Store fiberglass ladders away from excessive moisture, heat, and sunlight.
- Ladders stored on trucks and on top of vans are exposed to direct sunlight and other environmental elements that affect the longevity of ladders. These ladders must be inspected more frequently for cracking, splitting, label deterioration, excessive fading of coating color and “powdering”. *Powdering is when the coating on a fiberglass ladder begins to degrade and produce a powdery residue that you can see in your hands after touching the ladder surface. The powder contains chemicals that can cause skin irritation.*
- Store ladders away from stove, furnace, steam pipes, and radiators.
- Store ladders away from water drainage, discharge, and pressure relief devices.
- Store non-self-supporting ladders in flat racks or on wall brackets that will prevent sagging.
- Ladders transported on trucks must be secured to a ladder rack rated and designed for the specific ladder.
- Ladders secured to a ladder rack must be strapped down with an approved strap and mechanical locking device that is not frayed, cracked, broken.
- The strap winch roller (mechanical locking device) must be free of rust, corrosion, breaks and must function properly.
- Store step ladders vertically, in a closed position, to reduce the risk of sagging, twisting, and bending the spreader locking bar.
- Store ladders so that they will not topple or tip over.
- Keep material off ladders while in storage.

Ladder Load Capacity

All ladders must have a legible label identifying the classification and load capacity. Combined total weight of worker, material and equipment cannot exceed the load capacity of the ladder.

