

Ladder Safety Program
Revision 1
September 2019

1.0 PURPOSE

- 1.1 All employees are responsible for fully supporting and strictly adhering to the provisions of this procedure. Employees who observe violations of these requirements are responsible for reporting unsafe conditions or unsafe practices to their supervisor immediately.

2.0 SCOPE

- 2.1. This procedure applies to all Bristol Community College personnel and subcontractors where ladder requirements are applicable.

3.0 REFERENCES

- 3.1 29 CFR 1910.25, 1910.26, and 1926.1053, OSHA
- 3.2 "Safety and Health for Engineers", Brauer

4.0 GENERAL

- 4.1 A review of this procedure will be conducted by management each third year or when new regulations are promulgated.
- 4.2 All records required by this procedure will be kept in accordance with OSHA requirements.
- 4.3 Purchasing Agents and personnel ordering scaffolds or portable ladders must review and conform with the requirements of this policy

5.0 DEFINITIONS

- 5.1 **Ladder** - An appliance usually consisting of two side rails joined at regular intervals by cross-pieces called steps, rungs or cleats, on which a person may step in ascending or descending.
- 5.2 **Ladder Duty Ratings** - ANSI codes have established a Duty Rating, which identifies the use for which a portable ladder is intended and the conditions under which the ladder can be used safely.

5.3 The following table describes various types of ladders:

Type	Rated Use	Supporting
Type IA	Extra Heavy Duty Industrial	300 lbs.
Type I	Heavy Duty Industrial	250 lbs.
Type II	Medium Duty Commercial	225 lbs.
Type III	Light Duty Household	200 lbs.

- 5.4 **Ladder Safety Device** - Any device other than a cage or well, designed to eliminate or reduce the possibility of accidental falls and which may incorporate such features as life belts, friction brakes and sliding attachments.
- 5.5 **Cleat** - A ladder crosspiece of rectangular cross section placed on edge upon which a person may step while ascending or descending a ladder.
- 5.6 **Double-Cleat Ladder** - A ladder with a center rail to allow simultaneous two-way traffic for employees ascending or descending.
- 5.7 **Failure** - Load refusal, breakage, or separation of components.
- 5.8 **Fixed Ladder** - A ladder that cannot be readily moved or carried because it is an integral part of a building or structure.
- 5.9 **Handrail** - A rail used to provide employees with a handhold for support.
- 5.10 **Job-Made Ladder** - A ladder that is fabricated by employees, typically at the construction site; not commercially manufactured.
- 5.11 **Load Refusal** - The point where the structural members lose their ability to carry the load.
- 5.12 **Point of Access** - All areas used by employees for work-related passage from one area or level to another.
- 5.13 **Portable Ladder** - A ladder that can be readily moved or carried.
- 5.14 **Riser Height** - The vertical distance from the top of a tread or platform/landing to the top of the next higher tread or platform/landing.
- 5.15 **Side-Step Fixed Ladder** - A fixed ladder that requires a person to get off at the top to step to the side of the ladder side rails to reach the landing.
- 5.16 **Single-Cleat Ladder** - A ladder consisting of a pair of side rails connected together by cleats, rungs, or steps.

- 5.17 **Through Fixed Ladder** - A fixed ladder that requires a person getting off at the top to step between the side rails of the ladder to reach the landing.
- 5.18 **Tread Depth** - The horizontal distance from front to back of a tread, excluding nosing, if any.
- 5.19 **Cage** - A guard that may be referred to as a cage or basket guard which is an enclosure that is fastened to the side rails of the fixed ladder or to the structure to encircle the climbing space of the ladder for the safety of the person who must climb the ladder

6.0 RESPONSIBILITIES

- 6.1 The facilities department is responsible for implementing and enforcing this procedure.

7.0 PROCEDURE

- 7.1 Follow safe practices while ascending or descending ladders.

- 7.1.A This Includes:

- 7.1.A.1 Always facing the ladder while ascending or descending.
- 7.1.A.2 Never sliding down a ladder.
- 7.1.A.3 Using both hands when climbing. Materials or tools must not be carried in the hands. A rope can be used to raise or lower objects.
- 7.1.A.4 Keeping hands and shoes clean and free of slippery substances. Shoes with well defined heels should be worn.
- 7.1.A.5 Not climbing higher than the third rung from the top on portable ladders.
- 7.1.A.6 Not using makeshift ladders.
- 7.1.A.7 Assuring step ladders are fully open before use.
- 7.1.A.8 Using only ladders with non-conductive side rails (fiberglass).
- 7.1.A.9 Allowing only one person on a ladder at any one time, unless using a ladder specifically designed for more than one person.

7.1.A.10 Not causing any lateral force (force to or from the side on the ladder). Examples are pushing on an object or pulling on a wrench.

7.2. The following general requirements apply to all portable ladders, including job-made ladders:

7.2.A Ladder rungs, cleats and steps must be parallel, level and uniformly spaced when the ladder is in position for use.

7.2.B Rungs, cleats and steps of portable ladders must not be spaced less than 10 inches apart, nor more than 12 inches apart, along the ladder's side rails.

7.2.C Ladders must not be tied or fastened together to create longer sections.

7.2.D Ladder components must have a surface that prevents injury from punctures or lacerations, and prevents snagging of clothing.

7.2.E Ladders must be maintained free of oil, grease, and other slipping hazards.

7.2.F Ladders must not be coated with any opaque covering, except for identification or warning labels which may be placed only on one face of a side rail.

7.2.G Each ladder must be used for the purpose for which it was designed. Ladders must not be used as braces, skids, runways, scaffolds, etc.

7.2.H Defective ladders must not be used and should be tagged "DO NOT USE". Defective ladders should be repaired or destroyed.

7.2.I All portable ladders when not in use must be properly stored. Storage should be where there is good ventilation and ladders are not exposed to the weather or other adverse conditions.

7.3 Portable ladders

7.3.A All Portable ladders including straight, extension and step ladders must meet the following requirements:

7.3.A.1 The purchasers must purchase all portable ladders in accordance with the latest revision of ANSI Code A 14.1. They must be Industrial Grade - Type I or Type IA. They must sustain 3.3 times the intended load.

- 7.3.A.2 The minimum clear distance between side rails for all portable ladders must be 11 ½ inches.
 - 7.3.A.3 The rungs and steps of portable ladders must be corrugated, knurled, dimpled, coated with skid-resistant material, or treated to minimize slipping.
- 7.4 Straight and extension ladders must be equipped with safety shoes and tied at the top when in use.
- 7.5 Step ladders should be made secure when working from them. This may require tying off.
- 7.6 Straight and extension ladders must be placed on secure and firm footing. Both side rails must have secure footing.
- 7.7 The top of straight or extension ladders should extend a minimum of three (3) feet above the landing when used as a transition from one level to another. When this is not possible, other structures must be available to the worker for safe access to the landing.
- 7.8 All portable ladders must be inspected upon receipt at the job site and every quarter by a qualified individual designated by the Project Manager or Field Supervision. Defective portable ladders must be destroyed immediately.
- 7.9 Portable ladders must be secured and barricaded when it is necessary to place them in passageways, doorways or where workplace activities or traffic exists.
- 7.10 The area around the top and bottom of portable ladders must be kept clear.
- 7.11 Step Ladders
 - 7.11.A All stepladders must meet the following additional requirements:
 - 7.11.A.1 A metal spreader or locking device must be provided on each stepladder to hold the front and back sections in an open position when the ladder is being use. The stepladder must be fully opened when being used and only the “step” side should be used for climbing.
 - 7.11.A.2 The height must not exceed 20 feet.

7.12 Straight Ladders

7.12.A All straight ladders must meet the following additional requirements:

- 7.12.A.1 The width between side rails must not be less than 11 ½ inches for ladders up to 10 feet long. The width must increase at least ¼ inch for each additional two (2) feet of length over 10 feet.
- 7.12.A.2 The maximum length must not exceed 30 feet.
- 7.12.A.3 Straight ladders should be placed so that the horizontal distance from the base to the vertical plane of support is approximately one-fourth of the working length.

For example:

Working Length of Ladder Ladder Base Out From Vertical

8 feet 2 feet
12 feet 3 feet
16 feet 4 feet
20 feet 5 feet

7.12.B For working lengths over 20 feet, the ratio should be approximately one (1) to five (5) rather than one (1) to four (4) to minimize possible sagging of the ladder.

7.13 Extension Ladders

7.13.A All extension ladders must meet the following additional requirements:

- 7.13.A.1 The width between side rails of the bottom section must be a minimum of 14 ½ inches for ladders up to 28 feet long; and 16 inches for ladders 30 feet long.
- 7.13.A.2 The maximum length must not exceed 30 feet.
- 7.13.A.3 The minimum overlap of sections should never be less than three (3) feet.
- 7.13.A.4 Placement of extension ladders should be the same as straight ladders.
- 7.13.A.5 Extension ladders are not allowed to be taken apart and used as straight ladders.

7.14 Platform Ladders

7.14.A. All platform ladders must meet the following additional requirements:

7.14.A.1 The width between side rails must be a minimum of 14 inches.

7.14.A.2 The platform must be at least 20 inches below the top of the ladder.

7.14.A.3 The platform area must not be less than 200 square inches.

7.14.A.4 The back legs and side rails must extend at least 20 inches above the platform and must connect with a top member to form a three-sided rail.

7.14.A.5 The maximum height should be 18 feet from the platform to the base of the ladder.

7.15 Job made ladders may be necessary in some instances where other ladders will not suffice. In general, it is preferred to not use job made ladders. When used they shall be in accordance with OSHA 29 CFR, Subpart L, Section 1926.450.

8.0 TRAINING

8.1 Training in the use, care and limitations of portable ladders is required for all, new or existing, employees who must use portable ladders. Employees who have not been trained in the use of portable ladders are not allowed to perform tasks requiring their use.

8.2 Initial training is required and must include the following.

8.2.A Nature of fall hazards in the work area

8.2.B Correct procedures for erecting, maintaining and disassembling the fall protection systems to be used

8.2.C Proper construction, use, placement and care in handling of all stairways and ladders.

8.2.D Review of Safe Work Practices found in this program.

8.2.E Maximum intended load-carrying capacities of ladders used

- 8.3 Retraining must be provided for each employee as necessary, so that the employee maintains the understanding and knowledge of the material presented.
- 8.4. All employees tested on ladder safety the test should be places in their files on the jobsite and a copy or training matrix updated with the dates training was received should be sent to the corporate safety office.

9.0 INSPECTION

- 9.1 All portable ladders will be inspected once every quarter if not in use. Reports will be made on each portable ladder inspected. Ladders in use should be inspected daily or before each use.

Ladder Safety

How to Choose A Ladder

It is important to choose the right ladder for the job. Some key points to consider when selecting a ladder include:

- Will it be used indoors or outdoors?
- Will it be used near or around a source of electricity?
- How much weight will be on the ladder including tools and materials?
- What obstacles might be in the way?
- What height(s) will you need to access?

Safe Climbing Habits

- Maintain three points of contact with the ladder when climbing up or down
- Check the ladder before you use it for any defects or missing parts
- Wear closed toe shoes with nonskid soles
- Face the ladder when climbing up or down
- Carry tools in a tool belt

Dos and Don'ts

Misuse or abuse of a ladder can result in falls, serious injury, or even death. For your safety,

Don't

- Stand on the top step of a stepladder or the top rung of an extension ladder
- Lean or overreach to the sides of the ladder
- Place a ladder on an uneven surface or on top of another ladder
- Move the ladder while someone is standing on it
- Use a stepladder in a closed position

Do

- Use a ladder that is rated for the weight of the user, materials, and tools
- Make sure the ladder will not come within 10 feet of energized power lines
- Make sure the ladder extends three feet above the point of support
- Secure the ladder and observe the 4:1 lean ratio
- Allow only one person at a time on a ladder

Ladder Safety Checklist

Ladders are frequently used by many employees. Before you use a ladder, you can promote safety by checking whether the ladder is in good condition:

- The anti-slip safety feet are intact
- The ladder has not been painted to hide defects
- The weight capacity rating is listed on the ladder
- The siderails or steps are not warped, cracked, splintered, or bent
- Rungs, steps, and feet are free of slippery material (oil, grease, paint, mud)
- The spreader or locking device fully engages to secure the stepladder in open position

