

North Dakota State University

Ladder Safety

I. Introduction

Numerous NDSU employees are obligated to perform limited work duties in areas which require the use of ladders. A stairway or ladder is to be provided/used at all points of access where there is a break in elevation of 19 inches or more and no ramp, runway, sloped embankment, or personnel hoist is provided.

II. Purpose

To outline the necessary guidelines for the well-being of NDSU employees as it relates to safe operating procedures in ladder use.

III. Goals

To limit occupational exposure to injury or death when working, supervising, or inspecting an area that requires the use of ladders.

IV. Procedure

Ladders are for climbing and should only be used for that purpose. They are designed for single-person use. Extension, straight, and fixed ladders are to be used for gaining access to different elevations, not used as work platforms. No ladder is intended for use in a horizontal position nor are they to be tied together to achieve a greater length. They are not to be used for levering, bracing, or any other purpose which might weaken the structure.

1. Ladders must be regularly and frequently inspected by a competent person, especially after an occurrence that could affect the ladders safe use.
2. All defective ladders (weakened, broken, or with missing steps, etc.) must be tagged, removed from service and reported to the supervisor immediately.
3. Ladders must be strong enough for the intended use. Verify weight capabilities and/or check with the supervisor if the strength is questionable.
4. Ladders must not be tied or fastened together to provide longer sections unless they are specifically designed for such use and equipped with necessary hardware from the manufacturer.
5. Ladders in storage must be supported, protected from damage and kept out of traffic areas. Store fiberglass ladders out of direct sunlight and secure in place.
6. Repairs made to a ladder must meet the original manufacturer's specifications, and the ladder must be approved for use by the department supervisor prior to use.
7. Metal ladders are not to be used near electricity. They must not be used for electrical work or in an area where they could contact energized wiring.
8. Ladder users are to face the ladder and use both hands when ascending and descending. It is recommended to hold the ladder with one hand while working and to keep your body weight centered between the rails. It is also recommended to use a hanger or tool holder for the tools required for the job.
9. In erecting a ladder, the base of a straight ladder shall be placed at an angle such that

the distance between the bottom of the ladder and the supporting structure is one fourth of the length of the ladder. This means that base of the ladder is out 1 foot for every 4 feet of height. Both side rails need to rest secure against the support.

10. Extension, straight, and fixed ladders are to be used for access to various elevations and they must extend three (3) feet above the landing surface for ease in mounting and dismounting. If this is not possible, a grab rail must be in place to assist in mounting and dismounting the ladder.
11. Portable ladders must be firmly placed, held, tied or secured to prevent slipping or falling.
12. A ladder is not to be used near a door unless the door is open, locked or guarded. For ladder use in a traffic area, barricades or guards need to be put in place. All access points to the ladder must be kept clear of tools, materials or debris.
13. The top or top step of a step ladder shall not be used as a step. Do not go higher than the 2nd step from the top. Do not climb straight ladders higher than the third step from the top. Keep the end of the ladder at 'belt buckle' level.
14. The cross bracing on the rear section of the step ladder shall not be used for climbing unless the ladder is designed and provided with steps for climbing on both front and rear sections.
15. Stepladders and step stools are designed to be worked from; they are not to be used as straight ladders. They are provided where a minor elevation is needed. They should not exceed 20 feet in height and should be secured or held by another worker if they are greater than 10 feet in height.
16. Employees will be trained to recognize hazards in the use of a ladder and to understand the procedures for ladder use. Emphasis will be on the following:
 - a. Fall hazards in the work area.
 - b. Correct procedure for erecting, maintaining and disassembling the fall protection systems.
 - c. Proper construction, use, placement and care in handling ladders.
 - d. The maximum intended load-carrying capacities of the ladder used.