LADDER SAFETY GUIDE

Version	Date	Comments
1	August, 2008	Initial *Ladder Safety Guide*
2	July, 2009	Periodic review
3	August, 2011	Periodic review
4	July, 2015	Periodic review

A. INTRODUCTION

The purpose of this Guide is to explain the proper selection, use, and maintenance of ladders for use in the workplace at George Mason University. The most common hazard associated with ladders is falling caused by improper use or poorly maintained and/or broken ladders. This Guide is based upon Occupational Safety and Health Administration (OSHA) Standards 29 CFR 1910.25: *Portable Wood Ladders*, 29 CFR 1910.26: *Portable Metal Ladders*, and 29 CFR 1926.1053: *Ladders*.

B. SCOPE

This Guide applies to all George Mason University employees who use ladders during the course of their normal job duties and describes the minimum requirements for the selection, setup, use, and care for various types of ladders.

C. LADDER SELECTION

When selecting which ladder to use, it is important to consider the expected working load. The working load is the combined weight of the user, materials, and tools that will be supported by the ladder at one time. Use the following table to select the appropriate ladder.

Duty Rating (pounds)	**Ladder Type**	**Max Working Load**
Special Duty	IAA	375 lbs
Extra Heavy Duty	IA	300 lbs
Heavy Duty	I	250 lbs
Medium Duty	II	225 lbs
Light Duty	III	200 lbs

In addition to maximum working load, the appropriate type of ladder must be selected:

- Step Stool - self-supporting, nonadjustable in length, 32 inches or shorter
- Single - non self-supporting, nonadjustable, one section
- Extension - non self-supporting, adjusting, multiple sections
- Step Ladder / Trestle Ladder - self-supporting, non-adjustable/adjustable, hinged sections

Ladders constructed of non-conductive materials (wood or fiberglass) must be used when working around exposed energized electrical equipment.

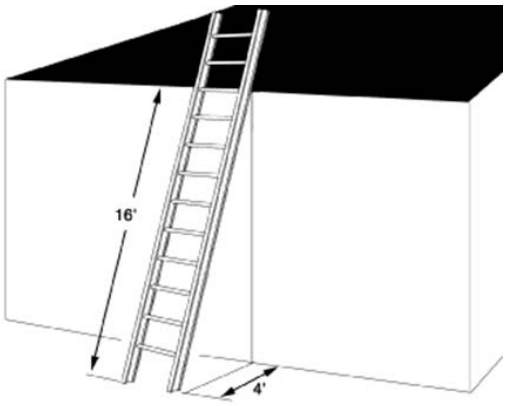
D. CARE AND INSPECTION OF LADDERS

To ensure safety and serviceability, the following shall be observed prior to using a ladder:

- **Prior to Use** - Check the ladder carefully to ensure there are no visible defects and that it is in good working condition. Check the ladder according to the manufacturer's instructions.
- **Inspection** - This will typically consist of the following:
    - Structural defects, such as, but not limited to, broken or missing rungs, cleats, or steps, broken or split rails, corroded components, or other faulty or defective components.
    - The joint between the rung and side rails must be tight and all hardware and fittings securely attached.
    - All accessories such as feet, ropes, pulleys, wires, and fastenings.
    - All parts must be free from sharp edges, splinters, oil, or grease.
    - Ladders must have all of the appropriate markings; manufacturer's labels, use instructions, Type, and warnings.
    - Extension ladders must be equipped with positive stops which will ensure the minimum overlap of the adjacent section as required by the manufacturer.
- **Deficiencies** - Ladders shall either be immediately marked in a manner that readily identifies them as defective, or be tagged with **"Do Not Use"** or similar language, and shall be withdrawn from service until repaired.
- **Incidents** - Ladders must be inspected for visible defects after any incident that could affect their safe use, such as a fall.
- **Painting** - To facilitate inspection and identify damage, ladders shall **not** be painted.
- **Maintenance and Storage –** Ensure is in accordance with the manufacturer's instructions.

E. LADDER SETUP

- **Angle** - A simple rule for setting up a portable single or extension ladder at the proper angle is to place the base at a distance from the vertical wall equal to one-fourth (¼) the working length (height) of the ladder.



- **Support Surface** - Portable ladders shall be so placed that the side rails have a secure footing. Ladders shall not be placed on boxes, barrels or other unstable bases to obtain additional height. Make sure the area is clear of workplace hazards and other debris.
- **Stability** - Ladders must be positioned in such a manner that all feet are in contact with the support surface and perpendicular to the vertical surface upon which it leans to ensure maximum stability. When necessary, ladders should be secured to the supporting surface and/or vertical surface if there is a risk of tipping, sliding, or falling. When possible or prudent, a co-worker should steady the ladder during use.
- **Slippery Surfaces** - Ladders shall not be used on slippery surfaces unless secured or provided with slip-resistant feet to prevent accidental displacement. Slip-resistant feet shall not be used as a substitute for care in placing, lashing, or holding a ladder that is used upon slippery surfaces including, but not limited to, flat metal or concrete surfaces that are constructed so they cannot be prevented from becoming slippery.
- **Access to an Elevated Horizontal Surface** – A ladder used to gain access to a roof or horizontal surface must extend at least three feet above the point of support, at eave, gutter or roofline and both rails must be in contact with the uppermost point of contact unless equipped with a single support attachment.
- **Workplace** - 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.
- **Self-Supporting Ladders (Stepladders)** - must be equipped with a metal spreader or locking device to hold the front and back leg sections in the open position while in use. Do not use as a single ladder or in a partially closed position.

F. LADDER USE

- **Climbing** - When ascending or descending, the climber must face the ladder and keep three points of contact on the ladder at all times. The bracing on the back legs of step ladders are designed solely for increasing stability and not for climbing.
- **Weight Rating** - Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity.

- **Carrying Loads** - Do not carry any object or load that could cause the climber to lose balance and fall.
- **Weight Centered** - Do not lean away from the ladder while working. Always keep your weight centered between the side rails.
- **Intent of Design** - Ladders shall be used only for the purpose for which they were designed. Ladders must not be used in the horizontal position as a platform, runway or scaffold or for any other use than in the vertical position or as specified by the manufactures label. Ladders shall not be spliced, bound, or tied together to provide long sections.
- **Relocation** - Ladders shall not be moved, shifted, or extended while occupied.
- **Self-Supporting Ladders (Stepladders)** - The top step must not be used as a step.

The information contained in this Guide is not inclusive of all OSHA regulations. Please contact Environmental Health and Safety Office at (703) 993-8448 or visit www.OSHA.gov for more information regarding workplace hazards, safety precautions, and regulations.