

<i>HEALTH AND SAFETY MANUAL</i>		
Title: Ladders (Portable & Fixed)		
Approved by: Greg Savoy		Rev. 4/1/08

1 Purpose/Scope:

This section is intended to prescribe rules and establish minimum requirements for the construction, care, and use of the common types of ladders.

All ladders that are purchased and placed into service; or, any ladders that are engineered, manufactured and installed on any of the Company's compressor units shall follow the requirements set forth by this program.

2 Definitions/Responsibilities:

2.1 Definitions (types of ladders):

- 2.1.1 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.
- 2.1.2 Stepladder - a self-supporting portable ladder, nonadjustable in length, having flat steps and a hinged back. Its size is designated by the overall length of the ladder measured along the front edge of the side rails.
- 2.1.3 Single ladder - a non-self-supporting portable ladder, nonadjustable in length, consisting of but one section. The overall length of the side rail designates its size.
- 2.1.4 Extension ladder - a non-self-supporting portable ladder adjustable in length. It consists of two or more sections traveling in guides or brackets so arranged as to permit length adjustment. Its size is designated by the sum of the lengths of the sections measured along the side rails.
- 2.1.5 Fixed ladder - a ladder permanently attached to a structure, building, or equipment.
- 2.1.6 Individual-rung ladder - a fixed ladder each rung of which is individually attached to a structure, building, or equipment.
- 2.1.7 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.

2.2 Responsibilities

2.2.1 Managers and Supervisors:

- Managers/Supervisors are responsible for ensuring that all employees, and/or contractors have been trained in the use and inspection of ladders in accordance to the manufactures guidelines.
- Managers/Supervisors are responsible for ensuring that all employees and contractors are aware that if an inspection discovers a defect, the ladder shall not be used and taken out of service.

2.2.2 Employees:

- Employees shall inspect ladders prior, during and at the completion of each use to ensure the condition of the ladder and the safety of its occupants.
- Employees are responsible for following this program and reporting any damage or repairs that may be needed to their supervisor.

3 Requirements:

3.1 Portable Ladders:

- 3.1.1 All wood parts shall be free from sharp edges and splinters; sound and free from accepted visual inspection from shake, or other irregularities.
- 3.1.2 Stepladders shall not be longer than 20 feet.
- 3.1.3 Single ladders shall not be longer than 30 feet.
- 3.1.4 A two-section extension ladders shall not be longer than 60 feet.
 - All ladders of this type shall consist of two sections, one to fit within the side rails of the other, and arranged in such a manner that the upper section can be raised and lowered.
- 3.1.5 Keep all ladders at least ten (10) feet away from power lines.
- 3.1.6 The ladder shall be rated to handle the combined weight of the climber and his tools/equipment.
 - Ladders are rated as the following:
 - ✓ I-A (holds 300 lbs)
 - ✓ I (holds 250 lbs)
 - ✓ II (holds 225 lbs)
 - ✓ III (holds 200 lbs)

3.1.7 Care and use of ladders:

☐ Care:

- ✓ Ladders shall be maintained in good condition at all times, the joint between the steps and side rails shall be tight, all hardware and fittings securely attached, and the movable parts shall operate freely without binding or undue play.
- ✓ Metal bearings of locks, wheels, pulleys, etc., shall be frequently lubricated.
- ✓ Frayed or badly worn rope shall be replaced.
- ✓ Safety feet and other auxiliary equipment shall be kept in good condition to ensure proper performance.
- ✓ Ladders shall be inspected frequently and those, which have developed defects, shall be withdrawn from service for repair or destruction and tagged or marked as "Dangerous, Do Not Use."
- ✓ Rungs shall be kept free of grease and oil.
- ✓ If a ladder is tipped over, it shall be inspected for side rail dents or bends, or excessively dented rungs; check all rung to side rail connections; check hardware connections; check rivets for shears.
- ✓ Ladders shall be stored in a well-ventilated area in a manner to prevent sagging and warping.

☐ Use:

- ✓ Ladders shall be used only for the purpose for which they were designed.
- ✓ The ladder shall be secured at the top or held by another person at the base.
- ✓ The footing of the ladder shall be placed on a flat and level surface.
- ✓ The ladder base shall be placed away from the vertical surface by a distance of approximately $\frac{1}{4}$ of the ladder's working length.
- ✓ Ladders shall not be placed on boxes, barrels, or other unstable bases to obtain additional height.
- ✓ Ladders shall not be used in a horizontal position as platforms, runways, or scaffolds.
- ✓ Ladders shall not be used by more than one man at a time.
- ✓ Ladders shall not be placed in front of doors opening toward the ladder unless the door is blocked open, locked, or guarded.
- ✓ If a ladder is used in a high traffic area, barricades shall be placed to avoid accidental displacement due to collisions.
- ✓ Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used; improvised repairs shall not be made.
- ✓ Tops of the ordinary types of stepladders shall not be used as steps.
- ✓ On two-section extension ladders the minimum overlap for the two sections in use shall be as follows:

Size of Ladder (feet)	Overlap (feet)
Up to and including 36	3
Over 36 up to and including 48	4
Over 48 up to and including 60	5

- No ladder shall be used to gain access to an elevated surface unless the top of the ladder extends at least 3 feet above the point of support, and properly tied off.
- The employee shall maintain a three (3)-point grip on the ladder at all times.
- The employee shall face the ladder while climbing and working at heights.
- The bracing on the back legs of stepladders is designed solely for increasing stability and not for climbing.
- The ladder shall not be moved while occupied.
- Carry tools/equipment on a belt or hoist up.
- Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond the manufacturer's rated capacity.

3.2 Fixed Metal Ladders:

- 3.2.1 Shall be constructed to withstand a minimum of 200 pounds.
- 3.2.2 All metal rungs shall have a minimum diameter of $\frac{3}{4}$ inches and wooden rungs shall have a minimum diameter of 1 $\frac{1}{8}$ inches.
- 3.2.3 Rungs shall not be more than 12 inches apart and shall be uniform throughout the length of the ladder.
- 3.2.4 Rungs shall be a minimum length of 16 inches and provide protection so a foot cannot slip off the end.
- 3.2.5 Rungs shall have a minimum of 7 inches between itself and the structure behind it.
- 3.2.6 A fall restraint system must be provided for all fixed ladders greater than six feet in length.
 - A Cage is required when the fixed ladder is at least twenty feet tall.
 - Cages on fixed ladders shall not begin at a point less than 7 feet nor greater than 8 feet from the walking surface below the cage.

- Cages shall provide a clear width of 15 inches in each direction of the rung's centerline.
 - Cages shall not extend less than 27 inches, but not greater than 28 inches from the centerline of the rung.
 - A climbing fall restraint system may be substituted for a ladder cage.
- 3.2.7 For more information on design specifications, refer to OSHA regulations 29 CFR 1910.27, Fixed Ladders.
- 3.2.8 The employee shall maintain a three (3)-point grip on the ladder at all times.
- 3.2.9 The employee shall face the ladder while climbing and working at heights.
- 3.2.10 Ladders with broken or missing steps, rungs, or cleats, broken side rails, or other faulty equipment shall not be used; improvised repairs shall not be made.

4 References:

- 4.1 29 CFR 1910.25 Portable Wooden Ladders
- 4.2 29 CFR 1910.26 Portable Metal Ladders
- 4.3 29 CFR 1910.27 Fixed Ladders

5 Exhibits:

None.