

# ACTIVITY HAZARDS ANALYSIS

Date Prepared: February 8, 2010

Project: EC-HMQ

Prepared By: Karen M. González

Job: Climbing/Use of Ladders

Reviewed By: Michael Henry

Risk Assessment Code(RAC):

H
---

E = Extremely High Risk  
 H = High Risk  
 M = Moderate Risk  
 L = Low Risk

		P r o b a b i l i t y				
		Frequent	Likely	Occasional	Seldom	Unlikely
S e v e r i t y	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Recommended Protective Clothing & Equipment:
Occasional, Critical

JOB STEPS	HAZARDS	ACTIONS TO ELEMIMATE OR MINIMIZE HAZARDS	EM 385-1-1 (PARA REF)
Climbing/Use of Ladders	Falling, Electrical Conductivity	<p>The construction, installation, and use of ladders shall conform to ANSI A14.1, ANSI A14.2, ANSI A14.3, and ANSI A14.4, as applicable.</p> <p><b>Length of ladders.</b></p> <p>a. All portable ladders shall be of sufficient length and shall be placed so that workers will not stretch or assume a hazardous position.</p> <p>b. Portable ladders, used as temporary access, shall extend at least 3 ft (0.9 m) above the upper landing surface.</p> <p>The length of portable stepladders shall not exceed 20 ft (6 m).</p> <p><b>Width of ladders.</b></p> <p>a. The minimum clear distance between the sides of individual rung/step ladders shall be 16 in (40.6 cm).</p> <p>b. The minimum clear distance between side rails for all portable ladders shall be 12 in (30.4 cm).</p> <p><b>Spacing of rungs, cleats, and steps on ladders.</b></p> <p>a. On portable ladders, spacing of rungs shall be 8 in (20.3 cm)- 14 in (35.5 cm) on center and uniform.</p> <p>b. On step stools, spacing shall be not less than 8 in (20.3 cm) or more than 12 in (30.4 cm) apart, as measured from their centerlines.</p> <p>c. On extension trestle ladders, spacing on the base section shall be not less than 8</p>	<p>Section 24.B</p> <p>Section 6.C.5.b</p> <p>Table 7-1</p> <p>Section 10.A.5</p> <p>Section 10.A.7</p> <p>Section 11.I.8.c</p> <p>Section 11.I.12</p> <p>Section 16.D.08</p> <p>Section 16.R.10</p> <p>Section 18.D.2</p> <p>Section 19.A.7.m(2)</p> <p>Section 19.B</p> <p>Section 21</p> <p>Section 22</p> <p>Section 23.A.9</p> <p>Section 25.B.5</p> <p>Section 25.B.7</p> <p>Section 26.F.2</p> <p>Section 26.H.3</p> <p>Section 27.F</p> <p>Section 31.A.3.f</p>

in (20.3 cm) or more than 18 in (45.7cm) apart, as measured from their centerlines. On the extension section, spacing shall not be less than 6 in (15.2 cm) or more than 12 in (30.4 cm) apart, as measured from their centerlines.

Ladders shall be surfaced so as to prevent injury to an worker from punctures or lacerations and to prevent snagging of clothing.

Wooden ladders shall not be coated with any opaque covering, except for identification or warning labels that may be placed on only one face of a side rail.

A metal spreader bar or locking device shall be provided on each stepladder to hold the front and back sections in an open position.

**Set-up of ladders.**

- a. Ladders shall not be placed in passageways, doorways, drives, or any locations where they may be displaced by any other work unless protected by barricades or guards.
- b. Portable ladders shall be used at such a pitch that the horizontal distance from the top support to the foot of the ladder will not be greater than ¼ the vertical distance between these points.
- c. Wooden job-made ladders, with spliced rails, shall be used at an angle such that the horizontal distance is 1/8 the length of the ladder.
- d. Ladders shall be secured by top, bottom, and intermediate fastenings, as necessary to hold them rigidly in place and to support the loads that will be imposed upon them.
- e. The steps or rungs of all ladders shall be set to provide at least 7 in (17.7 cm) toe space from the inside edge of the rung to the nearest interference.
- f. The top of a non-self supporting ladder shall be placed with the two rails supported equally, unless the ladder is equipped with a single support attachment.
- g. Step-across distance. The step-across distance from the nearest edge of ladder to the nearest edge of equipment or structure shall be not more than 12 in (30.5 cm) or less than 2- 1/2 in (6.4 cm).

**Use of ladders.**

- a. Ladders shall be restricted to their intended use.
- b. Ladders shall be inspected for visible defects on a daily basis and after any occurrence that could affect their safe use. Broken or damaged ladders shall be immediately tagged "**DO NOT USE**," or with similar wording, and withdrawn from service until restored to a condition meeting their original design.
- c. Ladders shall not be moved, shifted, or extended while occupied.
- d. Ladders shall not be climbed by more than one person at a time, unless it is designed to be climbed by more than one person.
- e. Portable ladders used as means of access to ascend and descend to a work location do not require fall protection, however only light work for short periods of

time shall be performed on portable ladders. No work requiring lifting of heavy materials or substantial exertion shall be done from ladders.

- f. When ladders are the only means of access to or from a working area for 25 or more workers, or when a ladder is to serve simultaneous two-way traffic, double-cleated ladders shall be used.
- g. Portable ladders shall have slip-resistant feet.
- h. The top or top step of a stepladder, shall not be used, as a step unless it has been designed to be so used by the manufacturer.
- i. Ensure latches are in place before climbing an extension ladder.
- j. Keep loose tools off the steps and top platform.

Job made ladders will be made in accordance with ANSI A14.4.

Single-rail ladders shall not be used. Three-legged ladders may be used for specific tasks, if accepted by the GDA.

The use of ladder climbing devices shall be in accordance with 21.I.

Articulated ladders are allowed if they meet ANSI A14.2 standard.

Any ladder accessory, including but not limited to, ladder levelers, ladder stabilizers or stand-off devices, ladder jacks or ladder straps or hooks, that may be installed or used in conjunction with ladders must be installed and used per manufacturer's instructions.