

# Ladder Safety

DMME

Division of Mineral Mining  
Annual Refresher Training  
Updated 2012

# Safe Access Required

## 4 VAC 25-40-1810/1830

- Safe means of access must be provided and maintained to all work locations.
- Ladders shall be of substantial construction and maintained in good condition.



# Fixed Ladders Construction

4 VAC 25-40-1850/1860



Ladders will be:

- Anchored securely.
- Provided with at least 3 inches of toe clearance.
- Project at least 3 feet above landings or have substantial handholds above landings.



# Landings For Fixed Ladders

4 VAC 25-40-1990



- Fixed ladders must either be offset and constructed with a substantial railed landing at least every 30 feet, or, back-guards must be provided.

# Inclining Fixed & Steep Ladders

4 VAC 25-40-1970 & 2000

- Fixed ladders must not be inclined backward unless provided with back-guards.
- Steep ladders (70 to 90 degrees) 30 feet or more in length must be provided with backguards, cages, or equivalent protection, starting at a point not more than 7 feet from the bottom of the ladder.





# Evaluate





# Portable Ladders

4 VAC 25-40-1840

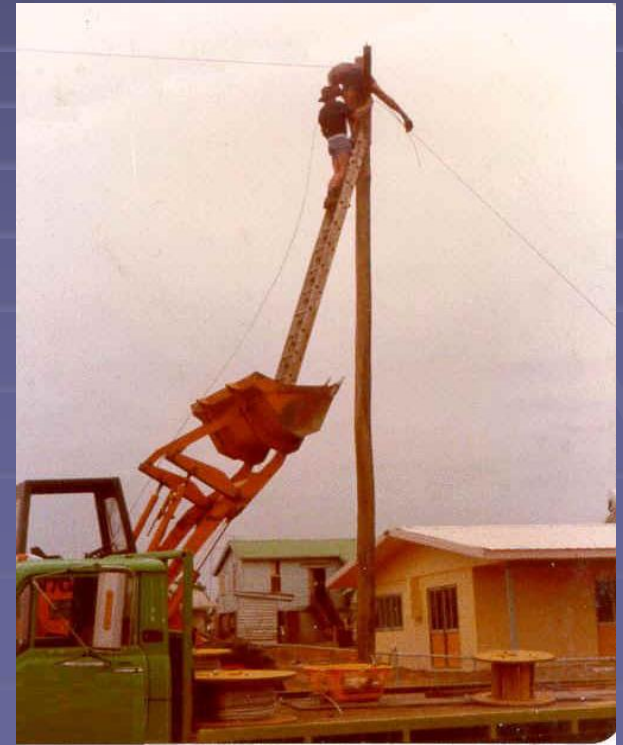


Portable, straight ladders must be:

- provided with non-slip bases.
- placed against safe backing.
- set on secure footing.

# How Ladders Can Be Dangerous

- Using the wrong ladder for the job.
- Using ladders incorrectly.
- Using defective ladders.
- Using a ladder when other equipment should be used; man-lift or scaffolding.





# Choosing The Right Ladder

- Determine the size and type of ladder you will need, not just the one handy.
- Ask important questions, such as, will you be working with or around electricity? If so, a non-conductive ladder will be required.



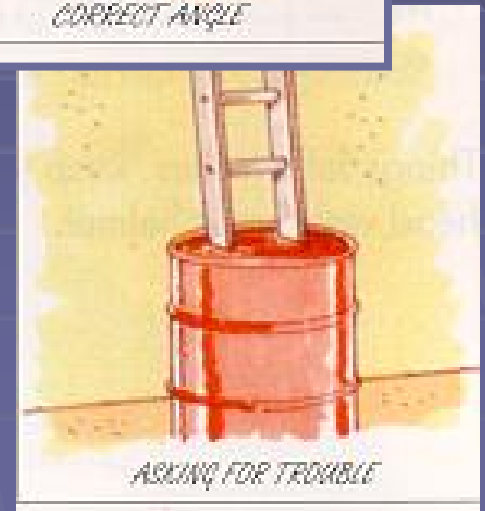
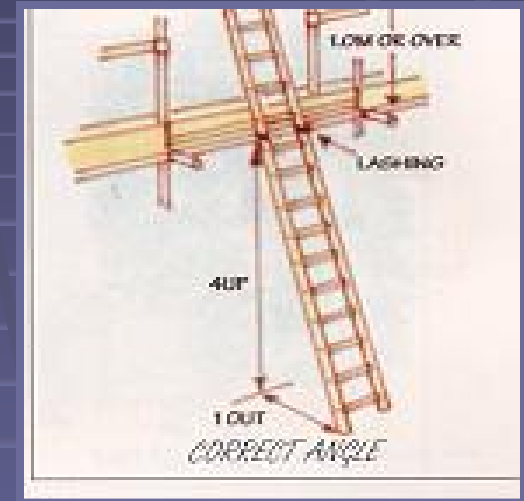
# Ladder Inspection

- Like any other tool, inspect a ladder before use:
  - Check to make sure that rungs do not have oil or other slippery substances on them.
  - Check to make sure that rungs and rails are not split, broken, or damaged.
  - Check to make sure feet, slip locks, spreaders and other fittings/hardware are in good condition and working.
  - If issues are found, tag it out for repairs. If it can not be properly repaired, cut it up and throw it away!!



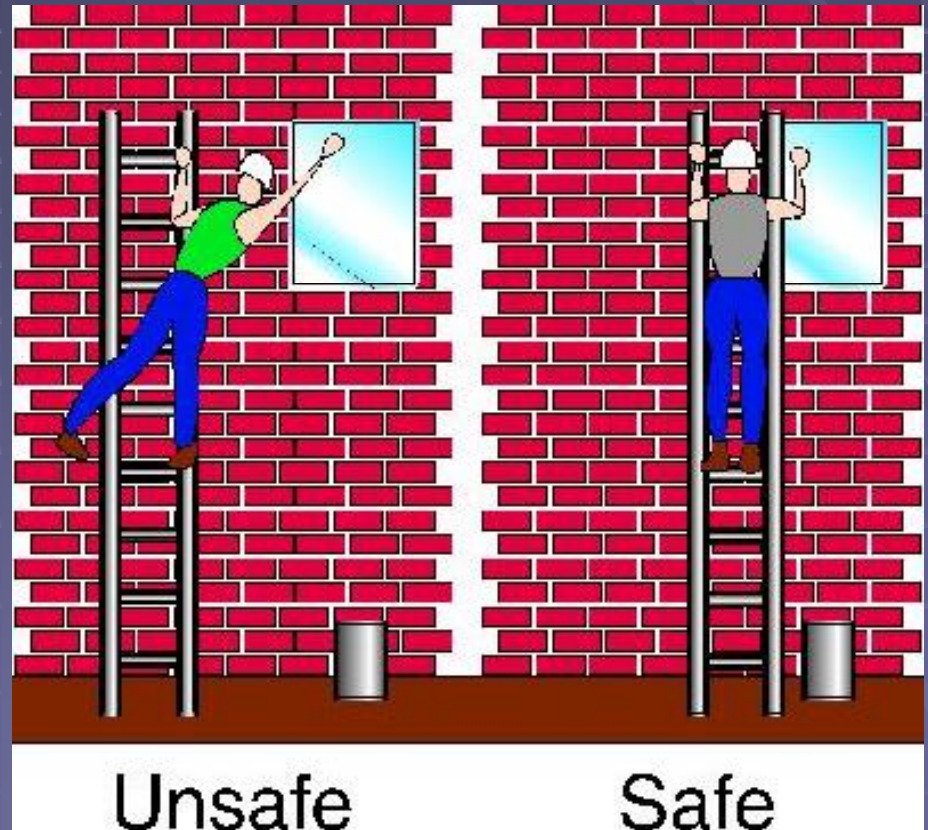
# Set-up Considerations

- Make sure the ladder is placed on an even surface and that the ground is not too soft to prevent sinking.
- Use the 4 to 1 ratio against a base for straight or extension ladders
- Extend straight or extension ladders 3 rungs/feet above the landing surface.
- Tie off ladders if working above 12 feet.
- Watch out for nearby power lines.



# Moving a Ladder

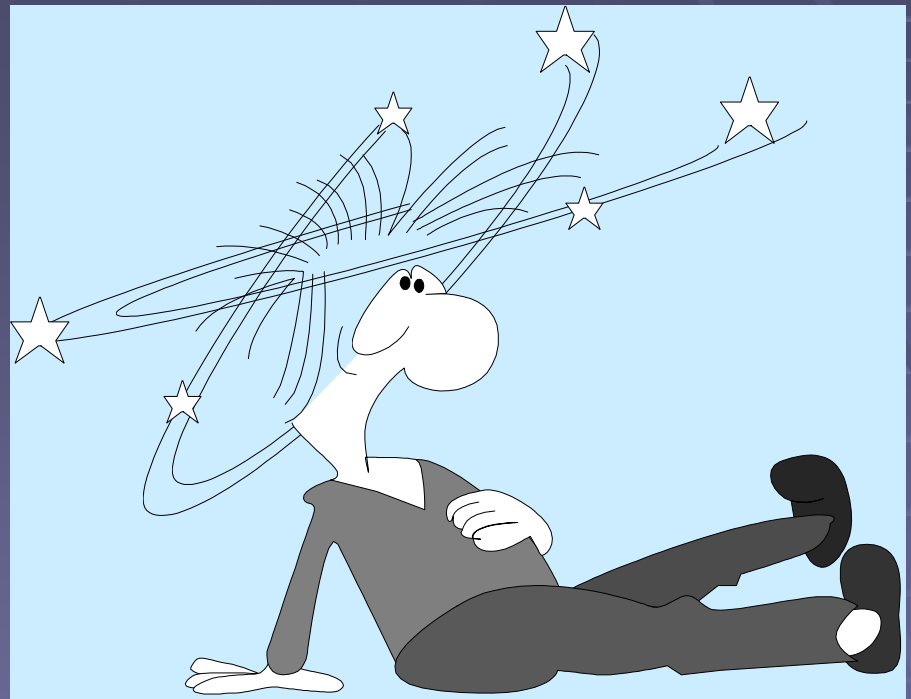
- Never attempt to move a ladder while you are on it (rock-n-roll, or hip-hop).
- Take the time to move a ladder properly instead of “over-reaching” your position.
- If your body is outside the rails (your belt buckle) you are over-reaching.





# Consider What's Under You

- Barricade off the area below your ladder/work platform so others don't walk into or under your ladder while you are using it.
- Also, if you drop something, you may hit someone passing by below you.



# Climbing Tips

- Maintain three points of contact on the ladder at all times. “Hands free for climbing”.
- Always face the ladder and grip the rungs, not the rails, when climbing or descending a ladder.
- Only take one step at a time.
- Never get on or off a ladder from the side unless it has been secured to prevent movement.
- Never stand higher than the third rung from the top of a ladder.
- When descending, climb all the way down and step off the bottom rung. Never jump off of a ladder.



***\* Never stand on the top step!!***



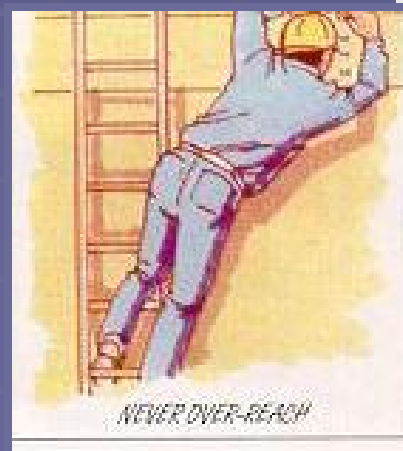
# Carrying Materials



- Use a tool belt or pouch to keep hands free.
- Lift materials in a hand line bucket from the ground.
- Never have someone toss you things or climb up to hand you things.

# Working from Ladders

- Ladders should be used to access work areas, not be the work area.
- If you must work from a ladder:
  - You must use a harness and attached line.
  - Tie the ladder off against movement.
  - Do not over-reach.
  - Use “spotters”.





# Use Other Equipment Instead of a Ladder...

- If there is no work platform and/or no acceptable tie-off location for you or the ladder.
- If the job requires handling materials while elevated.
- If the job requires more than one person to be done safely.



# Minnesota

## June 12, 2010

- A 46-year-old contractor welder was fatally injured at a crushed stone operation. He was preparing to weld on an overhead ventilation duct. The victim was using a ladder to access the duct when he fell over a handrail approximately 45 feet to the ground.



# West Virginia

## May 17, 2012

- A 57-year-old mechanic was killed at a coal preparation plant. The victim was standing on a 14-foot fiberglass extension ladder when it became unstable and slid across an I-beam. He fell down an adjacent hoist well opening 39 feet to the concrete floor below. He was attempting to cut and remove a 12-inch hoist beam located above the third floor in the plant.

