Ladder Safety
Each year, more than 511,000 people are treated in hospital emergency rooms, doctors' offices, clinics and other medical settings because they failed to use ladders safely.

Ladder violations including lack of training documentation, improper use, and defective or wrong type of ladder is #8 of OSHA’s top ten citations.
Choose the Correct Ladder

3 Considerations....

*Height*: is the ladder tall enough? (hint 8 ft ladder = 5’8”)

*Performance*: is the weight capacity rating enough to support the employee *and* materials???

*Material*: is the ladder wood, fiberglass or aluminum? Is the ladder to be used to work on energized equipment?
# Duty Rating Chart

<table>
<thead>
<tr>
<th>MAX. LOAD CAPACITY</th>
<th>RATED USE</th>
<th>CSA</th>
<th>ANSI</th>
</tr>
</thead>
</table>
| 200 lbs            | **Light Duty Household**  
 Designed for infrequent household chores, cleaning, painting, etc. | Grade 3 | Type III |
| 225 lbs            | **Medium Duty Commercial**  
 Designed for moderate use by homeowners, painters, handymen, etc. | Grade 2 | Type II |
| 250 lbs            | **Heavy Duty Industrial**  
 Designed for use by contractors in maintenance construction and industrial applications | Grade 1 | Type I  |
| 300 lbs            | **Extra Heavy Duty**  
 Designed for frequent use in maintenance, construction and industrial applications. | Grade 1 | Type 1A |
| 375 lbs            | **Special Heavy Duty**  
 Designed for the most demanding industrial and construction applications. | Grade 1 | Type 1AA |
Check the load capacity of the ladder

Check also for OSHA approval
Ladder inspection

- Inspect ladders frequently
  -- Before each use
  -- Document thorough inspection monthly

- Portable metal ladder must be inspected immediately if it tips over

- Follow manufacturer’s guidelines for inspection

- Document inspections and preventative maintenance schedules
• Inspect Copolymer top for cracks or dents.
• Inspect all side rails for cracks, dents, bends or any other blemishes.
• Ensure that all fasteners are present and tight.
• Ensure that the safety-feet are tight, and rubber foot pads present, tight, and free of wear.
• Ensure spreader arms move freely and lock properly, and that the spreader-to-rail connections are tight.
• Ensure that all steps, horizontal and step braces, are present, free of bends and dents, and tight.
• Inspect pail tray to see that it moves freely, sets up properly, and that all connections are tight.
Read, understand and follow **ALL** warning stickers
Ladder Supports must always be in the locked-down position before climbing the ladder
DO NOT Use Aluminum Ladders Near Power Sources

- Avoid use when working on any energized source
- Stay away from overhead lines
Precautions for safe ladder use

- Use ladders for their intended purpose
- Set up the ladder on a firm, solid surface
- Keep ladders secured/barricaded
THE 1:4 RULE

The feet of a straight or extension ladder should be set at a point one foot horizontally outward from the upper support, for every four feet of vertical distance between the ladder feet and the upper support point.
The following charts will allow you to determine the length of ladder you will require.

1. Measure from the ground to the highest point you wish to access.

2. Using the measurement from step one, consult the following chart for the right size ladder for your needs:

<table>
<thead>
<tr>
<th>STEP SIZE</th>
<th>MAX. STANDING HT.</th>
<th>APPROX. MAX. WORK HT.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>4’</td>
<td>1’11”</td>
<td>8’</td>
</tr>
<tr>
<td>5’</td>
<td>2’10”</td>
<td>9’</td>
</tr>
<tr>
<td>6’</td>
<td>3’9”</td>
<td>10’</td>
</tr>
<tr>
<td>7’</td>
<td>4’9”</td>
<td>11’</td>
</tr>
<tr>
<td>8’</td>
<td>5’8”</td>
<td>12’</td>
</tr>
<tr>
<td>10’</td>
<td>7’7”</td>
<td>14’</td>
</tr>
<tr>
<td>12’</td>
<td>9’6”</td>
<td>16’</td>
</tr>
<tr>
<td>14’</td>
<td>11’5”</td>
<td>18’</td>
</tr>
<tr>
<td>16’</td>
<td>13’4”</td>
<td>20’**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXT. SIZE</th>
<th>APPROX. MAX. WORK HT.</th>
<th>MAX. ROOF ACCESS HT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>16’</td>
<td>12’6”</td>
<td>9’6”</td>
</tr>
<tr>
<td>20’</td>
<td>16’6”</td>
<td>13’6”</td>
</tr>
<tr>
<td>24’</td>
<td>20’</td>
<td>17’</td>
</tr>
<tr>
<td>28’</td>
<td>24’</td>
<td>21’</td>
</tr>
<tr>
<td>32’</td>
<td>28’</td>
<td>24’</td>
</tr>
<tr>
<td>36’</td>
<td>31’</td>
<td>28’</td>
</tr>
<tr>
<td>40’</td>
<td>33’6”</td>
<td>30’6”</td>
</tr>
<tr>
<td>44’</td>
<td>37’6”</td>
<td>34’6”</td>
</tr>
<tr>
<td>48’</td>
<td>41’</td>
<td>38’6”</td>
</tr>
<tr>
<td>60’***</td>
<td>46’6”</td>
<td>43’6”</td>
</tr>
</tbody>
</table>

* Assumes 5’ 6” person with 6’ 6” reach
** Consider scaffolding
*** Three section ladder
Precautions for safe ladder use

- Face ladders when ascending/descending
- Keep ladder rungs and boots clean
- Avoid leaning or over reaching
Precautions for safe ladder use

- Hoist material up to you when you’ve reached the top of the ladder
- Work within the side rails - “Belt-Buckle Rule”
- Store ladders in designated areas
Leaning, over-reaching, belt buckle rule
Maintenance

- Remove ladders with structural defects, corrosion, or defective parts from service

- Red-Tag ladders
  “Do Not Use”
Never Stand On the Top Step!
Never Stand On the Step Below the Top Step!
Never climb up the back side of a folding ladder, unless the ladder is designed for such use.
Never Overreach
Make sure that the locking mechanisms are engaged before you climb the ladder
Both hands must be free when climbing a ladder.

Ladders must be stabilized and extend at least 3 feet above the roof edge.
Bad Situations
Key Points

- Use proper ladder
- 3-point contact
- when climbing or descending
- 4 to 1 rule
- Belt buckle rule
Questions?