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Ladder Safety: One Rung at a Time

Brent Sedlacek
Director Product Management
Ladders at Werner Co.
Agenda

- Creating a Culture of Safety
  - “Work Like You Would Walk Traffic Side”
  - The “Human Condition” and “Crossover”
- Ladder Safety
  - ANSI / OSHA
  - Selection
  - Inspection Process
  - Use
  - Alternate Products
  - Fixed Ladders: OSHA 1910 Update
- Online Resources

The “Human Condition” and “Crossover”
Ladder Safety

Ladder Safety - OSHA Violations

TOP 5 SECTIONS CITED:

1. 1926.1053(b)(1) When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet above the upper landing surface to which the ladder is used to gain access; or, when such an extension is not possible because of the ladder’s length, then the ladder shall be secured at its top to a rigid support that will not deflect, and a grasping device, such as a grabrail, shall be provided to assist employees in mounting and dismounting the ladder. - 450

2. 1926.1053(b)(4) Ladders shall be used only for the purpose for which they were designed. - 333

3. 1926.1053(b)(12) The top or top step of a step ladder should not be used as a step. - 219

4. 1926.1053(b)(16) Portable ladders with structural defects 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in a manner that readily identifies them as defective, or be tagged with "Do Not Use" or similar language, and shall be withdrawn from service until repaired. - 108

5. 1926.1053(b)(6) Ladders shall be used only on stable and level surfaces unless secured to prevent accidental displacement. - 79
Creating a Culture of Safety

Home and work should be perceived the same...

“Work like you would WALK TRAFFIC SIDE!”

Creating a Culture of Safety

You offer yourself to protect a loved one when you walk traffic side!

We need to protect our Employees!
"That single moment in time when a worker makes the conscious, critical decision, to forecast the future through one's actions."

The “Crossover”
This user is very conscious of his decision…

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As Business leaders, we own driving a culture of safety

The “Human Condition”

■ Creating a Culture of Safety
  ➢ “Work Like You Would Walk Traffic Side”
  ➢ The “Human Condition” and “Crossover”

■ Ladder Safety
  ➢ ANSI / OSHA
  ➢ Selection
  ➢ Inspection Process
  ➢ Use
  ➢ Alternate Products
  ➢ Fixed Ladders: OSHA 1910 Update

■ Online Resources
OSHA & ANSI

Defining Product Usage

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION CODE

All Type II, I, IA and IAA fiberglass, aluminum and wood ladders, ladder jacks and extension planks meet or exceed code. OSHA CODE applies to ladders used in the workplace.

Werner Co. recommends Type II or heavier duty rated ladders for these applications.

Defining Design & Testing Specifications

AMERICAN NATIONAL STANDARDS INSTITUTE

PRODUCT LINES MEET OR EXCEED ANSI CODE

Fiberglass Ladders .... A14.5
Aluminum Ladders .... A14.2
Ladder Jacks ........... A10.8
Extension Planks ....... A10.8
Scaffolding ............. A10.8
Stagers ................ A10.8
Work Platforms .......... A10.8
Attic Ladders .......... A14.9

Labeling

Identification Labels

Warning & Instruction Labels

All labels need to be present and legible

1926.1053(b)(16) Portable ladders with 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, 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.
Choosing the Right Ladder

Material

**FIBERGLASS**
- For working around electricity
- Non-conductive side rails
- Strong seven layer construction
- High impact durability
- Heavier weight
- Generally higher price

**ALUMINUM**
- Lightweight
- Generally lower price
- Electrically conductive
- Not allowed on ‘most’ industrial sites

Choosing the Right Ladder

Rating

- Five 5 ANSI ratings (All manufacturers)
- Duty ratings based on weight load capacity

<table>
<thead>
<tr>
<th>Type III</th>
<th>Type II</th>
<th>Type I</th>
<th>Type IA</th>
<th>Type IAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 lbs.</td>
<td>225 lbs.</td>
<td>250 lbs.</td>
<td>300 lbs.</td>
<td>375 lbs.</td>
</tr>
</tbody>
</table>

- Weight of the person **plus** the weight of materials
- Exceeding load capacity may cause ladder to collapse
- Werner uses a color and star Performance System to simplify proper weight capacity selection
Choosing the Right Ladder

- What is the Application?
- Free Standing or Supported? Stepladder, Extension, Specialty
- Focus on Reach Height
  - Standing Height
  - Person's height + 12” reach
- Choosing the correct size
  - ANSI Rating: Length of the rail(s)
  - Maximum standing height is lower than ladder size
  - Usable length on extensions is shorter than Rated size

Ladder Style & Size

<table>
<thead>
<tr>
<th>STEPLADDERS</th>
<th>Extension Ladders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladder Height</td>
<td>Reach to Support or Top Support Point</td>
</tr>
<tr>
<td>4' - 8'</td>
<td>10' max.</td>
</tr>
<tr>
<td>6' - 10'</td>
<td>12' to 15'</td>
</tr>
<tr>
<td>8' - 11'</td>
<td>13' to 17'</td>
</tr>
<tr>
<td>10' - 14'</td>
<td>17' to 21'</td>
</tr>
<tr>
<td>12' - 16'</td>
<td>21' to 25'</td>
</tr>
<tr>
<td>14' - 20'</td>
<td>25' to 30'</td>
</tr>
<tr>
<td>16' - 30'</td>
<td>28' to 31'</td>
</tr>
</tbody>
</table>

1 Support points for extension ladders reflect section overlap, ladder angle, or 3 extension above roof line.

Ladder Safety - Inspection Form

Ladder Inspection Form

- Company Name
- Ladder Inspectors Name
- Date

- STEPLADDER
- Extension Ladder

- Inspectors Initials

- ACTIONS
- Ladder leg(s) not damaged
- Ladder leg(s) in good condition

- ADJUSTMENTS
- Ladder leg(s) not damaged
- Ladder leg(s) in good conditions

- Exception:
- Ladder leg(s) not damaged
- Ladder leg(s) in good conditions

Ladder Inspectors Name

American Institute of Steel Construction
Always inspect the ladder before use

Walk it Down

Top: Cracked, loose, or missing
Rails: Cracked, bent, split or frayed rail shields
Steps: Loose, cracked, bent, or missing
Spreader: Loose, bent, or broken
Labels: Missing or not readable
General: Rust, corrosion, or loose
Base: Bracing, shoes, rivets

https://www.youtube.com/watch?v=O2leuzPKakE

What should you NOT do after an inspection?

• Do not make temporary or makeshift repairs
• Do not try to straighten or use bent or bowed ladders

What should you do after an inspection?

• Tag and remove from service any defective ladders
• Clean fiberglass ladders
• Replace worn or frayed ropes on extension ladders
• Lubricate pulleys on extension ladders regularly
• Destroy ladders that cannot be repaired by a person authorized by the manufacturer
• Re-seal fiberglass
Access & Egress

Portable ladders must extend 3’ above upper landing surface

‘Truck & Trailer ladders’
- All ‘Claim’ ANSI/OSHA compliance.
  None appear compliant
- Verify compliance & work practices
- No ‘standards’ on rub rail rating
- Attachment to stake pockets
- Werner does not endorse these product

1926.1053(b)(1) When portable ladders are used for access to an upper landing surface, the ladder side rails shall extend at least 3 feet above the upper landing surface...

Ladder Usage

- Avoid set up in doorways or pedestrian pathways
- Face the ladder when ascending/descending
- Use at least one hand to grasp the ladder when ascending/descending (1926.1053b21)
- Don’t Over-Reach! – Keep belt between rails
- Do not Walk or Jump ladders
- Stepladders
  - Do not stand on a Stepladder top or the top step
  - Do not stand, sit or straddle a Stepladder top
- Extension Ladders
  - Do not stand on an Extension ladder’s top 3 rungs
  - Proper set up angle- 4:1 Ratio
  - Access & Egress requires 3’ overlap to roofline

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Ladder Accessories

- Common Accessories
  - Levelers
  - Stabilizers
  - Gates
  - Hooks

- Ladder Manufacturers TEST accessories to ANSI A14.8
  - Factory Installed
  - User Installed

- Refer to ladder manufacturer’s recommendation

- 3rd party accessories likely not endorsed by the ladder company
  - Talk to the ladder manufacturer
  - Have your safety committee review

Evolution of Climbing Products

- Dual Purpose 2-in-1 Ladder
- LEANSAFE®
- PODIUM
- Lock-In Accessories
- Tripod Stepladder
- Compact Stepladder
**OSHA Walking Working Surfaces Update**

**Fixed Ladder: Ladder Safety Systems**

*Attaching users to the ladder via Harnesses*

**Vertical Cable Lifeline**
- Retrofit or new installations
- **Individual Components**
  - Top Bracket
  - Bottom Bracket
  - Intermediate Bracket
  - Cable Cut to length
  - Cable grab

**Fixed Rail System**
- Center Rail mounted
- Side Rail Mounted
- **Individual Components**
  - Rail (galvanized & stainless)
  - Mounting brackets (stainless)
  - Rail Grab
    - Permanent
    - Removable

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**OSHA Walking Working Surfaces Update**

**Fixed Ladders: November 19, 2018**

- **Fixed Ladders with Ladder Safety Systems or Personal Fall Arrest Systems (PFAS)**
  - Equip ladders with Ladder Safety system or Personal Fall Arrest System (PFAS)
  - Prohibits the use of cages & wells as a means of fall protection
  - Ladder sections over 24' in length

- **Installation of New fixed ladders**
  - Ladders installed on/after November 19, 2018
  - Must include a Ladder Safety System (PFAS)
  - Includes Replacement of existing ladder

- **Retrofit of Existing fixed ladders**
  - Ladder installed before November 19, 2018
  - Retrofit with a Ladder Safety System by November 18, 2036
OSHA 1910
Ladder Safety Systems Defined

- Capable of withstanding without failure a drop test consisting of an 18-inch drop of a 500-pound weight
- Permit the employee using the device to ascend or descend without continually having to hold, push or pull any part of the device, leaving both hands free for climbing;
- Activate within 2 feet after a fall occurs, and limit the descending velocity of an employee to 7 feet/sec. or less
- Connection between the carrier or lifeline and the point of attachment to the body belt or harness shall not exceed 9 inches in length
- Mounting of ladder safety devices for fixed ladders shall conform to the following:
  - Rigid carriers shall be attached at each end of the carrier, with intermediate mountings, as necessary, spaced along the entire length of the carrier, to provide the strength necessary to stop employees' falls
  - Flexible carriers shall be attached at each end of the carrier. When the system is exposed to wind, cable guides for flexible carriers shall be installed at a minimum spacing of 25 feet (7.6 m) and maximum spacing of 40 feet (12.2 m) along the entire length of the carrier, to prevent wind damage to the system.
- The design and installation of mountings and cable guides shall not reduce the design strength of the ladder


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Online Resources

- **Werner Safety Training Module** (English, Spanish, French)
  - https://go.bluevolt.com/Werner/s/#/categorydetail/22132
  - https://www.youtube.com/watch?v=3TVRMfnUWhI

- **Werner Stepladder & Extension Ladder Inspection Video**
  - https://www.youtube.com/watch?v=02leuzPKakE

- **American Ladder Institute**
  - http://www.americanladderinstitute.org

- **OSHA**
  - 1910 Industry
  - 1926 Construction

Question time
Thank You

Please give us your feedback!
Survey at conclusion of webinar.