

# Shipyard Employment

## Scaffolds, Ladders and Other Working Surfaces - Subpart E

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# **Scaffolds, Ladders and Other Working Surfaces - Subpart E**

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- **1915.71** – Scaffolds or staging
- **1915.72** – Ladders
- **1915.73** – Guarding of deck opening and edges
- **1915.74** – Access to vessels
- **1915.75** – Access to and guarding of dry docks and marine railways
- **1915.76** – Access to cargo spaces and confined spaces
- **1915.77** – Working surfaces

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# Scaffolds or Staging

1915.71(b)

- Scaffolds and their supports
  - Capable of supporting load they carry
  - Safety factor of not less than four (4)



# Scaffolds or Staging

1915.71(b)

- Unstable objects not used as working platforms

*Or*

- For support of planking intended as scaffolds or working platforms



# Scaffolds or Staging

1915.71(b)

- Scaffold not erected, moved, dismantled or altered
  - Except under supervision of competent persons



# Scaffolds or Staging

1915.71(b)

- Lifting bridles on working platforms suspended from cranes
  - Consist of four legs
  - Attached that stability of platform is assured



# Scaffolds or Staging

1915.71(b)

- Unless crane hook has safety latch or moused;
  - Lifting bridles on working platforms suspended from cranes
    - Attached by shackles to lower lifting block, or
    - Other positive means taken to prevent accidental disengagement from crane hook



# Scaffold or Platform Planking

1951.71(i)

- Platform planking not less than 2" x 10" lumber
- Platform planking straight-grained and free from large or loose knots
  - May be either rough or dressed



# Scaffold or Platform Planking

1915.71(i)

- Platforms of staging not less than two 10" planks in width except;
  - Structure of vessel or width of trestle ladders
    - » Impossible to provide such a width



# Scaffold or Platform Planking

1915.71(i)

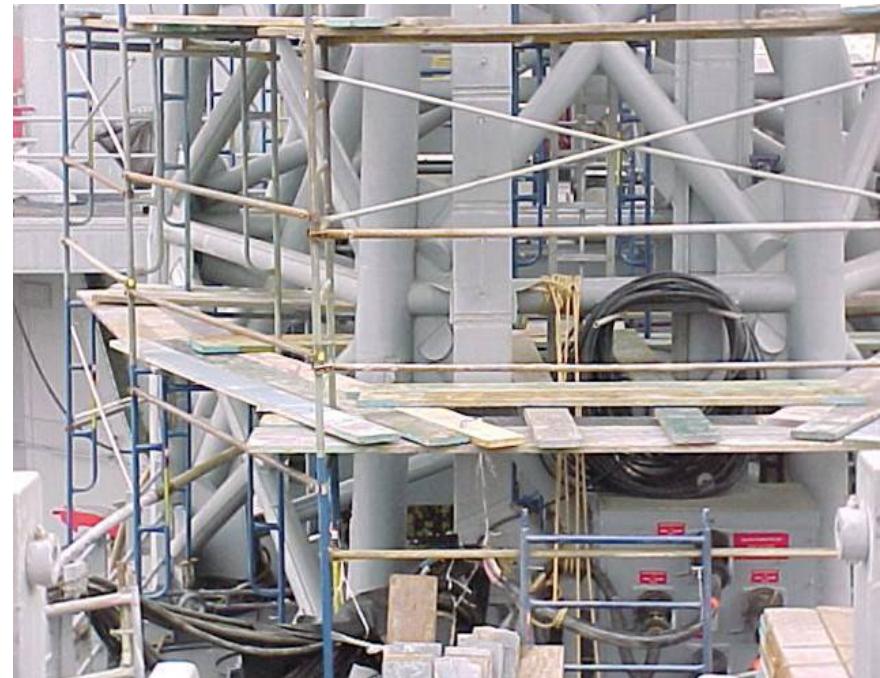
- Platform planking project beyond supporting members
  - At least 6 inches
  - No more than 12 inches
    - Unless planks are fastened to supporting members



# Backrails and Toeboards

1915.71(j)

- Scaffolding, staging, runways, or working platforms
  - Supported or suspended > 5' above solid surface
  - Or any distance above water
    - » Provided with a railing;
    - » Top rail upper surface 42" – 45" above upper surface of staging, platform, or runway
    - » Midrail halfway between upper rail and staging, platform, or runway



# Backrails and Toeboards

1915.71(j)

- Rails 2" x 4" lumber, flat bar or pipe
- When used with rigid supports
  - Taut wire or fiber rope of adequate strength used
- When distance between supports more than 8'
  - Rails equivalent in strength to 2" x 4" lumber
- Rails firmly secured
- Where exposed to hot work or chemicals
  - Fiber rope rails not used



# Backrails and Toeboards

1915.71(j)(3)

- Rails omitted where structure of vessel prevents use
  - When rails omitted
    - » Employees > 5' above solid surfaces protected by safety belts and life lines
    - » Employees over water protected by buoyant work vests



# Backrails and Toeboards

1915.71(j)

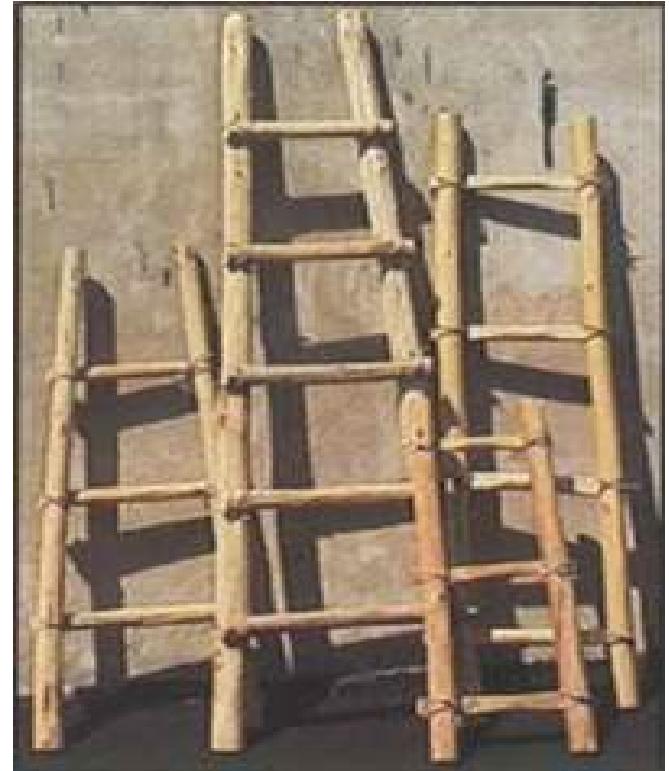
- Prevent tools and materials from falling on men below
- Toeboards not less than 1" x 4" lumber provided



# Ladders

1915.72(a)(1)

- Ladders with broken or missing rungs or steps, broken or split side rails, faulty or defective construction – *not used*
- Defective ladders immediately withdrawn from service



# Ladders

1915.72(a)(3)

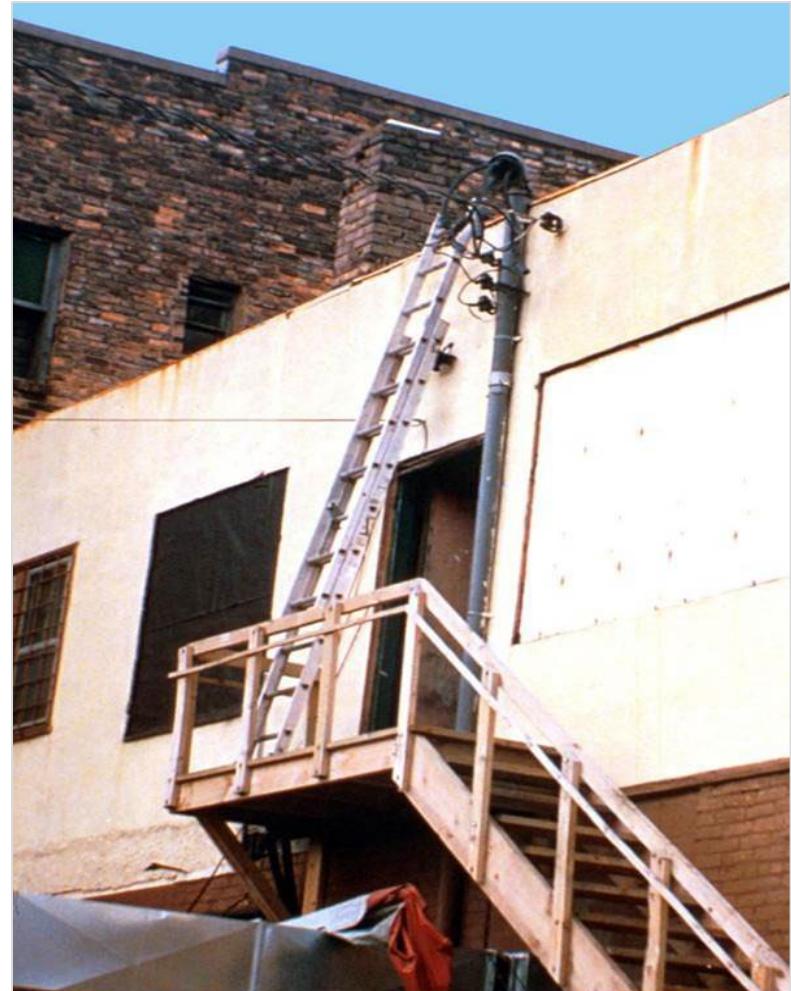
- Portable ladders lashed, blocked or secured to prevent being displaced
- Side rails of ladders used for access to any level
  - Extend not less than 36" above level
    - » When not practical
    - » Grab rails providing secure grip for access installed



# Ladders

1915.72(a)(5)

- Portable metal ladders not used near electrical conductors
- Not used for electric arc welding operations



# Guarding of Deck Openings and Edges

1915.73(b)

- Flush manholes and small openings of comparable size in deck
  - Suitably covered or guarded to height of not less than 30"
  - Except where use of such guards impracticable by work actually in progress



# Guarding of Deck Openings and Edges

1915.73(d)

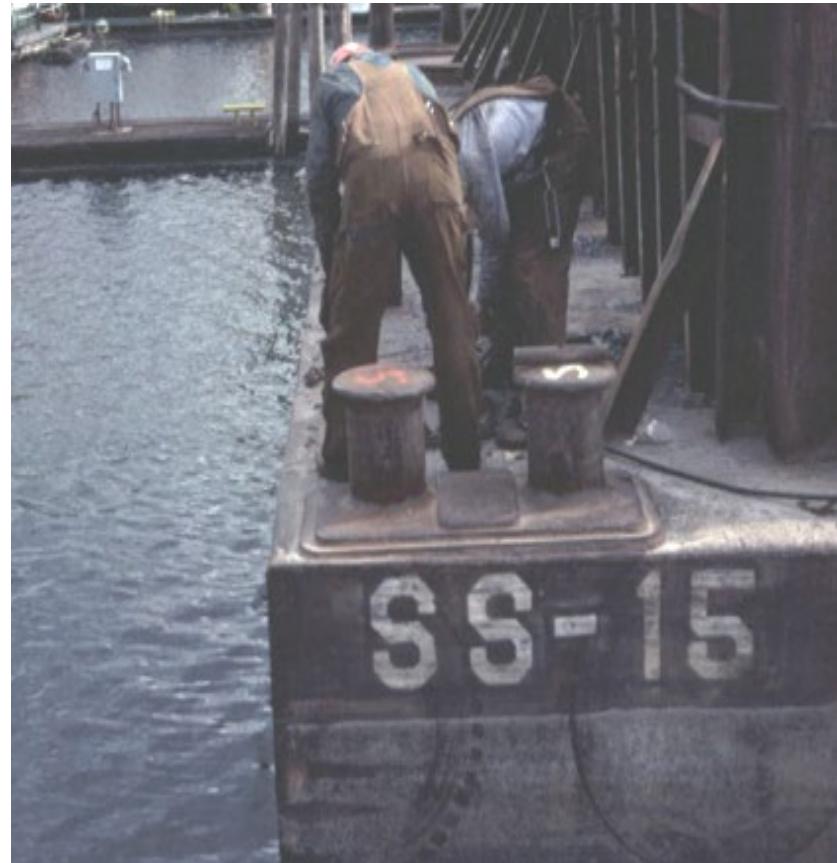
- Unguarded edges of decks, platforms, flats, and similar flat surfaces, > 5' above solid surface
  - Edges guarded by adequate guardrails
  - Unless nature of work in progress or physical conditions prohibit use or installation guardrails



# Guarding of Deck Openings and Edges

1915.73(e)

- Employees near unguarded edges of decks of vessels afloat
- Protected by personal flotation devices



# Guarding of Deck Opening and Edges

1915.73(f)

- Sections of bilges with floor plates or gratings removed
  - Guarded by guardrails
    - » Except where would interfere with work in progress
  - Open sections in walkway
    - » At least two 10" planks placed side by side, or equivalent
    - » Laid across opening to provide safe walking surface



# Access to Vessels

1915.74(a)(1)

- Whenever practicable;
  - Gangway of not less than 20" walking surface of adequate strength
  - Maintained in safe repair and safely secured
- Gangway not practicable;
  - Substantial straight ladder, extending at least 36" above the upper landing surface
  - Adequately secured against shifting or slipping
- Conditions where neither a gangway nor a straight ladder can be used;
  - Jacob's ladder may be used



# Access to and Guarding of Dry Docks and Marine Railways

1915.75(a)

- A gangway, ramp or permanent stairway of not less than 20" walking surface
  - Adequate strength
  - Maintained in safe repair
  - Securely fastened
- Provided between floating dry dock and pier or bulkhead



# Access to Cargo Spaces and Confined Spaces

1915.76(b)(1)

- More than one means of access provided:
  - To confined space in which employees are working
  - Work generates hazardous atmosphere in space
- Except where structure or arrangement of vessel makes provision impractical



# Access to Cargo Spaces and Confined Spaces

1915.76(b)(2)

- When ventilation ducts pass through means of access:
  - Ducts of such type and so arranged
    - » Permit free passage of employee through at least two of these means of access



# Working Surfaces

1915.77(c)

- Employees working aloft, or elsewhere at elevations > 5' above a solid surface
  - Either scaffolds or a sloping ladder used to afford safe footing

*Or*

- Employees protected by safety belts and lifelines



# Working Surfaces

1915.77(c)

- Employees visually restricted by blasting hoods, welding helmets, and burning goggles;
  - Work from scaffolds, not from ladders
- Except for initial and final welding or burning operation to start or complete a job;
  - Such as erection and dismantling of hung scaffolding
  - Other similar, non-repetitive jobs of brief duration



# Working Surfaces

1915.77(e)

- Employees boarding, leaving, or working from small boats or floats;
  - Protected by personal flotation devices



# Thank You For Attending!

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## Final Questions?

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