Scaffolding Training

Insure Compliance

Scaffold Definition

Means any temporary elevated platform (supported or suspended) and its supporting structure (including points of anchorage), used for supporting employees or materials or both.

Competent person

- Knowledgeable and authorized to determine needs of scaffolding work.
- Inspect scaffolding and components prior to each work shift
- Determine feasibility of providing fall protection and access
- Evaluate connections to support load and prevent swaying
- Determine structural soundness when intermixing components manufacturer
- Train erectors and dismantlers to recognize work hazards

Capacity of Scaffolds

- Non-Adjustable
  - Support its own weight and 4 x maximum intended load
  - Suspension rope and connecting hardware support 6 x maximum intended load
- Adjustable
  - Stall load of scaffold hoist not to exceed 3 x rated load
  - Designed by a qualified person and built to loaded design

- 1926.451(a)

Platform construction

- Fully planked and decked
  - No more than 1” gap between adjacent units and platform and uprights
  - Max openings between platform and uprights 9 -1/2”
  - Platform and walkways at least 18” wide

- 1926.451(b)

Platform Construction

- Fully planked and decked
  - Ladder jack, top plate bracket, roof bracket, and pump jack scaffold at least 12” wide
  - Guardrails and/or personal fall arrest systems for platforms and runways not 18’ wide

Platform Construction

- No paint on wood platforms, except edges that may be marked for identification
- Fully planked between from upright and guardrail
- No mixed components, unless compatible and integrity maintained
- No modification of mixed components unless approved by competent person
- No components or dissimilar metals unless competent person determines galvanic action will not reduce strength

Supported scaffolds

- Restrained from tipping by guys, ties, or equivalent when higher than 4:1 ratio
- Support installed per recommendations or at closest horizontal member to the 4:1 height

Supported scaffolds

- Never use scaffolds that do not have proper guardrails installed

Supported scaffolds

- Must bear on adequate foundations
- Unstable objects will not be used as working platforms
- Plumbed and braced

Suspension scaffolds

- Support devices must support 4 x imposed load
- Outrigger beams, metal or equivalent material, and restrained
- Outrigger beams stabilized to floor or roof deck
- Direct connection evaluated by competent person

- 1926.451(b)

Anchor point for lifeline rope not evaluated prior to use

Access

- Must have safe access
- Cross-braces prohibited as means of access
- Bottom rung no more than 24’ high
- Rest platforms required at 35’ intervals
- Slip-resistant treads on all steps and landings
- September 2, 1997, sets access for erectors and dismantlers
- Can use end frames for access
- 1926.451(e)

Access

- Hook-on attachable ladders
  - Specifically designed for type of scaffold
  - Lowest rung no more than 24 inches above level on which scaffold is supported
  - Rest platforms at 35 foot intervals when more than 35 feet high
  - Minimum rung length 11 ½ inches, and a maximum space between rungs 16 ¾ inches

Use

- Never overloaded
- Erected, moved, dismantled and altered near power lines
- Repair in place or replace damaged components
- Restrict horizontal movement with employees unless designed by registered P.E.
- Prohibit work activities during high winds unless authorized by C.P.
- Remove whole scaffold from service until repaired

- 1926.451(f)

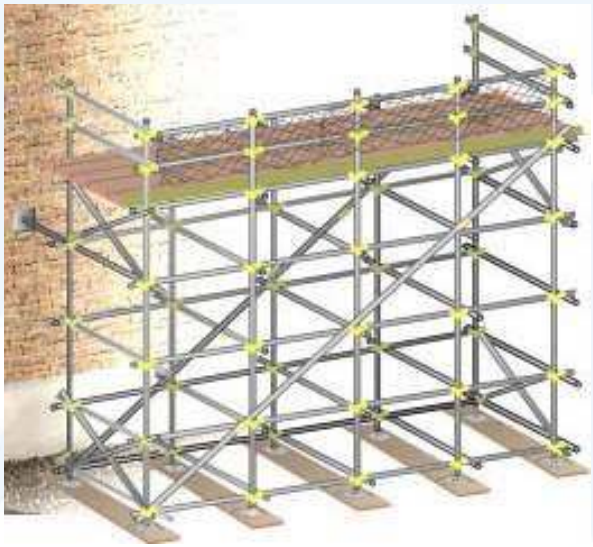
Use

Proper clearance near overhead lines

Keep 10 foot minimum unless de-energized, Relocated, or installed protective covering installed!

Tube and Coupler

- When platforms are being moved to the next level, the existing platform must be left undisturbed until the new bearers have been braced and set in place
- Couplers must be made of a structural metal
- Couplers made from gray cast iron is prohibited
- Designed by P.E. if over 125 feet

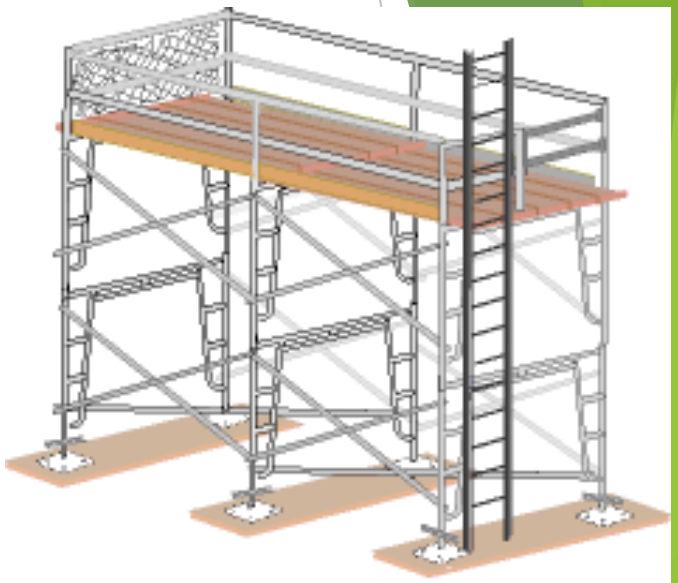


Tube and Coupler (cont'd)

- Transverse bracing forming an "X" across the width of the scaffold must be installed at the scaffold ends, and at least at:
  - Every third set of posts horizontally (measured from only one end)
  - Every fourth runner vertically
- Bracing must extend upward diagonally to opposite sides of the scaffold
- Where length is *greater* than their height, longitudinal bracing must be repeated beginning at least at every fifth post
- On outside posts, tube and coupler guardrails and midrails may be used in lieu of outside runners

Fabricated frame

- Existing platforms remain until the frames are set / braced
  - Joined with stack pin
- Must be designed by registered engineer when over 125 ft.



Mobile

- Plumb, level and squared
- Braced to prevent collapse
- Casters and wheels locked to prevent movement while in a stationary position
- Platforms must not extend beyond the base supports of the scaffold, unless stability is ensured

1926.454 Training

- Employees must receive training from qualified person that covers:
  - Nature of hazards, electrical, falls, and falling items
  - Use of scaffold / handling
  - Maximum intended load and load carrying capabilities of scaffold
  - Procedures for setup, dismantling or moving the system
  - Requirements of subpart “L”

Retraining

- When the employer has reason to believe an employee lacks the skill or understanding needed for safe work involving scaffolds, retraining shall be performed until proficiency is established
- Retraining is also required when:
  - Additional or new hazards exists
  - Changes occur in the type of scaffold and fall protection exist
  - Where there are inadequacies in an employee's work

Common OSHA Citations

- 451(g)(1) Fall protection at 10 feet
- 453(b)(2)(v) Aerial lifts – Body belt and lanyard
- 451(e)(1) Scaffold access
- 451(b)(1) Scaffold platform construction
- 454(a) Scaffold user training

Resources

- www.osha.gov
  - 29 CFR 1926.451
  - NSHA-OSHA Job Site Safety Handbook
- http://www.osha.gov/publications/osha2202.html
  - Construction Industry Digest
  - Scaffolding Industry Association
- http://www.scaffold.org
  - American National Standards Institute
  - A92 (SIA): Scaffolds and other elevating devices