

Draft 4 30 2014

Supported Scaffold Safety

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Nov 2013

- The victim was working outside the sixth floor of New York University's Languages and Literature Building on the corner of University Place and W. 8th St. when he plunged from the sixth floor level about 11:20 a.m., police said.
- The victim, in his 40s, landed on the roof of the neighboring two-story NYU Cantor Film Center.



Aug 2013

- Work resumed today at McDowell High School where eight workers were injured Monday due to a scaffold collapse.



June 2013

- Virginia Tech
- Several construction workers were taken to the hospital after an incident at the Davidson Hall construction site on campus.
- A hydraulic construction scaffold collapsed late Friday morning and one end of the platform fell approximately 20-25 feet before striking the ground.



NY 2012

- Three workers were injured Thursday after a scaffolding structure they were working on collapsed in Manhattan.
- Officials say it happened just after 9 a.m. at 366 Broadway between Franklin and White Streets.
- They say workers were putting up scaffolding on the sidewalk when the framing collapsed.



Common Scaffold Hazards

- No guardrails on scaffolds.



What else is wrong?

Common Scaffold Hazards

- Defective wood planks and inadequate planking overhang.



Common Scaffold Hazards

- Unsafe access to scaffold.



Common Scaffold Hazards

- Cross bracing not adequate.



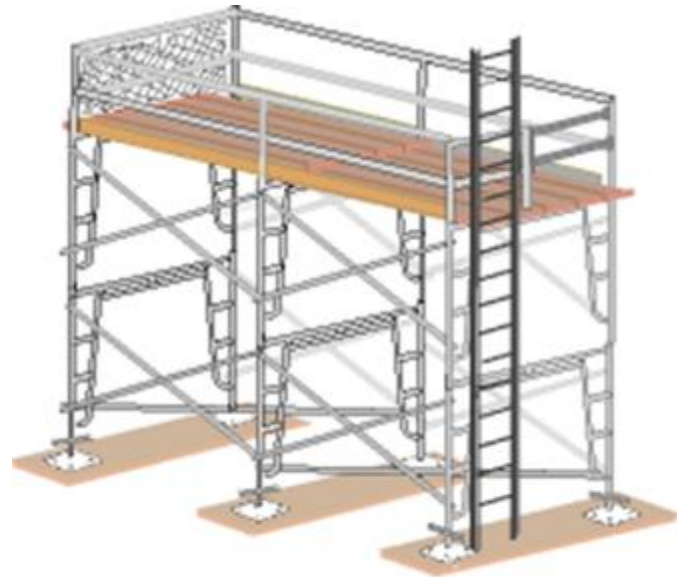
Common Scaffold Hazards

- Inadequate footings.



General Requirements

- Erect/dismantle all Scaffolds According to the Manufacturer's Instructions and Competent Persons (CP) Direction



General Requirements

- All scaffolds are to be capable of supporting, without failure, at least
- 4 times the maximum
- intended load.



General requirements

Design load

- The design load of all scaffolds shall be
- calculated on the basis of:
- **Light**--Supporting 25 lbs per square foot
- **Medium**--Supporting 50 lbs. Per square foot
- **Heavy**-- Supporting 75 lbs. Per square foot



Where is the overload?

General Requirements

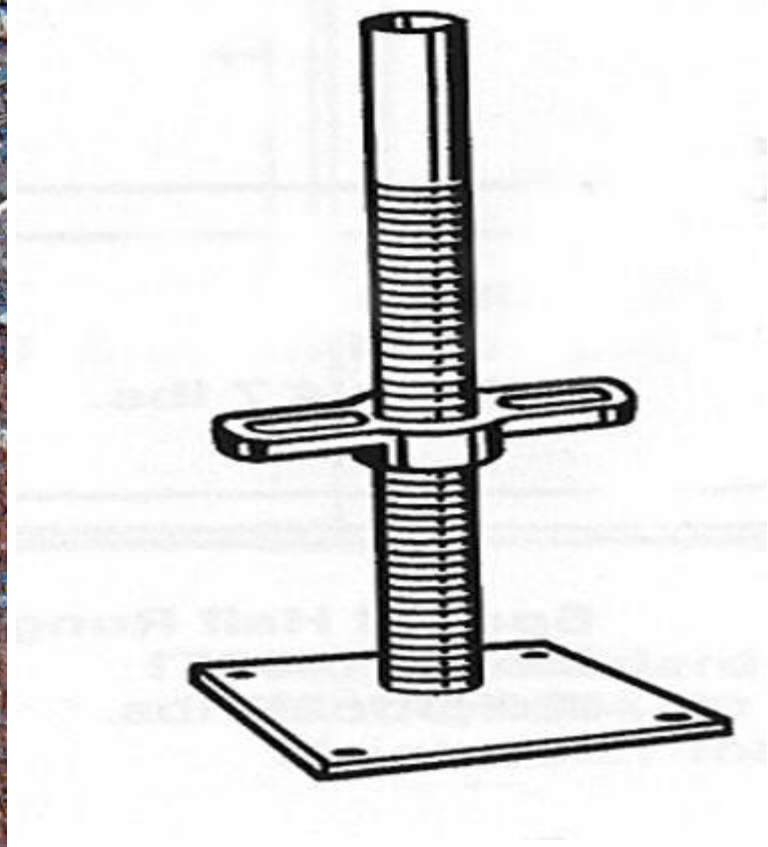
- Stable Footings
- Base Plate, Screw Jacks & Mudsills



Planks with Visible Defects MUST NOT be Used



Base Plate & Mud sill Required



Proper Scaffold Base



Masonry Blocks & Bricks NOT Acceptable as Scaffold Base



General Requirements

- Platforms at Least 18" Wide
- Ladder Jack, Pump Jack, Top Plate, and Roof Brackets Can Be 12" Wide



NIOSH/John Rekus

General Requirements

- Each platform on all working levels must be fully planked and secured to prevent movement.



General Requirements

- Wood scaffold planks must be nominal 2" x 10".
- Must be Scaffold Grade Planks or equivalent.



General Requirements

- Planks Extend 6" Past Supports or Secured



General Requirements

- Or Cleated to prevent plank movement



General Requirements

- Front edge of all platforms within 14" of face of work
- **Exceptions:**
- 3" for outrigger scaffold
- 18" for plastering and lathing operations



2010 Death

- Event Date: 01/26/2010
- Employee #1 was accessing the bracket scaffolding by exiting a second floor window.
- There was a 15 inch space between the bottom of the eave and the top of the scaffold plank.
- While in the process of accessing the roof employee #1 apparently slipped and fell between the house and the scaffold plank, landing 27 feet below on the frozen ground.



Fully Braced Scaffold

- Scaffolds must be braced per manufacturer's instruction



Competent Person

- **Inspect** scaffolding and components **prior** to each work shift



Competent Person

- Evaluate connections to support load and prevent swaying
- Determine structural soundness when intermixing components manufacturer
- Train erectors and dismantlers to recognize work hazards
- Determine feasibility of providing fall protection and access



General Requirements

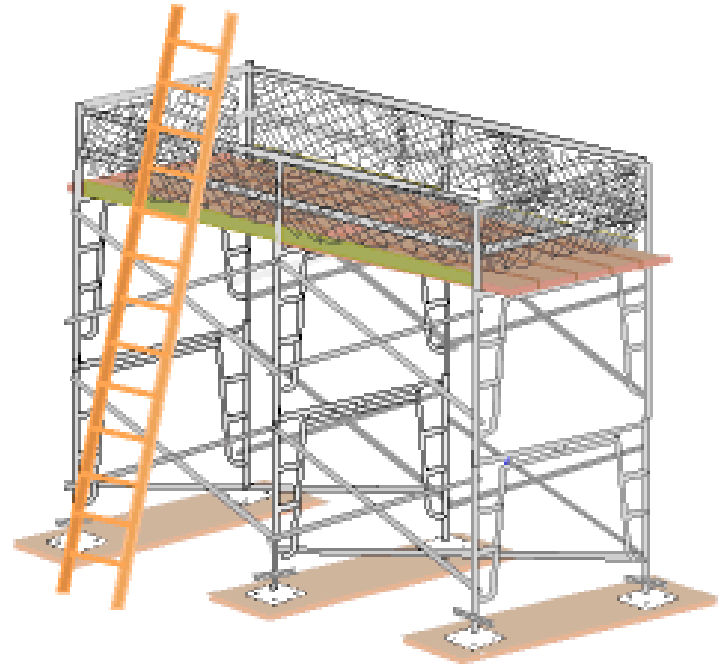
Access

- Do not stand on ties, guardrails, or extensions
- 16 ½ Inches between rungs



Portable Access Ladder

- Must be secured to prevent displacement.
- Extend at least 3' above landing to provide a handhold.



Attachable Access Ladder



Scaffold Stairway



1926.451(f) Use

Proper clearance near overhead lines



Keep 10 foot minimum unless de-energized,

Scaffold Fall Protection

- Scaffolding 10' or higher must have some means of fall protection:
 - guardrails or
 - personal fall arrest system (PFAS)



Scaffold Fall Protection

- Toprails installed between 38" and 45" High.
- Midrails installed halfway between toprail and platform.



Scaffold Fall Protection

- Cross bracing OK as guardrails if the center point is between
- **20" to 30"** for **Midrail** and
- **38" to 45"** for **Toprail**.



Scaffold Fall Protection

- Toprails to 200 lbs. of force
- Midrails to 150 lbs. of force in any direction



Falling Object Protection

- Anyone working on or around a scaffold must wear a hard hat.
- Workers on or below scaffolds must be protected from falling objects by:
 - Toeboards
 - Mesh
 - Screens; or
 - Equivalent measures



Wind

- Enclosing scaffold will create wind load
- Engineering calculations needed.



Scaffold Safety Training

- All employees must be trained prior to working on scaffolds.
- Qualified person must conduct the training and include the following:
 - Electrical Hazards
 - Fall Protection
 - Falling Object Protection
 - Proper Use
 - Material Handling
 - Load-carrying Capacities



Questions

