

University of Arkansas at Little Rock

Policy Name: Scaffold Safety

Policy Number: 701.31

Effective Date: September 22, 2008

Policy:

***Applicable OSHA Standard: 29 CFR 1926 Subpart L**

PURPOSE

The purpose of this program is to provide directions and instructions for safety requirements to be implemented with the construction, erection, and dismantling of scaffolds and ladders.

SCOPE

The scope of this program applies to all university jobsite locations where scaffolds and ladders may be used. The requirements, as set forth in this program, should be implemented to the fullest extent possible.

RESPONSIBILITIES

The primary responsibility for the implementation of the requirements of this program shall rest with the jobsite Supervisor, Foreman, or Leadman of record.

The EHS Manager or designee shall be responsible to provide for the monitoring of work activities to assure compliance to the requirements of this program and compliance to the contractor's (if applicable) safety requirements.

Supervisors are responsible for employee compliance to safety requirements. In the case of contractors working on campus, the project manager or foreman will be responsible for compliance.

REQUIREMENTS

The following requirements are applicable to all scaffolds:

Guardrails and Toeboards:

- Guardrails shall be constructed of 2" X 4" lumber, 1/2 inch wire rope, angle iron or the prefabricated rail(s) supplied by the scaffold manufacturer.
- Toprails shall be approximately 42 inches above the working surface.
- Midrails shall be approximately 21 inches above the working surface.
- Wire rope toprails and midrails shall be stretched tight with no more than an approximate 2 inch deflection.
- Toeboards shall extend a minimum of 4 inches above the working surface.
- When the placement of the scaffold work platform prevents the installation of guardrails, other fall protection equipment shall be used.

- Guardrails and toeboards shall be installed on all open sides and ends of scaffolds.
- Scaffolds and work platforms 4 feet to 10 feet high with a working surface of less than inches shall have standard guardrails installed on all open sides and ends of the scaffold or platform.

Working Surfaces:

- Working surfaces shall be constructed of scaffold plank, aluminum deck boards or 3/4" construction grade plywood.
- Scaffold planking shall be scaffold grades or equivalent as recognized by approved grading rules for the species of wood used under the American Lumber Standards.
- Working surfaces shall be secured by nails, double wrap of #9 wire or cleats.
- Lumber sizes, when used in this program, refer to nominal size/thickness except where otherwise stated.
- Scaffold planks shall extend a minimum of 6 inches and a maximum of 12 inches over the end supports.
- If required, an access/egress ladder shall be provided.
- Scaffold planks shall not span more than 8 feet between supports/vertical legs.
- Scaffold planks and plywood shall be free of splits and burns.

Scaffold Footing and Anchorage:

- The footing or anchorage shall be capable of carrying the maximum intended load without settling or displacement.
- The uprights/vertical legs shall be plumb and securely braced to prevent swaying and displacement.

NOTE: The requirements for specific types of scaffolds and ladders are described below.

Tubular Welded Frame:

- Scaffold shall be cross-braced to assure scaffold is plumb, square, and rigid.
- Stacking pins shall only be secured with the manufacturer's pins or recommended bolts.
- Cross braces shall be secured, as designed by the manufacturer.

- Stationary scaffolds must be secured horizontally, every 26 feet of height and 30 feet horizontally, to prevent tipping.
- The height of rolling scaffolds, measured from the ground to the top rail, shall be no more than four times the minimum base dimension (length times the width).
- All wheels/casters shall be the same size, equipped with a positive locking device, and in good working condition.
- Wheels shall be locked while personnel are working from the scaffold
- Personnel shall not be permitted on mobile scaffold while the scaffold is being moved.

Tube and Coupler (Tube-Lock):

- Uprights shall have a maximum spacing of 8 feet.
- Uprights shall be placed on secure bases and maintained plumb.
- Scaffolds shall be limited in heights and working levels to those permitted in Tables 2-10, 11, and 12 of OSHA 29 CFR 1926.451.
- Horizontal braces shall be installed completely around all exterior uprights and between interior uprights. Braces shall be installed every 6 feet of height.
- Platform supports shall be coupled/clamped directly to the horizontal braces and extend 4 inches to 12 inches beyond the horizontal braces.
- All horizontal bracing shall be coupled/clamped directly to the uprights.
- Diagonal bracing shall be installed at alternating 45 degree angles beginning with the corner upright and repeating every 5th upright on the perimeter. An alternating bracing pattern should be used.

One and Two Point Suspension Scaffolds:

- Cable shall be securely anchored and softeners shall be used when necessary.
- Cable shall be insulated at the anchor point from the motor to 4 feet above the motor and wherever the cable comes in contact with metal to prevent electrical arcing.
- Two-point suspension scaffold platforms shall remain level while being raised or lowered.

- Each employee shall wear a full body harness and be tied off to an **independent lifeline**. A lifeline shall be supplied for each employee.

Knee Brace/Cantilever:

- Knee brace/cantilever scaffolding shall be welded by a qualified welder and visually inspected before use.

Ladders:

- Ladders shall extend 36 inches above the landing.
- Extension and job-built ladders shall be secured to prevent movement or falling.
- Manufactured ladders shall be Class I or Class IA with properly working feet.
- The slope of the ladder from the base of the support shall be one (1) foot for every 4 feet of ladder length.
- All ladders shall be set on a firm base to prevent shifting and tipping.
- Ladders with broken or missing rungs or steps, broken or split side rails, or faulty or defective construction, shall not be used.
- Metal ladders shall not be used.
- Step ladders shall not be used as a leaning ladder.
- Employees shall not work off the top two steps of a stepladder.
- Personnel shall have both hands free of tools, materials, or equipment, while climbing and descending ladders.
- Personnel shall face the ladder when climbing and descending.

TRAINING REQUIREMENTS

The Project Manager will be responsible for implementing the employee training and information program. The format for the program may include classroom instruction, safety tool box meetings, and other forms of group or singular instructions.

Instructions are normally communicated verbally or in writing through the employee's Supervisor. The Project Manager is responsible for assuring Supervisors are qualified or competent in the following areas:

- Fall hazards and falling object hazards.
- Electrical hazards (protection from electrical hazards for erecting, maintaining, and dismantling).

- Fall protection and protection systems.
- Proper and safe handling of materials.
- Trained in the maximum intended loads and load-carrying capacities.
- Any other pertinent requirements.
- All _____ employees will be trained in the above mentioned, along with any additional basic or site requirements.
- _____ will insure that each employee follows the safety guidelines as set forth in Safe Work Practices.

University of Arkansas at Little Rock

Safety Guidelines

SCAFFOLDING INSPECTION REPORT

Client: _____

Job No: _____ Date: _____

Scaffold
Location: _____ Time: _____ : _____ AM/PM

Inspected by: _____

NOTE: Scaffold shall not be used unless these items are found satisfactory.

SECTION 1.	Yes	No
1. Base plates/screw jacks on firm contact with sills/deck to prevent settling. Comments _____	_____	_____
2. Scaffold appears to be level and verticals are plumb. Comments _____	_____	_____
3. Safe, proper access and egress provided to all platforms. Comments _____	_____	_____
4. All platforms properly/tightly planked and secured from movement. Comments _____	_____	_____
5. All toeboards secured in place. Comments _____	_____	_____
6. All guardrails and midrails in place. Comments _____	_____	_____
7. Are vertical legs rigidly braced to prevent swaying. Comments _____	_____	_____
8. Scaffold anchored or equalized (4 to 1) to prevent movement (butts/ties installed). Comments _____	_____	_____
9. No energized, unprotected electrical is within 12 feet of the scaffold. Comments _____	_____	_____
10. Has the scaffold been tagged and has not been altered. Comments _____	_____	_____

SECTION 2.	Yes	No
1. Scaffold planks construction grade lumber and in sound condition. Comments_____	_____	
2. Are all planking and toeboards in place and secured. Comments_____	_____	
3. All guardrails and midrails in place and secured. Comments_____	_____	
4. All tools and material raised and lowered to locations just carried by employees. Comments_____	_____	
5. Working platforms clear of all loose tools, cords, material, etc. Comments_____	_____	
6. Exit ways and ladders clear and unobstructed Comments_____	_____	
7. Stair and planks free of debris or slippery surface. Comments_____	_____	
8. Work being performed on the scaffold accordance with load rating. Comments_____	_____	
9. Have barricades been installed, scaffold tags been placed properly Comments_____	_____	

Inspector: _____ Print _____ Sign _____

Supervisor: _____ Print _____ Sign _____

Scaffold Size: _____

NOTES: _____

SCAFFOLD SAFETY AND COMPLIANCE TEST

NAME: _____ DATE: _____
SCORE: _____ SSN: _____

- _____ 1. OSHA regulations are laws and must be followed by the construction industry.
(True or False)
- _____ 2. The safe use of a scaffold is the responsibility of all people involved with the scaffold.
(True or False)
- _____ 3. Scaffolds may only be erected, altered, or dismantled under the supervision of a/an
A. Authorized Person
B. Competent Person
C. Skilled Person
D. Qualified Person
- _____ 4. All scaffolds must be built on
A. Anything that looks like it will hold the intended load firmly.
B. Base plates, mud sills, or other adequate firm foundation.
C. It makes no real difference as long as it is braced properly.
D. Solid ground.
- _____ 5. Scaffold mud sills help distribute the leg or vertical loads to the soil, asphalt, concrete, etc. (True or False)
- _____ 6. Where should the bottom runners be placed on the scaffold?
A. Four inches from the bottom of the legs.
B. About knee high.
C. As close to the base as possible.
D. They should always be attached to the screw jacks.
- _____ 7. X-Bracing means to attach two braces on each side of the scaffold to form an X shape at all angles. (True or False)
- _____ 8. How high above the base should handrails be
A. 38 to 42 inches
B. 36 to 45 inches
C. 42-45 inches
D. None of the above

- _____ 9. An access ladder should be installed on all scaffolds more than
A. 4 feet above or below a point of access
B. 3 feet above or below a point of access
C. 2 feet above or below a point of access
D. 1 foot above or below a point of access
- _____ 10. Ladders should be attached at a place on the scaffold that is less likely to cause
A. Swaying
B. Damage
C. Tripping
D. Injury
- _____ 11. Each scaffold deck shall be fully planked so that the gap between each plank is no more than
A. 2 inches
B. 1 inch
C. 3 inches
D. There can be no gaps
- _____ 12. The minimum board overhang is 10 inches past the bearer bar.
(True or False)
- _____ 13. The maximum overhang of a board 10 feet or less is
A. 18 inches
B. 10 inches
C. 12 inches
D. 9 inches
- _____ 14. When planks are overlapped, the minimum overlap is
A. 14 inches
B. 12 inches
C. 16 inches
D. 8 inches
- _____ 15. Toeboards are to be on all open sides of a scaffold when the deck is higher than
A. 6 feet or more
B. 8 feet or more
C. 7½ feet or more
D. 10 feet or more
- _____ 16. Toeboards must be at least 3½ inches high and have no more than ¼ inch gap between the toeboard and the deck.
(True or False)

- _____ 17. All scaffold end frames must be locked together to prevent
A. Tipping
B. To help scaffold stay plumb
C. Swaying
D. Uplift
- _____ 18. A tube and coupler scaffold more than 125 feet in height must be
designed by a competent engineer with at least two years scaffold
experience.
(True or False)
- _____ 19. Guys or ties should be placed as close to the verticals as possible.
(True or False)
- _____ 20. The casters on mobile scaffolds should never be locked in case they need to
be moved during emergencies.
(True or False)
- _____ 21. Horizontal and diagonal bracing is not preferred on a mobile scaffold.
(True or False)
- _____ 22. A scaffold that is made to be heavy-duty will hold 25 pounds per square foot.
(True or False)
- _____ 23. A screw jack shall be used on scaffolds to help
A. Make it taller
B. Level it
C. Hold it in place
D. Keep it from falling over
- _____ 24. Knot holes in planks may be any size as long as they are not loose
or missing.
(True or False)
- _____ 25. A scaffold plank must weigh at least
A. 45 pounds
B. 55 pounds
C. 65 pounds
D. None of the above is correct
- _____ 26. Scaffold planks that are 10 feet long or more may hang beyond the bearer bar by
a minimum/maximum of _____ per the construction standard 29 CFR 1926.450.
A. 6 - 14 inches
B. 8 - 18 inches
C. 6 - 18 inches
D. 6 - 12 inches

- _____ 27. Saw kerfs do not damage the integrity of the plank.
(True or False)
- _____ 28. Scaffold erectors do not need to have an understanding of all the factors which may affect the strength, stability, and the effectiveness of a completed scaffold.
(True or False)
- _____ 29. Scaffolds and their components shall be capable of supporting, without failure, at least four times the maximum intended load. This is known as a 4 to 1 safety factor.
(True or False)
- _____ 30. On tube and coupler scaffold, the bearers shall be at least _____ but not more _____ than _____ inches longer than the post spacing or runner spacing.
- A. Not less than 4", not more than 12"
 - B. Not less than 2", not more than 6"
 - C. Not less than 6", not more than 14"
 - D. None of the above

SCAFFOLD SAFETY AND COMPLIANCE TEST ANSWER SHEET

1. T
2. T
3. B
4. B
5. T
6. C
7. F
8. D
9. C
10. C
11. B
12. F
13. C
14. B
15. D
16. T
17. D
18. F
19. T
20. F
21. F
22. F
23. B
24. F
25. D
26. D
27. F
28. F
29. T
30. A

Source: Environmental Health and Safety

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Approved By: Environmental Health and Safety Committee

Custodian: Environmental Health and Safety Committee