



Scaffolding Safety

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Definition of Scaffolding

What is Scaffolding?

Scaffolding is a temporary platform usually build to perform the job on a higher elevation, to avoid falling of person from the height we need to follow scaffolding safety procedures.

Materials

Scaffold can be made of the following Material:

- a. Tubular steel
- b. Tubular aluminium alloy
- c. Timber

Scaffold Hazard

The five most serious scaffold hazards:

- a. Fall
- b. Unsafe Access
- c. Struck by falling objects
- d. Electrocution
- e. Scaffold collapse .



Employees working on scaffolds are exposed to these hazards:

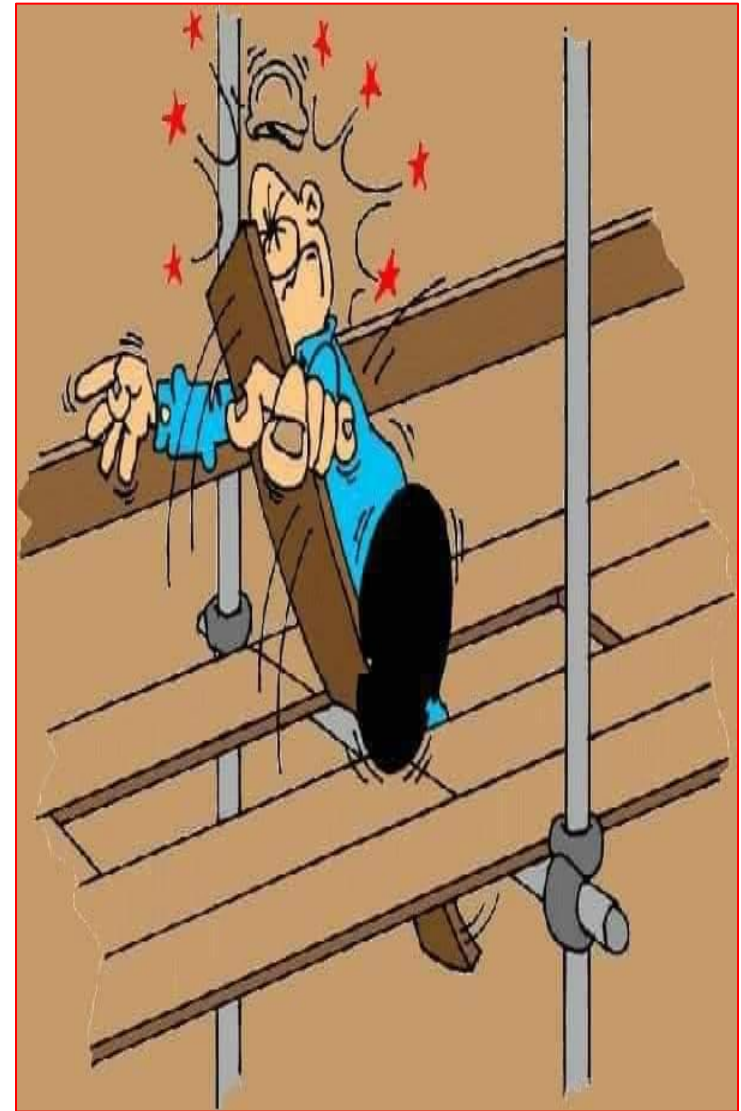
- a. Falls from elevation: Caused by slipping ,unsafe access and the lack of fall protection.
- b. Stuck by falling tools /debris.
- c. Electrocution –from overhead power lines.
- d. Scaffold collapse–caused by instability or overloading.
- e. Bad planking giving away

Scaffolding Hazard

Hazards of scaffolding:

Apart from collapse, the principle hazards are,

1. Unsecured ladder slipping.
2. Use of unsuitable, damaged and faulty materials.
3. Inadequately supported scaffold boards.
4. Omission/removal of guard rails.
5. Not properly tied-in/braced.
6. Overloading of platform and board.



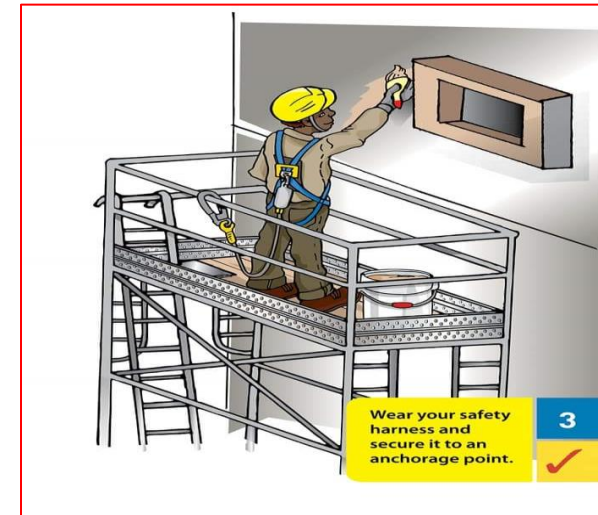
Protecting workers from Falls:

If a worker on a scaffold can fall more than 10 feet ,protect them by:

- a. Guardrails
- b. Personal Fall Arrest systems (PFAS)

Falling Protection

- a. Wear hardhats
- b. Barricade area below scaffold to forbid entry into that area.
- c. Competent staff is required .
- d. Tool box talk should be delivered .

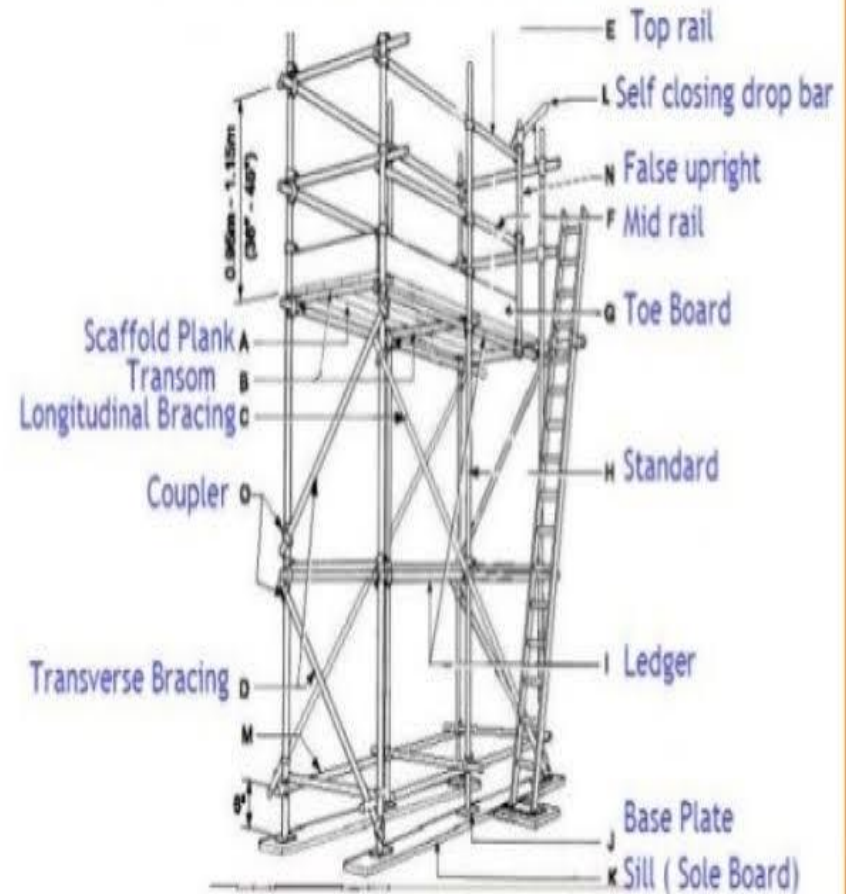


Scaffold Components

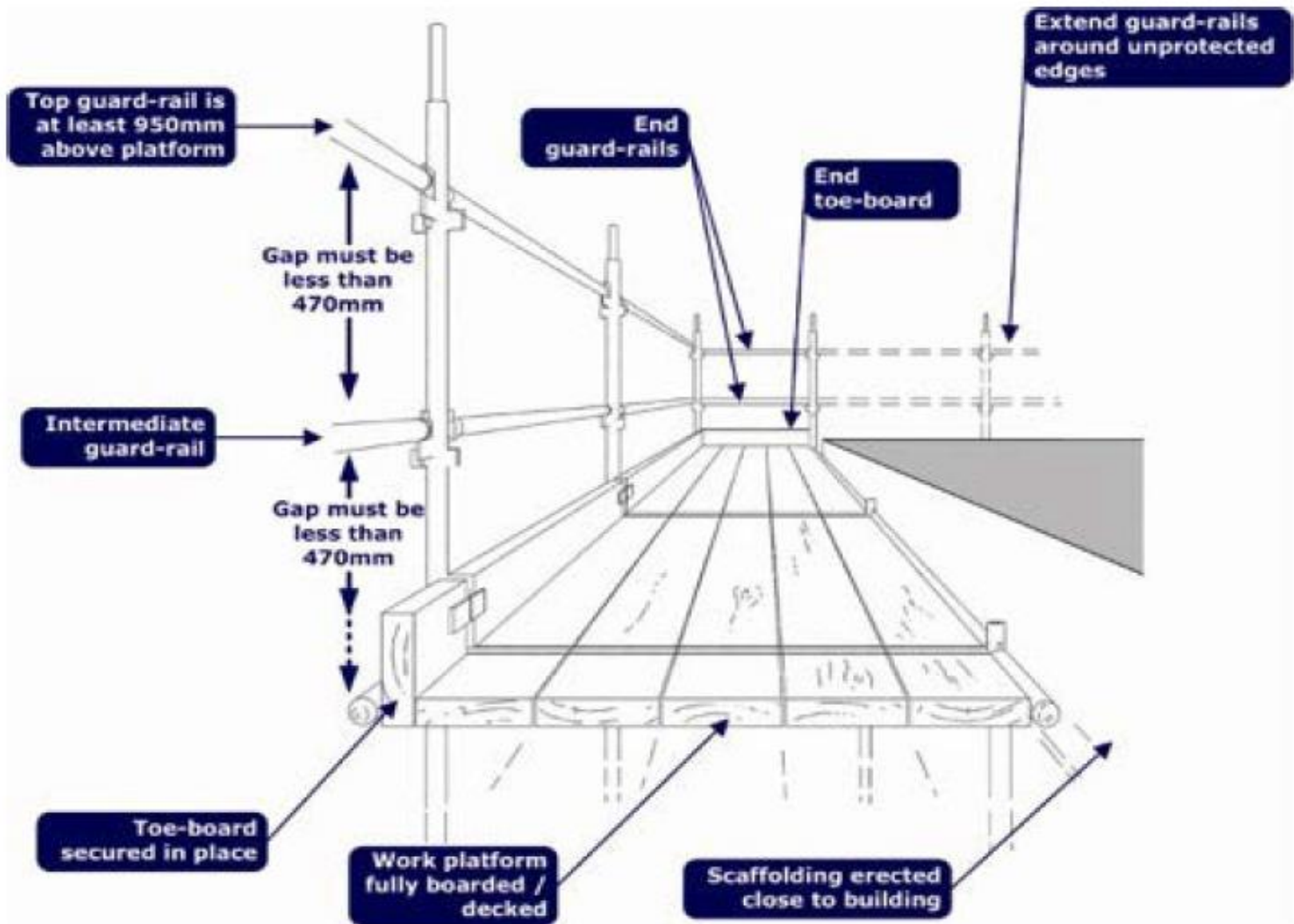
Scaffolding Components:

1. Sole plate
2. Base plate
3. Standards
4. Ledgers
5. Bracing
6. Decking
7. Guard rails (Hand rails and mid-rails) height approximately 1 meter.
8. Toe board should be minimum 6 inches in height.
9. Clamps standard: EN-74 and BS-15.
10. The ladder shall be secure at three locations.
11. Tags either green or red tag and shall be renewed after one week

Parts of scaffolding



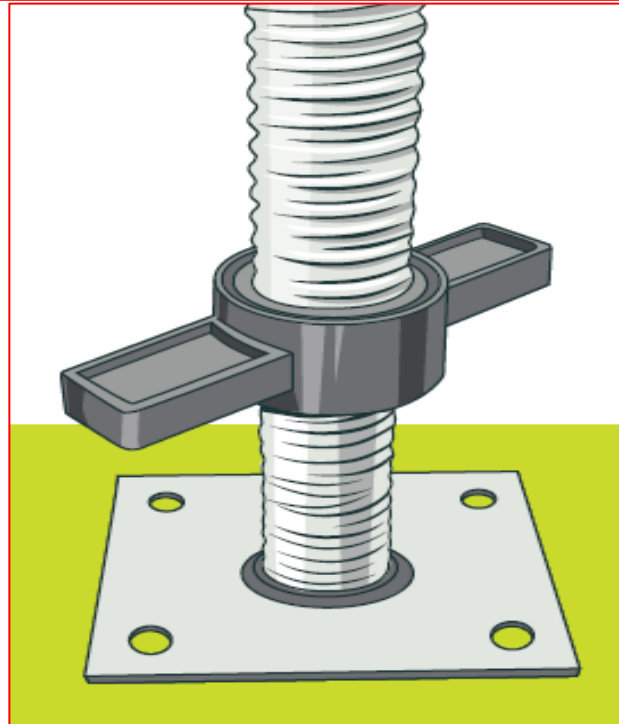
Scaffolding Platform



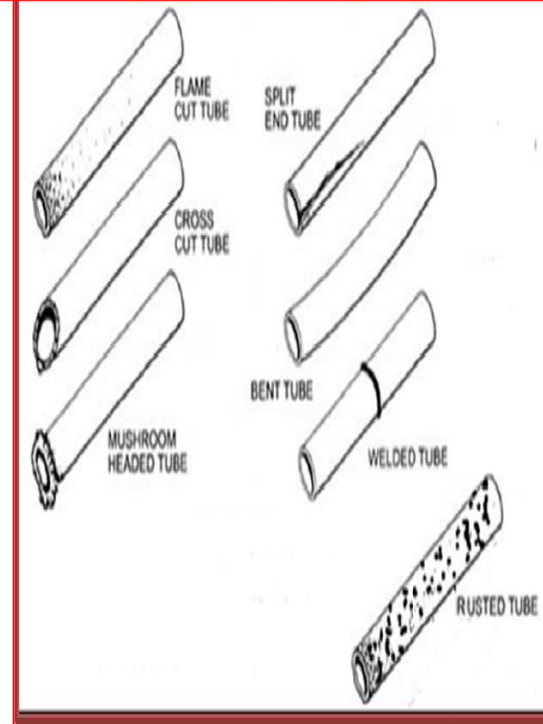
Scaffold Accessories Measurement



Sole Plate
450mm*225mm*35mm

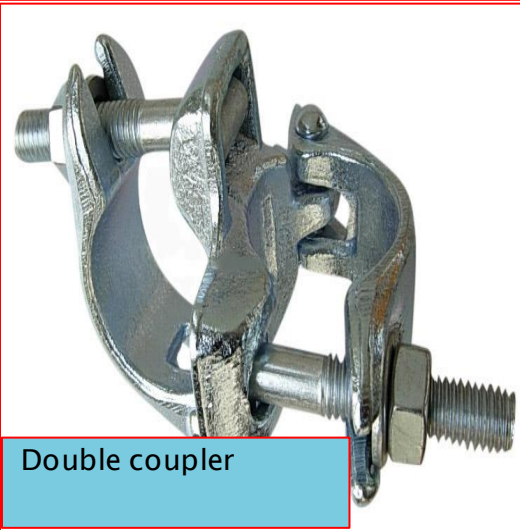


Base Plate
150mm*150mm*6mm



Tube Diameter
48.3mm or 1.90inches

Couplers and Clams



Double coupler



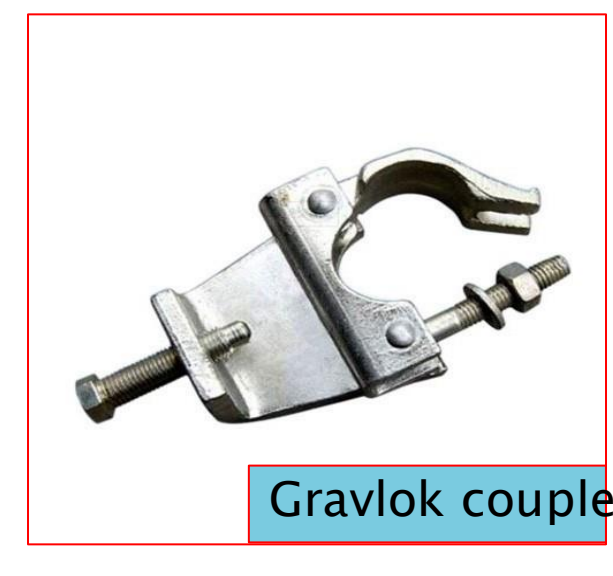
Swivel Coupler



Single coupler



Sleeve Coupler



Gravlok coupler

Couplers and Clams



Joint Pin



Toe board clamp



Ladder Clamp

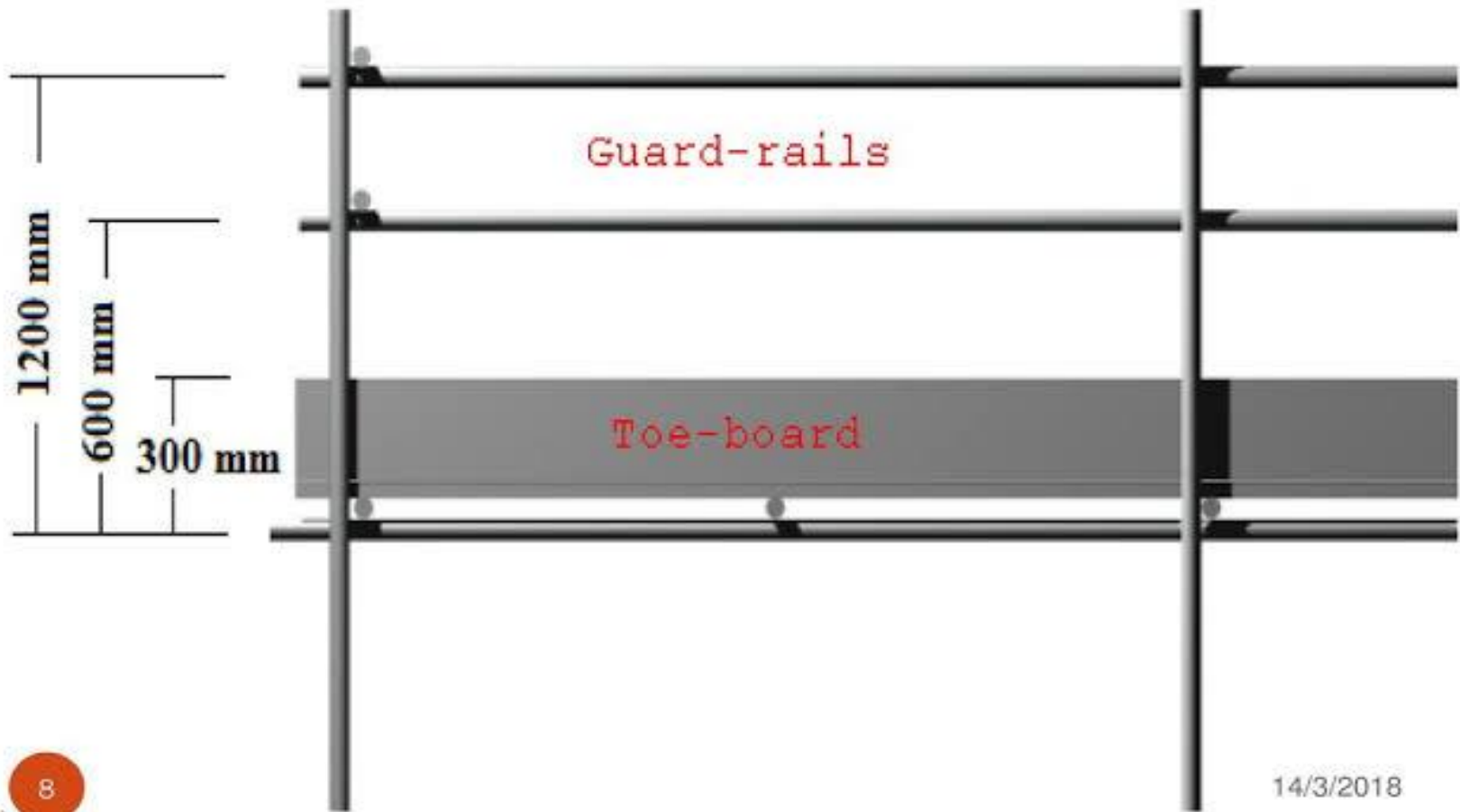
Working at height/fall prevention

- Ø Keep workplace free from hazard.
- Ø Keep walking surface clean and dry.
- Ø Block/barricade the area while cleaning floors.
- Ø Report hazards on the surface immediately.
- Ø Avoid running cables or cords on the walkways.
- Ø Used ladder safely.
- Ø Ensure scaffolds are erected by a competent person and follow a tagging system.
- Ø Wear proper footwear.
- Ø Do not jump from an elevated surface.
- Ø Floor opening shall be covered and barricaded.
- Ø Don't do horseplay.
- Ø Use Safety harness if working at height (more than 1.8 meters).



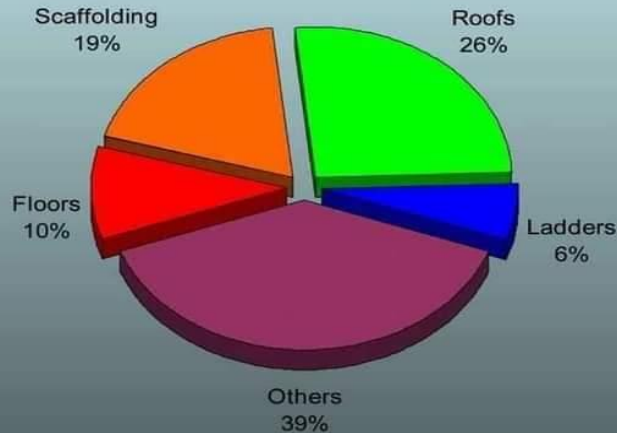
Top Rail ,Mid Rail & Toe Board Measurement .

Top Rail, Mid Rail & Toe Board



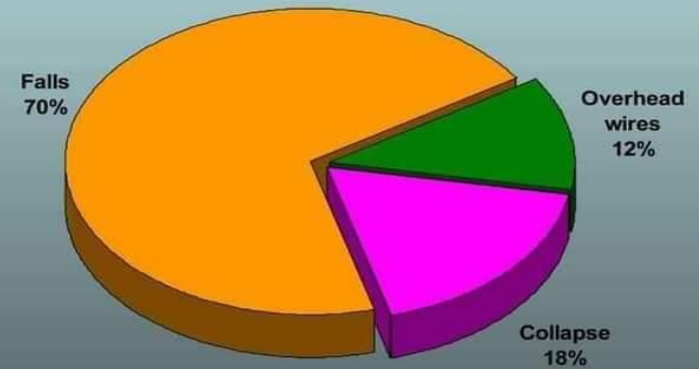
Accident & Injury cause history of scaffolding

OSHA FATALITY STUDY



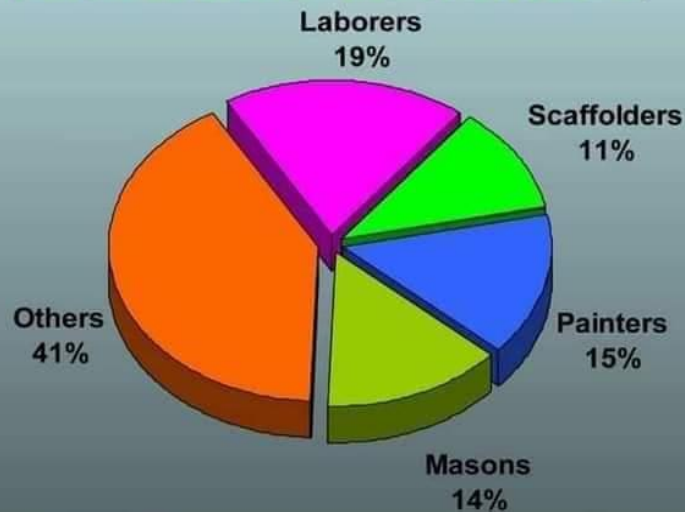
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OSHA SCAFFOLD FATALITY STUDY



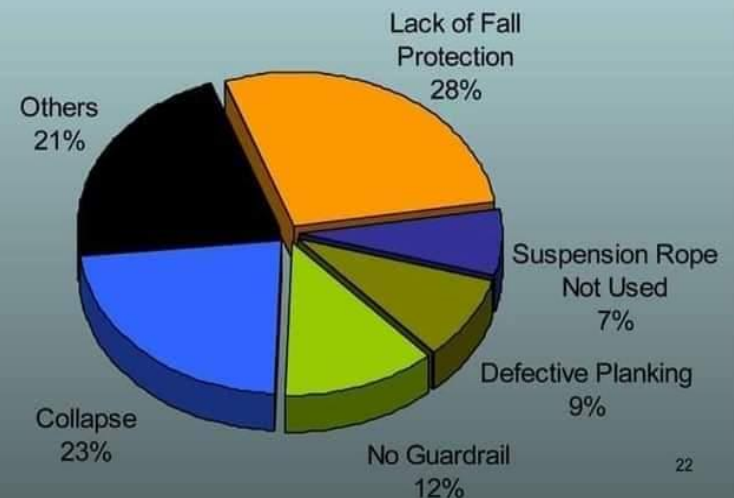
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SCAFFOLD FATALITIES FROM FALLS BY JOB TITLES



21

SCAFFOLD FATALITIES FALLS PRIMARY CAUSE



22

Scaffolding Tagging

SCAFFOLD TAGGING

- All scaffold shall be tagged **“COMPLETE”**, **“INCOMPLETE”**, **“DANGER - DO NOT USE”**.
- What makes an **“INCOMPLETE”** scaffold?
 - Missing guardrails
 - Incomplete decking
- What makes a **“DANGER - DO NOT USE”** scaffold?
 - Cracks in frame
 - Excessive rust
 - Scaffold not plumb
 - Scaffold has missing parts

32

CHSA Scaffold Tag
Ref 29 CFR 1910.28

Scaffold Inspection Tag
To be completed by a competent Person

Scaffold No & Location		
SCAFFOLD LOADING DETAILS		
Light Duty	Not exceed 25 p.s.f 09 x 6 (Bay & Width)	
Medium Duty	Not exceed 50 p.s.f 08 x 6 (Bay & Width)	
Heavy Duty	Not exceed 75 p.s.f 6.6 x 6 (Bay & Width)	
Inspected by		
Signature		
Date & Time of first inspection		
Scaffold Check List		
Base	Toe boards	
Standards	Top Rail /Midrail	
Ledgers	Access	
Transoms	Face Brace	
Platforms	Ties	

Scaffold Inspection Tag
To be completed by a competent Person

DATE	TIME	PRINT NAME	SIGNED



Power Line Clearance

Scaffold Use

Maintain clearance from power lines as follows:

- Insulated lines : less than 300 volts - 3 feet
- 300 volts to 50kv - 10 feet
- More than 50 KV - 10 feet plus 4 inches for each 1KV over 50 KV.

Installation Check

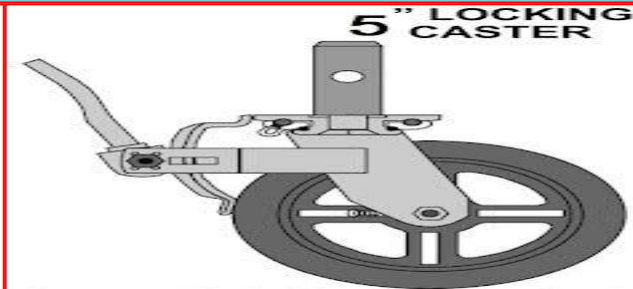
SCAFFOLD TRAINING

- Planks are scaffold grade lumber or equivalent manufactured
- Guardrails & Midrails
- Toeboards
- Mesh if material higher than toeboards
- Ladder Access
- Inspected every work shift by competent person
- Frames secured with pins

SCAFFOLD TRAINING

Check for proper installation of:

- Mudsills, Base Plates, Foundation.
- Posts Plumb
- Posts braced by cross braces, horizontal, and diagonal as required
- Platforms fully planked
- Planks secured

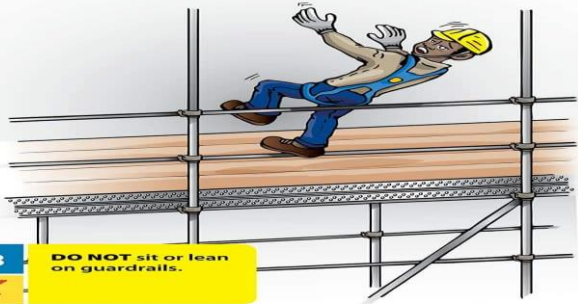


Important Rule: Always lock wheel and pin caster stem before and during use.

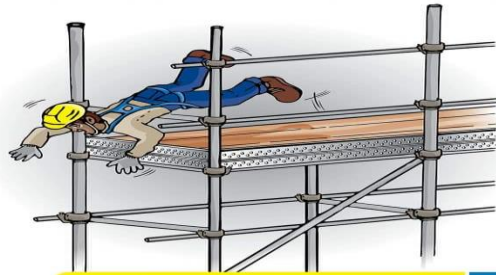
SCAFFOLD TRAINING

- Height less than 4 times minimum base
- Scaffold tied to structure if higher than above
- Caster brakes locked before use
- Casters pinned into frame leg

Scaffolding Hazard



18 **DO NOT** sit or lean on guardrails.



DO NOT use scaffolds without top and/or mid guardrails. Check that scaffolds are tagged and certified safe by Scaffold Supervisor before use.

17

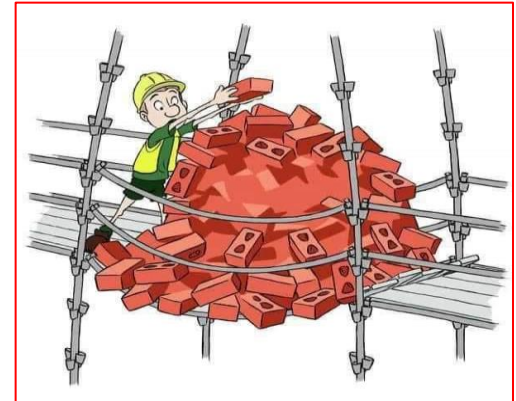
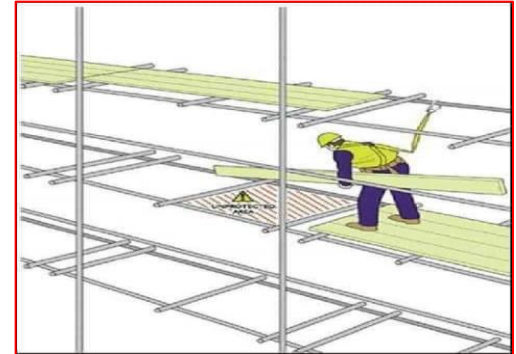


DO NOT move a mobile scaffold when somebody is on it.

13



14 **Ensure** that the work area is well lit before entering and starting work.



Unsafe Lifting work (Work at height)



6 **DO NOT** use shortcuts, they are unsafe.



Work within the work platform. **DO NOT** climb or stretch out over the guard rails.

1



10

DO NOT use a forklift to reach higher areas. Use appropriate equipment such as a mobile elevating work platform instead.



8 **DO NOT** stand ladder on loose material.

Ensure that ladder is secured firmly in place.



DO NOT use improper means to reach higher areas. Use the correct equipment such as a stool or a ladder.

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Practice good housekeeping. Tripping or slipping may lead to falling from height.

11



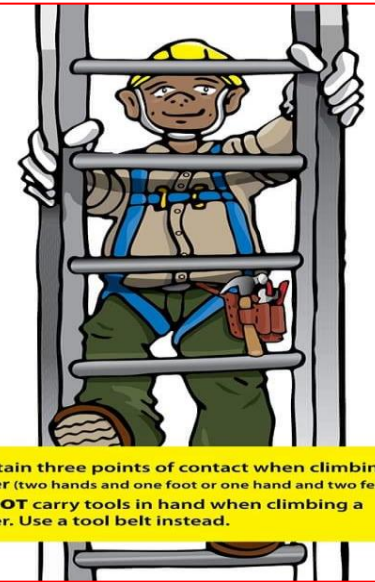
Unsafe Lifting work (Work at height)



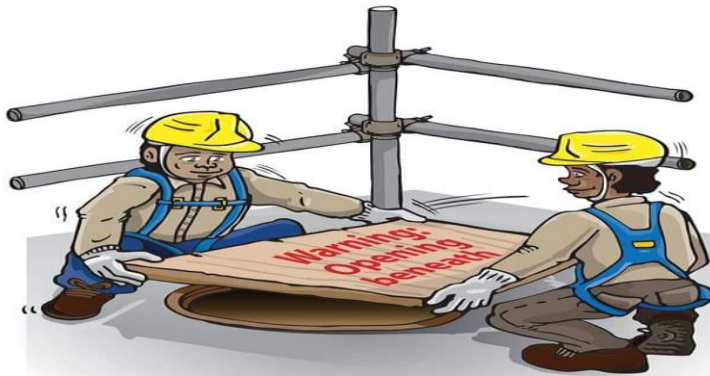
2 Use proper access to climb up or down scaffolds.



4 Ensure that stairs are fitted with handrails.



12 Maintain three points of contact when climbing a ladder (two hands and one foot or one hand and two feet). **DO NOT** carry tools in hand when climbing a ladder. Use a tool belt instead.



Openings in floors should be properly covered.

5



Wear your safety harness and secure it to an anchorage point.

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Workplace Fire Safety Tips & Fire Orders

Workplace Fire Safety Tips



Identify the fire hazards

Identify the people at risk

Evaluate and reduce hazards

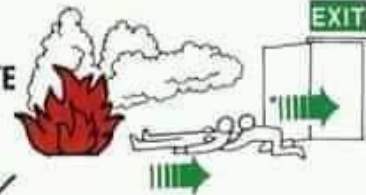
Set up an emergency plan and conduct training

Review risk assessments



STANDARD FIRE ORDERS

1 RESCUE ANY PERSON IN IMMEDIATE DANGER ONLY IF SAFE TO DO SO



2 CLOSE THE DOOR



3 CALL THE FIRE AND RESCUE SERVICE



4 ATTACK FIRE IF SAFE TO DO SO



5 EVACUATE TO ASSEMBLY POINT



6 REMAIN AT ASSEMBLY POINT AND ENSURE EVERYBODY IS ACCOUNTED FOR



