

SCAFFOLD BASICS

IDENTIFY

Scaffold components that are damaged, defective, or wrongly installed can lead to tip-over or collapse.

If scaffold planks and decks fail, you could be seriously injured or killed from a fall. You could also be thrown off balance and injure yourself with your tools or equipment.

If scaffold planks are un-cleated or unsecured, they can easily slide off. They can also break if they are in poor condition or overloaded. If scaffolds are not fully planked, it can cause injuries not only during erection and dismantling, but also during general scaffold use.

When scaffolding reaches or exceeds the 3:1 ratio, either three sections high and one section long, or three sections long and one section high, the base of the frame must be extended, or the frame must be secured to the building.

COMMUNICATE AND CONTROL

Structural components of all frame scaffolds must be inspected regularly. Inspection should include frames, feet, connecting pins, braces, and guardrails.

Frames

- Uprights and cross-members should not be cracked, rusty, bent, or otherwise deformed.
- All connecting components should fit together square and true.

Feet

- Adjustable base plates should work properly.
- Plates should be securely attached to legs to resist uplift as well as compression.
- If mudsills are used, base plates must be nailed to them.
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Connecting pins

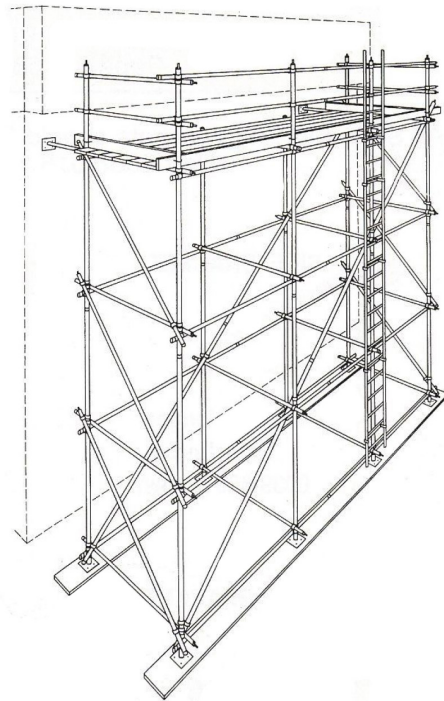
- Frames must be joined together vertically by connecting pins compatible with the frames.
- Connecting pins must be locked in place to prevent them from loosening and coming out.
- Pins must be free of bends and distortion. If they don't fit, get replacements that do.

Braces

- Cross and horizontal braces should not be cracked, rusty, bent, or otherwise deformed.
- Braces should be compatible with frames and free of distortion.
- Horizontal braces must be installed every third frame vertically and in each bay laterally.
- Scaffolds higher or longer than three frames must be tied into the structure.

Guardrails

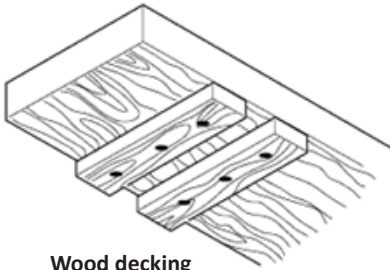
- The work platform must have guardrails.
- Guardrails must be compatible with frames.
- Guardrails can be made of tube-and-clamp components if they're assembled properly.
- If a scaffold is structured over 10 feet above ground, you must install guardrails on the three openly-exposed sides of the scaffold that face away from the building.
- Guardrails must consist of a top rail, a mid-rail and a toe-board.



COMMUNICATE AND CONTROL

Wood Planks

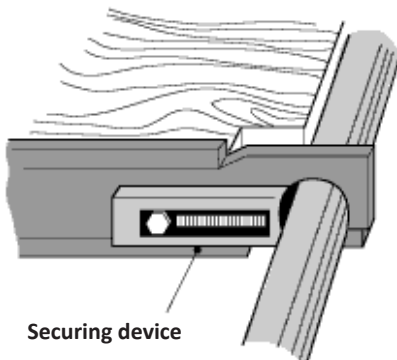
- Must be free from movement by adding cleats on the bottom where the scaffold frame intersects.
- Must be Grade 1 Lumber (50 mm thick x 250 mm wide) and free from defects such as worm holes, cracks, splits, spike knots, waness, etc.
- Must not exceed five metres in length and should be tightly laid together with no spaces between.
- Must extend a minimum of 150 mm, but not exceed 300 mm overlap, or extension past the scaffold frame.
- Each scaffold frame must be no greater than 2.5 metres apart for proper support.



Wood decking

Commercially manufactured planks

- Must be stored, used, and inspected as per the maintenance guidelines of the manufacturer.
- The hooks must sit properly on the vertical frame of the scaffold.
- If equipped, the hook locks should be used to add security of the planks.
- Should never be altered to fit a scaffold frame.
- If the plank has a wooden deck, be aware that changes in moisture can cause defects within the wood.
- The rungs and hooks of all planks should be inspected for cracks, twists, and breaks. If these appear, the plank should not be used and should be removed from service.



Securing device

Legislation

Scaffolding is referenced in Manitoba legislation in Part 28 of the Workplace Safety and Health Regulation. All scaffolding must be erected and inspected by a competent person. Scaffold inspection tags should be readily accessible at each access point for all workers to verify that the scaffold has been inspected and is in good condition.

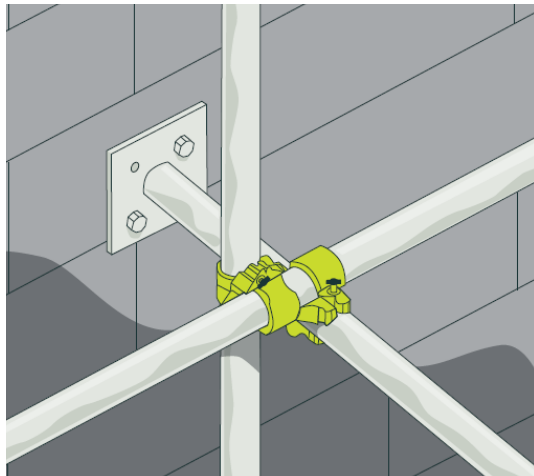


Access and egress on scaffolding should include ladders or engineered stairways. Climbing the frame of a scaffold may cause added stress and is not recommended.

COMMUNICATE AND CONTROL

Tie backs and outriggers

- Each frame scaffold exceeding the 3:1 ratio, should be secured to the building.
- Horizontal braces must be installed every third frame vertically and in each bay laterally.
- Scaffolds higher or longer than three frames must be tied into the structure.
- Each mobile scaffold exceeding the 3:1 ratio, should have outriggers to extend the footprint and prevent tip over.
- For every three sections high, or three sections wide, outriggers must be used.
- Tie back systems must be designed by a professional engineer if the scaffold exceeds 10 metres, or if hoarded scaffold exceeds 7.5 metres.



Scaffolding must be regularly inspected by both a supervisor and engineer. If any components of the scaffold are worn out, broken or damaged, they must be immediately removed from the structure and replaced. Check frames, braces and other parts for bends, damages, rust, and other signs of wear and tear. Motors, platforms, and wire ropes must also be inspected for chemical corrosion.

- Structural components of all frame scaffolds must be inspected regularly.
- Inspection should include frames, feet, connecting pins, braces, and guardrails.

Respect load capacity

Design the scaffold to handle large loads in order to prevent the structure from collapsing. Always keep the work area on a scaffolding clean of clutter and never overload it with equipment, tools, or materials.

Proper training

Operators, or users, must be properly trained on the erection, dismantling, use, and inspection of scaffolds. This training should include safety practices and procedures. Fall protection training should also be completed as scaffolding can be erected and used over 10 feet from the ground.

Wear the proper PPE

Personal protective equipment (PPE) must be worn at all times while operating on a scaffold. This includes a hard hat, CSA approved footwear, and fall protection. In certain circumstances, gloves or hearing protection may also be required.

THE QUIZ

1. Scaffold components that are damaged, defective, or wrongly installed can lead to:

- a) Tip over or collapse
- b) Developing a safe job procedure
- c) Conducting a hazard assessment

2. Inspection of structural components should be inspected on a regular basis:

TRUE _____ FALSE _____

3. List two items of inspection for the frame of a scaffold:

- a) _____
- b) _____

4. List two items of inspection for the feet of a scaffold:

- a) _____
- b) _____

5. List two items of inspection for the connecting pins of a scaffold:

- a) _____
- b) _____

6. List two items of inspection for the brace of a scaffold:

- a) _____
- b) _____

7. List two items of inspection for the guardrails of a scaffold:

- a) _____
- b) _____

8. Guardrails can be made of _____ if they're assembled properly.

9. Scaffolds higher than three frames must be tied into the structure:

TRUE _____ FALSE _____

10. If scaffold planks are un-cleated or unsecured, they can easily slide off:

TRUE _____ FALSE _____

11. List two different types of planks/decks:

- a) _____
- b) _____

12. What would cause a wooden deck of a commercially manufactured plank to become defective?

13. Outside elements play a contributing factor for the condition of planks and decks:

TRUE _____ FALSE _____

14. List the three items required for a properly assembled guardrail:

- a) _____
- b) _____
- c) _____

15. List two areas of inspection on commercially manufactured plank deck panels:

- a) _____
- b) _____

16. List two areas of inspection on wood planks:

- a) _____
- b) _____

ANSWERS:

1. a; 2. TRUE; 3. Uprights and connecting members; 4. Secure and nailed if mud sills are used; 5. Not bent and not cracked; 6. No rust and not bent; 7. Secure and not cracked; 8. Tube and clamp; 9. TRUE; 10. TRUE; 11. Commercially manufactured and wood; 12. Repeated changes in moisture; 13. TRUE; 14. Top rail, mid-rail, toeboard; 15. Cracked and broken rungs; 16. Cracks and worm holes