

CITY AND COUNTY OF CARDIFF

CODE OF GUIDANCE

MOBILE TOWER SCAFFOLD

Purpose

The aim of this Code of Guidance is to provide basic information to help managers and personnel to ensure that scaffold towers are erected, used and dismantled safely. Personnel who erect, alter or dismantle any type of tower scaffold must be competent to do so or be supervised by a competent person.

Every year many people are killed or injured in scaffold accidents. Those involving tower scaffolds are mainly caused by poor standards of erection and misuse. Aluminium towers are light and can easily overturn. Towers rely on all the parts being in place to ensure adequate strength. They can collapse if sections are left out. All components must be inspected before use for signs of damage. They should be checked for broken welds, cracks, looseness of fit or other damage. Where members are connected by latching hooks, these must be inspected to ensure that the spring and release trigger are operating correctly. Non-compatible components must not be used.

The Code of Guidance addresses the following:

- 1.0 Erecting the Tower
- 2.0 Stability
- 3.0 Access
- 4.0 Edge Protection
- 5.0 Moving the Tower
- 6.0 Protecting the Public
- 7.0 Scaffold Inspection
- 8.0 Safety Check List

1.0 Erecting the Tower

A wide range of prefabricated towers is available. The manufacturer or supplier should provide an adequate instruction manual, which should give advice on the erection sequence and bracing requirements. If the tower has been hired, the hirer should provide this information. This information should be passed onto the erector as stated above.

- The person erecting the tower should be competent.
- Check that there are no power lines or other overhead obstruction.

2.0 Stability

Make sure the tower is resting on firm level ground with wheels or feet properly supported. The ground (foundation) should be capable of sustaining the total load at all times during the erection and use of the tower so that a safe condition is maintained. Do not use bricks or building blocks to take the weight of any part of the tower. Adjustable legs may be needed to ensure that the tower is vertical. These legs should not be used to extend the height of the tower.

The taller the tower, the more likely it is to become unstable. As a guide, if towers are to be used in exposed conditions or externally, the height of the working platform should be no more than three times the minimum base dimension. If the tower is to be used internally, on firm ground, the ratio may be extended to 3.5. Using this guide, if the tower is 2m x 3m the maximum height would be 6 metres for use outside and 7 metres for inside or what has been recommended in the manufacturer's instruction.

Stabilisers or outriggers can be used to increase the effective base size so that further sections may be added to the height (see figure 1). Stabilisers and outriggers should be rigidly fixed to the tower and should be in firm contact with the ground or base. Adjustable stabilisers/outriggers should be positioned to make the effective least base dimension as large as possible. Outriggers need plan braces, as specified by the manufacturer. It is recommended that stabilisers should be used only on static towers. If they are used on a mobile tower they should not be raised more than 12mm off the ground, or the tower should be reduced to its freestanding height without stabilisers before it is moved.

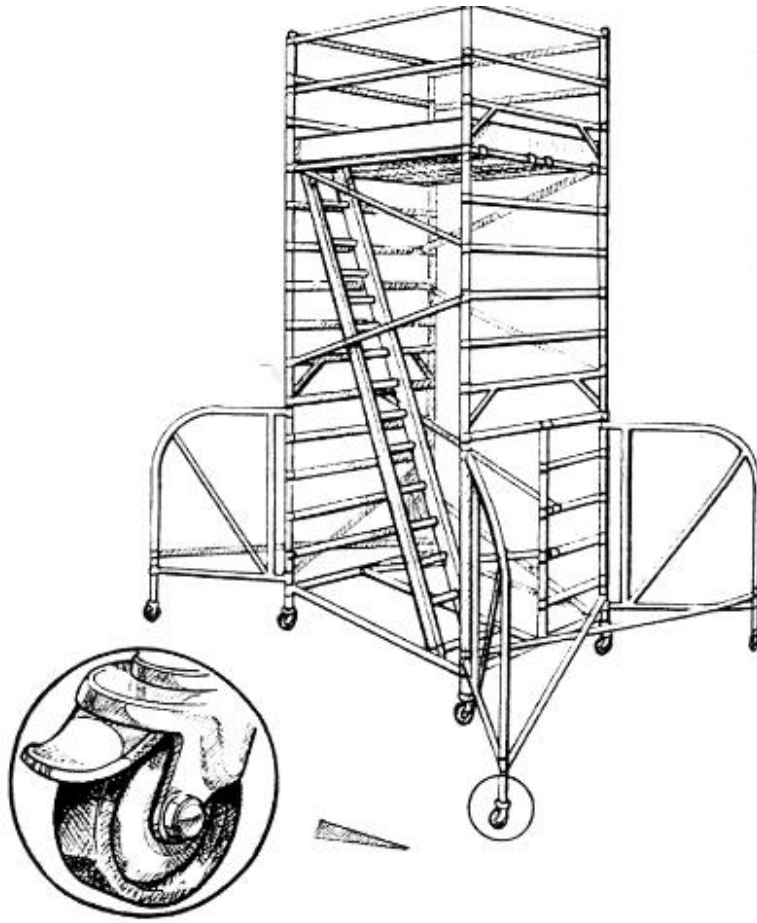


FIGURE 1

Always check the safe height to base ratio in the instruction manual.

Remember, the stability of any tower will be affected if it is:

- sheeted and/or likely to be exposed to strong winds;
- loaded with heavy equipment or materials;
- used to hoist heavy materials or support rubbish chutes;
- used for operations involving heavy or awkward equipment, e.g. grit blasting, water-jetting, etc.
- climbed from the outside;
- used as a support for ladders.

In these cases, extra support or alternative height to base ratios may be needed.

Before using the tower always check that the:

- scaffold is vertical;
- wheel brakes are on.

3.0 Access

There must be a safe way to get to and from the work platform. It is not safe to climb up the end frames of the tower except where:

- the frame has an appropriate designed build-in ladder (Figure 2). These should be climbed from the inside;
- a purpose made ladder can be attached safely on the inside.

Check with the manufacturer or supplier before fitting a ladder. Always make sure there is a secure handhold at all landing places.

4.0 Edge Protection

Provide suitable edge protection on platforms where a person could fall more than 2 metres. Guard rails should be at least 910mm high and toe boards at least 150mm high. An intermediate guard rail or suitable alternative should be provided so the unprotected gap does not exceed 470mm (see Figure 2).

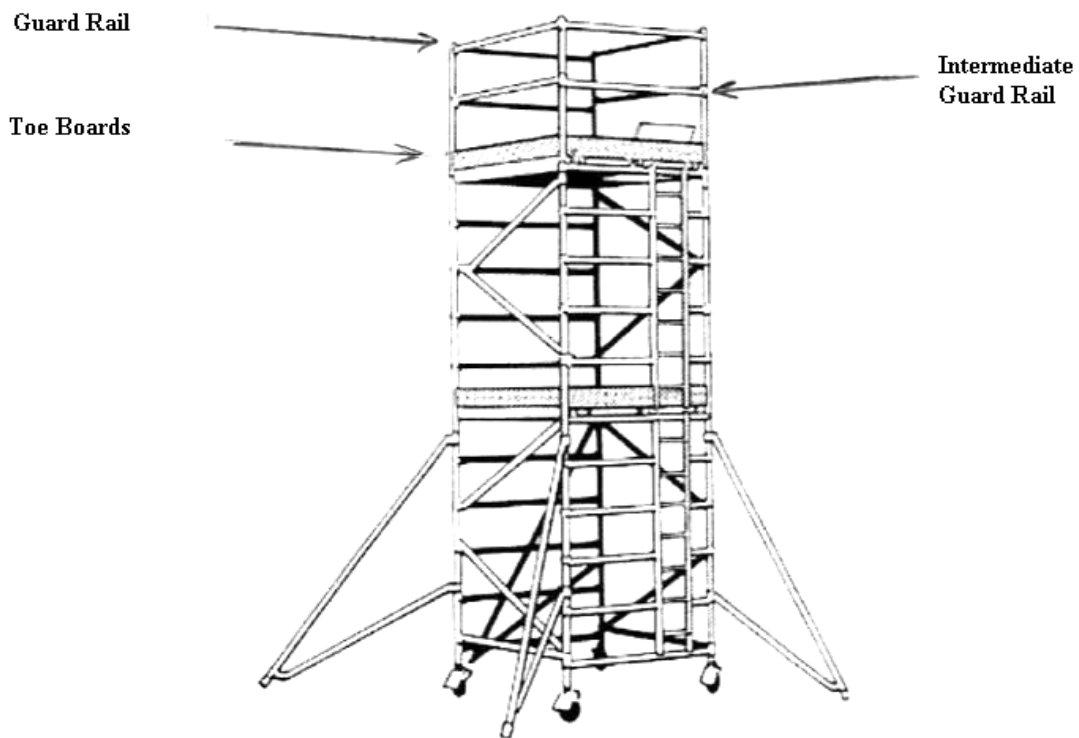


FIGURE 2

5.0 Moving the Tower

When moving a tower:

- check that there are no power lines or other overhead obstructions;
- check that the ground is firm and level;
- push or pull only from the base - never use powered vehicles;
- never move it while there are people or materials on the tower platforms;
- never move it in windy conditions.

6.0 Protecting the Public

When towers are used in public places, extra precautions may be needed:

- minimise the storage of materials and equipment on the working platform;
- erect barriers at ground level to prevent people from walking into the tower and work area.
- remove or board over access ladders to prevent unauthorised access if it is to remain in position unattended.

7.0 Scaffold Inspection

Tower scaffolds must be inspected by a competent person:

- before first use;
- after any substantive alteration; and
- after any event likely to have affected its stability.

If the tower remains erected in the same place for more than seven days, it should also be inspected at regular intervals (not exceeding seven days) and a written report made. Any faults found should be put right.

If the tower is left incomplete during the erection stage a warning notice "scaffold incomplete - do not use" should be fixed to the tower scaffold.

8.0 Safety Checklist

8.1 Before Erecting the Tower

- Make sure that the supplier's instruction manual is on site and has been read and understood
- Make sure that all local bylaws are adhered to when towers are erected in public places
- Ensure reasonable precautions are taken to prevent collision with tower by persons or vehicles
- Check that the components are not damaged
- Check that components with moving parts – castors, brakes, telescopic legs and hooks – are working properly
- Check that floor is level, firm and not obstructed

- Check that floor openings are covered or filled in, or protected with barriers
- Check that the scaffold can be tied to adjacent structures if necessary.

8.2 When Erecting the Tower

- Keep to the instructions in the supplier's manual
- Keep to the recommended height/base ratios
- Fit outriggers or stabilisers where required
- Check that the castor brakes are on
- Check that the scaffold is vertical
- Check adjustable legs are secure
- Fit bracing as the erection proceeds
- Secure interlocking pins on all spigot and socket joints
- Fit guardrails and toeboards to all working platform levels.
- Tie into the structure if at all possible, or arrange for other methods of stability, as described in this Code
- Incomplete towers should have recommended warning notice displayed.

8.3 During Use of the Tower

- Ensure Safe Working Load of tower is not exceeded
- Ensure all materials and equipment are lifted up within the tower frame base.
- Inspect before each use to see that the height/base ratio is within limits
- Ensure that no parts have been removed or altered from the correct configuration or have been vandalised
- Ensure that outriggers or stabilisers are correctly positioned and secured
- Check that ties, ballast weights or guys are in order if fitted
- Check the tower is vertical and adjustable legs are secure
- Check that the castors and brakes are operative

- Check that the floor or surface is firm and level
- Ensure recommended means of access is in place
- Check the tower is clear of overhead obstructions before moving
- Check that the tower is not damaged
- Limit horizontal forces on the platform as much as possible
- In industrial areas, housing estates, public places, etc, take all necessary precautions, like fencing the base of the tower to prevent children or vandals from climbing the tower and vehicles colliding with the tower
- Ensure people and materials are off the tower before moving. Move the tower by applying manual force at or near the base.
- Avoid moving the tower by mechanical means such as towing with a vehicle
- Avoid using the tower in windy or severe weather conditions, unless adequately tied in or stabilised.
- Ensure that platforms are secure or tied down in windy or severe weather conditions.

8.4 **When Dismantling the Tower**

- Keep to the instructions in the supplier's manual
- Never drop equipment from the tower. Always lower material to the ground by rope or hand.

IF IN DOUBT ASK THE SUPPLIER

Further Information:

Construction Health, Safety and Welfare Regulations 1996.

BS1139 Metal Scaffolding

HS(G)150 Health and Safety in Construction

HS(G)151 Protecting the Public

IND(G)220 A guide to the Construction (Health, Safety and Welfare Regulations) 1996.

National Association of Scaffold Contractors Technical Guidance Notes.