

# PREVENTION OF FALLS – MEZZANINES

1ST EDITION

JUNE 2005

The following information is provided for people in the workplace who have responsibilities under the Occupational Health and Safety (OHS) Act 2004 for ensuring a safe and healthy environment. This guidance is intended to illustrate practical methods of reducing the likelihood of injuries from falls, both above and below two metres. You should also check the Occupational Health and Safety (Prevention of Falls) Regulations 2003 and the OHS Act to determine the legal requirements that relate to your specific situation.

In warehouses, offices, libraries, factories and many other workplaces, mezzanines are used for manufacturing, storage and office space. Some mezzanine floors, however, are not constructed appropriately or are used in a way they were not designed for.

The OHS (Prevention of Falls) Regulations 2003 require all employers to take measures to prevent falls greater than two metres and take measures to reduce the injuries that may result from a fall. Unprotected mezzanines frequently pose a high risk of someone falling off the edge, falling through the surface or falling when accessing the level.

## ASSESSING THE SITUATION AND RISKS

If a task must be done where someone can be harmed by falling from height, a risk assessment must be undertaken of that task. The risk assessment must consider:

- the type of task and how long the task will take; and
- the physical surroundings and conditions in which the task is undertaken.

An integral element in assessing risks, including falls, is determining the processes used for accessing or working on the mezzanine. Basic questions to ask include:

- Does the mezzanine need accessing frequently? How frequently? *A few times a year, every day or somewhere in between?*

- Why is the mezzanine being accessed? *Is it to access stock or offices or for cleaning, inspection or maintenance purposes or a combination of these?*
- What type of items need to be moved to and from the mezzanine and how often? *Are they small, light and compact or large, heavy and bulky?*
- What equipment or measures are being used to move items and people to and from the mezzanine? *For example, are forklifts, stairs, work platforms (mobile or fixed), chutes, conveyors, hoists or ladders used?*
- Are the measures being used to access or work on the mezzanine regularly inspected, maintained and in good condition? Are they being used as intended?
- Are there safety barriers in place to stop people falling off the edge of the mezzanine?
- Is the mezzanine and any safety barrier in place structurally sound? *Is there any sign of a fault such as cracking, warping, buckling or missing, broken, loose or worn parts? If a fault is observable has an engineer or relevant professional checked the structural integrity?*
- Is the load capacity of the mezzanine potentially being exceeded? *If so, or the answer is unknown, has the mezzanine been checked by an engineer or relevant professional to determine if the mezzanine is safe?*

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- Is the floor of the mezzanine appropriate for the work task? *Example: is there non-slip flooring to reduce someone slipping if this likely? Are there liquid spills or dust present that increase the risk of a fall? Are holes present that someone could fall through? Is the floor uneven increasing the risk of tripping?*
- Is lighting adequate? Is there sufficient light provided to assist people walking around the mezzanine and to allow people to see adequately for other tasks e.g. stocktaking, accessing stairs?

Undertaking a risk assessment of the work task may identify that the current use of, and access to, the mezzanine poses a significant risk of falling.

Where the risk of a fall is likely, measures must be put in place to eliminate that risk or if that is not possible, to minimise the risk as much as reasonably practicable.

## SAFE DESIGN

Serious consideration and a detailed structural assessment of a mezzanine level should be undertaken before storing any items on it or generating a need to access the level. This should occur if an assessment has not been undertaken when the mezzanine was first installed or if loading of the mezzanine has increased potentially beyond its capacity or structural faults can be observed.

If a risk assessment identifies that the floor is safe to access, it is vital that the edges of the mezzanine be protected to ensure that personnel and visitors are unable to fall. This is most likely to involve the construction of safety guard rails and other edge protection. To be totally effective these rails need to be constructed to the appropriate Australian Standard AS1657.

Guard railing should include:

- a top rail;
- one or more intermediate rails; and
- a toeboard or kickboard.

Any railing must be secured in such a way as to be effective in stopping people falling from edges. Safety mesh can also stop people and objects falling from edges.

## SAFE ACCESS AND WORK ON MEZZANINES

If access is frequent, it would be appropriate to install a suitable stairway or passenger lift. This access would allow small lightweight items to be carried manually while providing stable footing and suitable handrails for safety.



2.0 Access to a mezzanine via a stairway.

If a fixed stairway or lift is not reasonably practicable, a mobile platform or mobile stairs should be considered. Where frequent carrying of stock or movement of large, heavy or bulky items is required, then hoists, chutes, rollers or conveyors should be considered and used to move items where reasonably practicable.

Many mezzanines are used to store larger items or palletised product. In this circumstance, mezzanines are often loaded by using forklifts. To accommodate this, guard rails are often replaced with a removable railing. These railings must be designed to allow access to stock at the same time as removing the risk of anyone falling.



3.0 Mezzanine has a relocatable fence and sliding gate to ensure that no one is exposed to an unguarded edge at any time.

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Another way of achieving this is by having safety gates or a double rail structure that excludes operator access while the edge railing is removed or elevated. Once stock is placed or removed and the guard rail is back in place, pedestrian access is allowed. There are many designs of this arrangement available in Victoria.



*4.0 A safety gate that allows forklift access while separating personnel from the mezzanine edge. This design was a finalist in the Victorian WorkSafe Awards in 2003.*

Personnel must not be elevated by a forklift using the bucket or tynes. If a risk assessment identifies that a forklift is a suitable option then a specially designed work bin or cage must be used. Use of a forklift with work bin or cage to lift personnel should generally only be used for accessing the mezzanine for irregular or infrequent inspection or maintenance purposes – not for frequent access to stock, offices or other items.

Ladders are unlikely to be an appropriate method for removing items from mezzanines as the operator will not be able to secure their position on the ladder while carrying the items. Fixed ladders may be appropriate for accessing a mezzanine if access is very infrequent for inspection or maintenance purposes, but not for loading or unloading material or equipment.

## MAINTENANCE

In many workplaces mezzanines are often covered by dust, oil or other substances from production that reduce traction and increase slip hazards. It is important to remove the risk of slips or trips leading to falls by providing suitable safety footwear, non-slip flooring, undertaking regular cleaning and maintenance and storing items in a stable manner.

Ensure gaps in mezzanines around chutes or equipment are covered in, or guard railing is installed to prevent people and objects from falling through.

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## MORE INFORMATION

### WorkSafe Victoria

Specific information on working at heights can be obtained by contacting WorkSafe on 1800 136 089.

### Acts and Regulations

Occupational Health and Safety Act 2004

Occupational Health and Safety (Prevention of Falls) Regulations 2003

Occupational Health and Safety (Plant) Regulations 1995

Acts and regulations are available from Information Victoria on 1300 366 356 or online at [www.dms.dpc.vic.gov.au](http://www.dms.dpc.vic.gov.au).

### Publications

Prevention of Falls in General Construction (Code of Practice No. 28, 2004)

Prevention of Falls in Housing Construction (Code of Practice No. 29, 2004)

Guide to Manual Order Picking

Forklift Safety

These Codes and other falls prevention information are available from WorkSafe from: [www.workcover.vic.gov.au](http://www.workcover.vic.gov.au).

### Australian Standards

Standards Australia has some useful information on ladders and fall protection devices available from [www.standards.com.au](http://www.standards.com.au).

### Other tools that may assist with fall prevention

- Job analysis sheets
- Visual observations of work process
- Industry and union publications and forums
- Professional Association newsletters and forums
- Suppliers and suppliers magazines
- Manufacturer's instructions
- Consultation with Emergency Services on emergency procedures required for a particular job

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## WORKSAFE VICTORIA

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