

SAFETY ALERT

TEMPORARY SUPPORT OF MASONRY WALLS UNDER CONSTRUCTION

This alert is produced as a result of a number of recent masonry wall collapses that have resulted in death and serious injury in the construction industry.



This document alerts people to the potential collapse hazard associated with the construction of masonry walls. It provides guidance about precautions to prevent masonry walls from collapse before fully incorporated into the finished structure.

Masonry walls, and in particular freestanding walls, not yet attached to any other structure are vulnerable to wind or other lateral forces. They are particularly vulnerable to instability problems because their ability to withstand lateral forces greatly reduces as the height of the wall increases.

Therefore it is essential that principal contractors, employers and sub contractors assess the risk of collapse of masonry walls which are not tied in to the completed structure and determine and implement appropriate risk control strategies.

Occupational health and safety requirements

Clause 234 of the OHS Regulation 2001 states:

'An employer must ensure that any danger to persons arising from the collapse of a building during a temporary state of weakness or instability before construction is

completed is controlled by the use of adequate temporary guys, stays supports and fixings or other measures.'

The possible weakness of masonry under construction is referenced in Australian Standard AS 3700 Masonry Structures Section 11.9 which states in clause 11.9.1:

'Masonry under construction shall be braced or otherwise stabilised as necessary to resist wind and other lateral forces, in such a manner that the structural integrity of the member or structure is not impaired.'

Risk controls

Principal contractors, employers and sub contractors need to consider the possible instability of masonry walls during construction and use a risk management approach to assess and control the risks.

Before starting construction work, an engineer or other competent person should conduct a comprehensive risk assessment of the design and proposed construction sequence to identify any masonry walls that may be in a weakened state during the construction phase, considering such issues as:

- freestanding walls without returns, cross walls or other structural elements constructed at the same time that provide lateral support
- the reduced mortar strength during the first few weeks of construction
- the effect on stability of damp course membranes
- the wall height
- likely wind conditions prior to completion of the building.

Possible control measures include the following:

- sequencing construction so that walls are constructed at the same time as cross walls or returns, so they provide some lateral support for each other
- design and install temporary bracing as required for the likely winds and other lateral loads
- limit the height of each lift to avoid overloading green masonry
- provide additional temporary support for lintels or other structural elements that place concentrated loads onto green masonry
- avoid lateral loading being applied to the wall. For example provide access paths for pedestrians and vehicles that avoids the possibility of impacts with the walls
- avoid stacking building materials against the walls
- the stability risk assessment and the design of temporary bracing should both specify the maximum likely wind speed considered and this information should be communicated to

the person controlling the site. If the site wind condition is likely to exceed the wind speeds considered above, additional bracing should be installed for the wall or other risk control measures applied.

Include information in relation to the control measures in the Safe Work Method Statements.



Further information and advice can be found in:

- The OHS Regulation 2001
- Australian Standard AS 3700 Supplement 1-2004 Masonry Structures – Commentary (supplement to AS 3700-2001)
- Construction Guidelines for Clay Masonry, Section 6 – Temporary Bracing. Clay and Brick Institute. www.cbpi.com.au.

Information is also available on the the WorkCover website www.workcover.nsw.gov.au or by calling WorkCover on **13 10 50**.

Disclaimer

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