

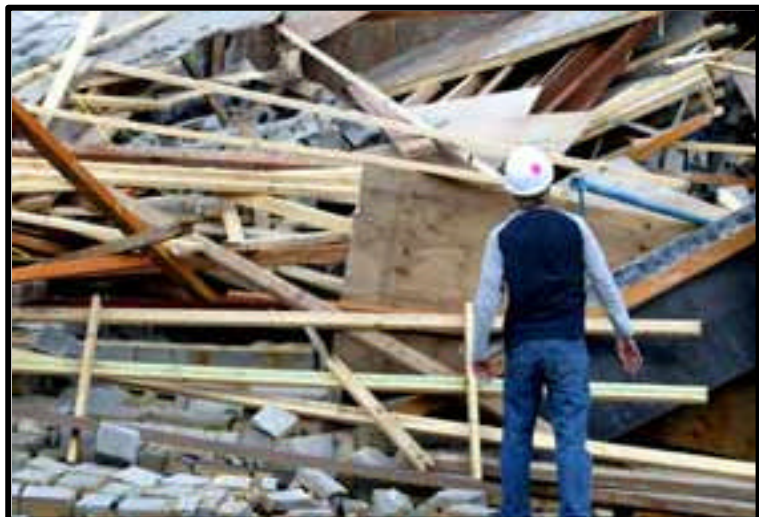
**Construction Industry Program
Incident Report:
Masonry Walls Collapse in Strong Winds
(REVISED & RE-ISSUED: 7 November 2002)**

Category:	Stability of buildings under construction
Sub-category:	Masonry walls
Relevant to:	Housing & commercial construction sectors, bricklaying contractors, bricklayers
First Issued:	6 September 2002
Date Revised:	7 November 2002
Reference No:	02: 009 Revision 1
Authorised by:	Geoff Thomas, Construction Industry Program Director

Incident

In response to a notified incident¹, WorkSafe inspectors attended a site where a four-storey building under construction had collapsed, injuring four workers. Immediately prior to the collapse, all structural walls had been constructed in the first floor level in this building. It was understood that there were high winds during the time of the collapse.

The potential for more workers to have been injured was high, but fortunately, the incident occurred close to the lunch break, when site activities were minimal.



¹ Under the Victorian *Occupational Health and Safety (Incident Notification) Regulations 1997*, employers must, amongst other things, immediately notify WorkSafe of “the collapse or partial collapse of any part of a building or structure” [Regulation 8 (c)]. To find out more about these Regulations, refer to *Incident Notification – At a Glance*, available free of charge from local WorkSafe offices, or on-line at www.workcover.vic.gov.au

Preliminary Inspection

WorkSafe's preliminary inspections indicate the following:

- The building had a suspended concrete floor slab at ground level and timber floors above.
- The floors spanned between single-leaf hollow block walls located parallel to each other.
- The collapse occurred in the building shortly after the last of the first floor walls (gable end) had been completed.
- It has not yet been established whether or not these walls had been braced when the collapse occurred.
- It was understood that there were high winds during the construction of this wall.

Remedial Action

A Prohibition Notice was issued on any further work on site pending an engineer's report on the adequacy of the bracing system that had been used. The site was also fenced off to safeguard the general public.

Preliminary Findings

It is not unusual for high wind loads, or pressure from soil or water, to cause the collapse of incomplete masonry walls when the flexural strength from mortar is not fully developed or when lateral support from returns and floor or roof structures are not yet provided.

Builders and bricklaying contractors should recognise this hazard and make provisions for temporary bracing to be installed when and where necessary, and to ensure that such bracing is capable of stabilising the construction.

Generally, new walls lacking support from cross-walls or returns can be built to heights not exceeding 10 times the thickness of the wall without the need for temporary supports. Lesser maximum heights may apply in regions subject to extremely high winds or when lightweight masonry is used.

Where the wall is to be supported by temporary braces, the distance between the points of support should not exceed 2 m and provision should be made to spread the bearing of the support through battens or strong-backs over a distance of at least 500 mm.

Further Information

- Section 11 of AS 3700, *Masonry Structures*
- Supplement to AS 3700, *Masonry Structures – Commentary*

Australian Standards can be purchased on-line from Standards Australia at:

www.standards.com.au

Distribution

Posted on WorkSafe web-site Construction Page:	7 November 2002
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WorkSafe Construction Industry Program field staff:	For on-site distribution where appropriate

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