

DINCEL STRUCTURAL WALLING

BUILDING WALLS – NEW EARTHQUAKE REQUIREMENTS

DO YOUR BUILDING WALLS COMPLY WITH THE NEW AUSTRALIAN EARTHQUAKE REQUIREMENTS?

The falling of masonry brick walls is recognised as the most important reason for the loss of lives during earthquakes. As a result, Australian building authorities have introduced new earthquake requirements (May 2008) restricting the use of brick walls in buildings.

Prior to the introduction of Australian cross ventilation building requirements, the wall layout of Australian apartments, townhouses and similar types of buildings used to incorporate closely placed cross walls like boxes to support each other. The new planning of these buildings now consist of wall layouts of very long party walls between each sole occupancy unit or at their façade walls without nearly any cross walls. These types of wall layouts required for cross ventilation planning will be most vulnerable to falling like a pack of cards during an earthquake.

There is a new Australian earthquake engineering code, AS1170.4-2007, which has replaced the previous 1993 version, which recognises the abovementioned fact that all walls including non-load bearing panels and brick walls shall be tied to the structure to prevent the fall of the walls in the event of an earthquake.

The solution is not to eliminate the cross ventilation planning which is vital for energy efficiency and healthy building interiors but to use walls that can be easily tied to the structure and enhance structural earthquake behaviour simultaneously. For further information refer to [\(Download – Earthquake Hazard Risk Prevention for Developers and Building Professionals\)](#).

When an Australian apartment building of slab-column frame structure is designed to suit cross ventilation planning which incorporates brick infill walls including brick partition walls instead of Dincel Construction System results in:

- 43% more cost due to the extra building materials including concrete and steel used in the floor slabs. Refer to [\(Download – Costing Analysis\)](#)
- 42% more embodied energy use at the time of construction completion. Refer to [\(Download – Part 1 - Energy Efficiency in Building Construction – Embodied Energy\)](#).