

Advisory Notices are issued to assist in the interpretation of the Planning, Development and Infrastructure Act 2016

## TECHNICAL: Design of non-structural building elements for seismic purposes

This Advisory Notice provides information the performance of certain non-structural building elements (suspended ceilings, some partitions and services) in seismic situations.

### BACKGROUND

The performance of non-structural building elements during an earthquake may significantly impact the level of risk posed to building occupants, both directly and indirectly. In addition to causing injury through collapse, poorly or unrestrained non-structural elements can rupture pipework (which may result in flooding), short electrical equipment (which may start a fire) and block exits paths.

The collapse of non-structural elements may also compromise the structural elements of a building, rendering the building un-occupiable and resulting in significant repair costs and lost productivity.

### DISCUSSION

Performance Requirement BPI.1 of the National Construction Code (Volume One) requires that both structural and non-structural building elements remain stable under imposed loads, including seismic loads. Section 8 of *AS1170.4 Earthquake actions in Australia (2007)* provides information about the non-structural building elements that must be designed to resist seismic loads.

To assist with applying Section 8, the Department of Infrastructure and Transport (DIT) has published two guideline documents regarding the design and installation of non-structural building elements. These guidelines are used for government owned buildings but will also assist practitioners including architects, engineers, building surveyors, builders and installers who are required to comply with Section 8.

**The two guideline documents are available via the Building Project Information Management System ([BPIMS](#)) website:**

- Seismic Suspended Ceilings G173
- Seismic Restraint of Engineering Services G172

In relation to suspended ceilings and relevant partitions, the **Seismic Suspended Ceiling guideline** recommends the use of *AS/NZS 2785 Suspended ceilings – design and installation (2000)*. The **Seismic Restraint of Engineering Services guideline** provides technical information to assist in designing and detailing the seismic restraints.

## **Further Information:**

Attorney-General's Department  
Planning and Land Use Services  
Building Policy and Programs  
Telephone: 1800 752 664  
Email: [PlanSA@sa.gov.au](mailto:PlanSA@sa.gov.au)

*This Advisory Notice is for general information only and should not be relied upon as legal advice or an accurate statement of the relevant legislation provisions. If you are uncertain as to your legal obligations you should obtain independent legal advice.*

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**Government of South Australia**  
Attorney-General's Department