

Structural & Seismic Safety



Introduction

The performance standards for structural safety of buildings are critical to ensuring that existing buildings undergoing adaptive reuse maintain their structural integrity. Minimum standards ensure that the structures of existing buildings are suitable for the proposed use and remain safe in circumstances such as high winds or earthquake.

Standards & Compliance

Minimum standards for structural safety for adaptive reuse of existing buildings in South Australia are defined by the *Ministerial Building Standards* (MBS). The MBS requires evaluation of existing buildings undergoing work to determine the level of structural upgrades required. In the case of adaptive reuse for housing, the main factor in determining the level of upgrades is likely to be the extent of work that is being undertaken.

Significant changes to the existing structure of the building or alterations that exceed 50% of the floor area of the building will trigger the requirements for a seismic assessment and potential upgrades.

Key factors in determining the level of upgrades required include:

- The age and existing use of the building
- The height of the building
- Changes in use of the building
- Changes in the number of occupants within the building
- The complexity of the structural system of the building
- Existing structural damage
- The impact of changes or alterations on the existing structure.



Checklist & Key Considerations

- Have you sought advice from a Building Surveyor and/or Structural Engineer?
- Does the project propose a change of use for the building?
- Does the project result in an increase or change in occupancy?
- Do the alterations impact more than 50% of the floor area of the building?
- Are existing structural elements affected by the alterations?
- Is the building covered by an existing heritage listing?

Heritage preservation & Structural Integrity

In heritage buildings, care must be taken to preserve historically significant features while strengthening the structure. Work with heritage architects and structural engineers to ensure any required upgrades are appropriately integrated and respect the building's original design.

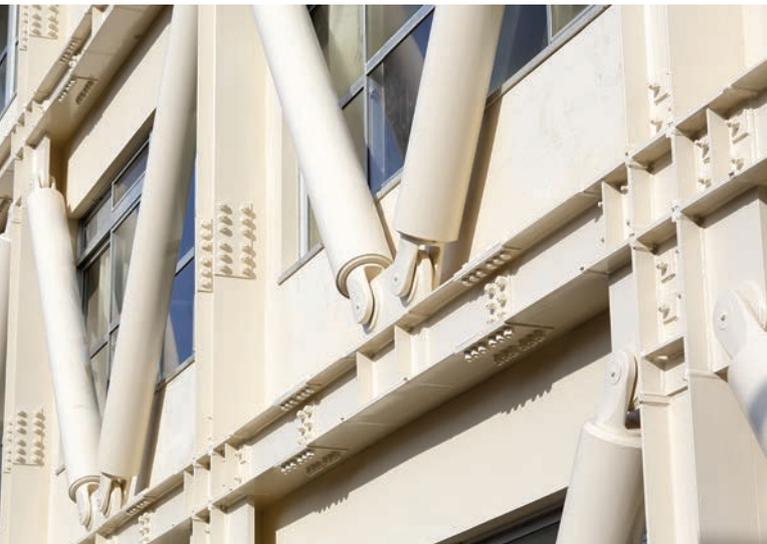
Common heritage building features that may require consideration for structural seismic upgrades include:

- Chimneys
- Parapets
- Cavity walls
- Awnings.

Getting the right advice

A licensed Building Surveyor can provide preliminary advice regarding the likelihood of an adaptive reuse project requiring structural upgrades and the relevant compliance pathways.

For more detailed guidance on specific structural design implications and options, a Structural Engineer will be required. A Heritage Architect is best placed to advise on the integration of any structural upgrade works in a heritage listed building.



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