



Australian Government

**Assessment Requirements for
CPCCB5018 Apply structural principles
to the construction of buildings up to three
storeys**

Release: 1

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Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCBC5018A Apply structural principles to the construction of medium rise buildings. Change to title. Updated to meet the Standards for Training Packages 2012.

Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by applying structural design principles to one residential or commercial construction project up to three storeys, with below ground construction as specified by the National Construction Code (NCC) classification.

In doing this, the candidate must:

- accurately apply design principles relating to performance
- coordinate the support of the structural components by applying temporary structure elements
- identify typical faults and problems and rectify as required.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- government building and construction legislation and regulations
- building codes, specifications and standards:
 - NCC
 - Australian Standards
 - project specifications
- design principles and behaviour of structural members undergoing stress, strain, compression, bending or combined actions
- below ground construction:
 - methods
 - structural sufficiency
 - water ingress
 - water proofing
 - site safety requirements

- properties, characteristics and limitations of structural materials:
 - concrete, including reinforced, pre-stressed concrete and tilt-up panels
 - composite steel and concrete
 - masonry
 - steel (cold-formed steel) and aluminium
- applications of structural principles in buildings:
 - dead and live load calculations and characteristics
 - fire resistance of materials
 - impact of thermal effects
 - impact of time-dependent effects, including creep and shrinkage
 - impact of wind, snow, groundwater, earthquake, liquid pressure, rainwater and earth pressure actions
 - structural resistance of forms of construction
 - structural resistance of materials
- project working drawings and specifications
- work health and safety (WHS) and organisational quality procedures and processes
- temporary structural elements.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment can be undertaken in the workplace or in a simulated workplace environment.

A simulated environment is one that realistically replicates workplace conditions, materials and equipment, interactions with others and workplace irregularities, and which meets industry standards for safety and environmental practices.

Candidates must have access to:

- relevant state and territory building and safety legislation, codes and standards
- environmental requirements and sustainability principles
- manufacturer's specification and installation instructions for materials specified in a project
- project plans, work drawings and specifications
- business equipment and technology, applications and software to facilitate effective application of structural principles to the construction and demolition of a building.

Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>