



Australian Government

Assessment Requirements for CPCCBC4010 Apply structural principles to residential and commercial constructions

Release: 3

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Modification History

- Release 3 Updated reference to general construction induction training program.
- Release 2 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.
Correction to mapping.
- Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.
Supersedes but is not equivalent to CPCCBC4010B Apply structural principles to residential low rise constructions.
Combines CPCCBC4010B Apply structural principles to residential low rise constructions and CPCCBC4011B Apply structural principles to commercial low rise constructions.
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 principles to the construction of one building project.

In doing this, the candidate must:

- assess the structural integrity of the construction project
- apply technical construction principles and concepts to the appropriate selection, integration and building of construction elements and components
- coordinate, plan, implement and check the construction of the structure
- plan and document the structural principles of the construction of a building.

Knowledge Evidence

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

- government building and construction legislation and regulations
- industry building and construction standards and codes
- the NCC
- classes of buildings described in the NCC
- standards and codes for timber framing
- structural principles:

- behaviour of structural materials
- dead, live and wind loads
- performance of beams
- performance of columns
- performance of roof trusses
- section properties
- solution of force systems
- wind bracing
- project documentation:
 - approval project plans and specifications
 - structural designs and specifications
 - engineer's footing design and specifications
 - registered plans
 - contour site plan
 - geotechnical report
 - underpinning, rock anchors and shoring design and specifications
 - retaining wall and tanking design and specifications
 - structural, floor, wall and roof systems
- organisational quality documentation:
 - policies and procedures
 - workplace procedures, workplace safety and environmental requirements
 - various construction contracts
- footing systems:
 - bored pier footings
 - columns or stumps
 - concrete slab floors
 - reinforced piers and beams
 - drilled and driven piles
 - mass concrete piers
 - screw piles
 - waffle pod slabs
 - brick bases
- floor system and components:
 - suspended and slab on ground concrete floors
 - suspended timber, metal and steel floor frames
 - engineered floor joists
 - platform floor construction
 - fitted (cut-in) floors
 - compressed sheet wet area flooring
 - sheet flooring

- tongue and groove flooring
- autoclaved aerated concrete (AAC) panel systems
- structural wall systems:
 - composite walls featuring tilt-up slab, engineered timber products and lightweight AAC
 - framed walls incorporating timber, engineered timber products and lightweight section steel
 - masonry walls incorporating cavity brick, single-leaf masonry and AAC
- wall cladding:
 - weather boards
 - coatings over base materials
 - corrugated metal sheeting
 - fibre cement and compressed wood panelling
 - tilt-up slab
 - unfired and fired AAC masonry
- structural roof systems:
 - timber and metal pre-fabricated trusses
 - hand cut timber
- roof types:
 - box gable
 - dual pitch
 - Dutch gable and Dutch hip
 - gable end
 - hip and valley
 - north light
 - skillion
 - rafter and purlin
- roof cladding:
 - concrete, clay and metal tiles
 - shakes and shingles
 - short and long run, various profile and metal sheeting
- AAC floor and wall systems
- causes and implications of structural defects related to failure of applying structural principles to residential and commercial buildings
- extent of remedial work required for various defects caused by inadequate design and application of structural principles.

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 government building and construction legislation
- current building and construction codes and standards
- the NCC
- material manufacturer's specifications
- construction drawings and specifications and other quality documentation required to undertake the performance criteria and assessment requirements
- digital devices, applications and software to obtain and research information electronically and exchange information with other stakeholders.

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>