



Australian Government

CPCCBS6102 Research and evaluate construction methods and materials for Class 2 to 9 buildings to three storeys

Release: 1

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Modification History

- Release 1 This version released with CPC Construction, Plumbing and Services Training Package Release 6.0.
- Supersedes and is equivalent to CPCCBS6002 Research and evaluate construction methods and materials for commercial buildings to three storeys.

Application

This unit of competency specifies the skills and knowledge required to develop an understanding of traditional, new and emerging construction methods and materials, including systems and components for services, for buildings included in Classes 2 to 9 as defined in the National Construction Code (NCC), up to three storeys and not exceeding 2,000 square metres in floor area. It includes researching and evaluating construction industry information, including research papers, engineering reports, material specifications and performance data; and establishing information management procedures to maintain data currency, classify and store research information.

This unit is suitable for building surveyors who draw on their broad theoretical knowledge and technical skills to provide advisory code-consulting services or authorised statutory services relating to planning or building permit application assessment or building audit and inspection services for Class 2 to 9 buildings.

This unit forms part of the licensing requirements for building surveying in some states and territories. Relevant state and territory regulatory authorities should be consulted to clarify these requirements.

Pre-requisite Unit

Nil.

Unit Sector

Building surveying

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

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| 1 Research and evaluate construction methods for commercial buildings included in Classes 2 to 9. | 1.1 | Research information to identify traditional, new and emerging construction methods and conduct required checks to confirm the validity and reliability of gathered information. |
| | 1.2 | Investigate and evaluate methods for site investigation and preparation. |
| | 1.3 | Evaluate the application of different construction methods to structural elements, components or systems for buildings included in Classes 2 to 9. |
| 2 Research and evaluate construction materials for commercial buildings included in Classes 2 to 9. | 2.1 | Research information to identify traditional, new and emerging construction materials and conduct required checks to confirm the validity and reliability of gathered data. |
| | 2.2 | Evaluate the application of different construction materials to structural elements, components or systems for buildings included in Classes 2 to 9. |
| | 2.3 | Evaluate construction materials to determine fire resistance and performance for particular building occupancies and usage. |
| 3 Research and evaluate service provisions for commercial buildings included in Classes 2 to 9. | 3.1 | Research information to identify service requirements, compliance and installation methods, and conduct required checks to confirm the validity and reliability of gathered data. |
| | 3.2 | Evaluate options for energy supply and infrastructure, heating and cooling systems, fire protection, and gas and hydraulic service supply and infrastructure. |
| | 3.3 | Evaluate service systems and components in relation to different user groups, geographical locations and climatic conditions, and note strengths and weaknesses of each context. |
| 4 Report research and evaluation outcomes. | 4.1 | Prepare report containing research and evaluation findings, recommendations and supporting evidence for commercial buildings included in Classes 2 to 9 according to workplace requirements. |

- 4.2 Distribute research and evaluation report to relevant persons for feedback.
- 4.3 Implement information management procedures to maintain data currency and classify and store research and evaluation information for easy retrieval.

Foundation Skills

As well as the foundation skills explicit in the performance criteria of this unit, candidates require:

- numeracy skills to:
 - interpret construction material characteristics and performance data using fractions, decimals, percentages, ratio, rates and proportions
 - use mathematical language relating to properties of materials including fire ratings and load bearing capacities.
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Unit Mapping Information

Supersedes and is equivalent to CPCCBS6002 Research and evaluate construction methods and materials for commercial buildings to three storeys.

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>

Assessment Requirements for CPCCBS6102 Research and evaluate construction methods and materials for Class 2 to 9 buildings to three storeys

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Performance Evidence

To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by researching and evaluating construction methods and materials to support building surveying services for three different projects involving the follow Classes of buildings as defined by the National Construction Code (NCC):

- one project incorporating Class 5 or Class 6
- one project incorporating Class 2 or Class 3 or Class 9c
- one project incorporating Class 7 or Class 8.

Each building must be up to three storeys and not exceeding 2,000 square metres in floor area, and in a different geographical location/area selected from the following:

- high wind area
- highly corrosive area (within 1 kilometre of the ocean)
- bushfire-prone area
- cyclone area
- earthquake area
- alpine area
- metropolitan area.

For each building, the candidate must evaluate:

- construction methods and materials in relation to different geographical locations and climatic conditions and note strengths and weaknesses of each context
- the application of different construction methods to:
 - foundations and footings
 - structural and supporting systems
 - enclosing systems
 - installation of services
- construction processes in relation to trade sequencing

- the application of different construction materials to:
 - foundations and footings
 - structural and supporting systems
 - enclosing systems.

Knowledge Evidence

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

- characteristics, including fire resistance and applications of materials suitable for structural elements and building envelope of buildings included in Classes 2 to 9
- compliance requirements of construction materials and methods for buildings included in Classes 2 to 9 in different geographic locations and climate zones:
 - NCC
 - Australian Standards referenced by the NCC
- components and systems for services associated with buildings included in Classes 2 to 9:
 - compliance requirements
 - installation methods
- different construction methods and systems applicable to the structural elements and building envelope of buildings included in Classes 2 to 9:
 - methods for site investigation and preparation:
 - principles and practices of site establishment: underpinning, de-watering, ground stabilisation and demolition procedures
 - soil investigation, assessment and clarification
 - foundations and footings:
 - anchors, including grouted, mechanical or rock
 - basements
 - damp proof courses
 - footing systems
 - grillage
 - ground stabilisation
 - membranes
 - pest control
 - retaining walls
 - shoring
 - systems for earthquake zones
 - tanking
 - underpinning
 - water exclusion
 - structural and supporting systems:
 - forces
 - loads

- openings
- spatial relationships
- stresses and strains applied to arches, beams, braces, columns, concrete floor slabs, load-bearing walls, masonry ties and anchors, roof frames (including trusses) and structural footings
- structural materials and systems for floors, roofs, sub-floors and walls
- systems for cyclonic areas and earthquake zones
- enclosing systems, materials and fixings:
 - claddings and linings
 - coatings
 - finishes
 - flashings
 - linings, including acoustic system installations and fire-rated systems
 - partitioning
 - sarking and insulations
 - wet areas
- information management procedures to maintain data currency, and classify and store information for easy retrieval
- NCC classifications and definitions for buildings included in Classes 2 to 9
- structural engineering principles sufficient to interpret and apply NCC requirements to work activities
- types and sources of reliable information on traditional, new and emerging uses of construction materials and methods.

Assessment Conditions

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

Assessors must also:

- be licensed as a Building Surveyor Level 1 (or equivalent) or Level 2 (or equivalent) in their state or territory, or
- demonstrate current membership of a relevant industry association and have current registration on the National Building Professionals Register in the Building Industry Control category (level 1), or
- be accredited under the Australian Institute of Building Surveyors (AIBS) National Accreditation Scheme at Building Surveyor level or be accredited by the Royal Institute of Chartered Surveyors as a building certifier.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to equipment, software, documentation and materials required to achieve the performance evidence.

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