



Australian Government

Assessment Requirements for AHCLSC403

Apply structural principles to Class 10 buildings

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has applied structural principles to the construction of one National Construction Code (NCC) Class 10 building project, and has:

- assessed the structural integrity of the construction project
- applied technical construction principles and concepts to the selection, integration and building of construction elements and components
- planned and documented the structural principles of the building
- coordinated, planned, implemented and checked construction.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- NCC:
 - performance requirements and general requirements
 - performance solutions and assessment methods
 - performance hierarchy
 - evidence of suitability for building materials and products
 - classes of building and types of construction
- 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
- causes and implications of structural defects related to failure of applying structural principles to class 10 buildings
- extent of remedial work required for various defects cause by inadequate design and application of structural principles
- current building and construction codes and Australian Standards relevant to Class 10 building construction
- standards and codes for timber framing
- 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:
 - slab on ground concrete floors
 - engineered floor joists
 - platform floor construction
 - fitted (cut-in) floors
 - compressed sheet wet area flooring
 - sheet flooring
 - autoclaved aerated concrete (AAC) panel systems
- AAC floor and wall systems
- structural principles:
 - behaviour of structural materials
 - dead, live and wind loads
 - section properties
 - solution of force systems
 - wind bracing
- 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

- workplace policies and procedures, quality systems, best practice approaches, and safety requirements
- workplace quality documentation:
 - policies and procedures
 - workplace procedures, workplace safety and environmental requirements
 - various construction contracts
- 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
- accepted industry practices
- roof cladding:
 - concrete, clay and metal tiles
 - shakes and shingles
 - short and long run, various profile and metal sheeting
- 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.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - construction drawings, site plans and specifications
 - software and hardware to source and document information

- specifications:
 - NCC Volume 2
 - current building and construction codes and Australian Standards relevant to Class 10 building construction
 - workplace policies and procedures, and quality procedures relevant to class 10 building construction
 - construction material manufacturer specifications
- relationships:
 - design and building construction professionals
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>