



Australian Government

Assessment Requirements for CPCCWP5002 Design external above ground waterproofing

Release: 1

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Modification History

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 9.0.
Newly created unit.

Performance Evidence

A person demonstrating competency in this unit must satisfy the requirements of the elements, performance criteria and foundation skills of this unit, in addition to the specific performance and knowledge evidence described below.

Candidates must:

- develop two (2) waterproofing designs.

In doing so, the candidate must:

- develop one (1) design of a roof top podium deck which must include:
 - a minimum 100 square meters
 - details of construction joints
 - an integrated planter box and drainage
 - penetration for services and fixings
 - cross-section design of the complete system, including:
 - strata layers
 - provision of falls
 - threshold detail
 - drainage termination detail
 - compatible finishes for intended use
- develop one (1) design for multi-level external decks which must include:
 - a semi-enclosed deck area
 - falls provided to multiple drainage out falls
 - where catchment areas and overflow affect lower bound levels requiring overflow provisions
 - cross-section design of the complete system, including:
 - strata layers
 - provision of falls
 - threshold detail
 - drainage termination detail

- compatible finishes for intended use
- provide evidence of compliance with design requirement with National Construction Code (NCC) performance requirements

The evidence of compliance report must detail:

- class of building
- wind speed
- climate zone
- water catchment area and outfalls
- overflow effects to adjoining and occupancies below
- compatibility chain of materials specified, including finishes
- provide a risk assessment report for the two required designs detailing:
 - waterproofing system solution for the condition
 - management of potential defects in the waterproofing system
 - consequences of water entering the relevant space
 - feasibility of repair of the waterproofing system.

Knowledge Evidence

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

- key principles of water movement, drainage and hydrostatic pressure/capillarity
- various types of construction and their permeability to water and moisture, including:
 - concrete
 - masonry
 - framed
- stakeholders:
 - architect
 - engineer
 - builder
 - building owner
 - consumer
 - design team
 - construction team
 - certifier
 - building surveyor
 - regulators
- use of space
- fit for purpose water proofing systems
- methods of damp-proofing and external above ground waterproofing appropriate to construction type
- compliance with required testing standards

- requirements of building codes and Australian Standards
- key design philosophies for above ground waterproofing, including:
 - wind loads and the effects on the building envelope and waterproofing systems
 - effects of loads on a material, deformation, stress/strain, especially flexural, compressive and tensile stresses
 - incorporation of acoustic systems
- energy efficiency, including:
 - insulated systems
 - green roofs
 - ventilation requirements in a building
- above ground waterproofing systems available and be able to select and design the appropriate system for the conditions, including:
 - bonded and unbonded sheet membranes
 - liquid applied membranes
 - drainage cells
 - isolation systems
 - sealants
- input and expertise of allied consultants
- compliant processes installation of specified waterproofing systems
- methods for calculating the quantities of components required to complete the waterproofing works specified
- advantages and disadvantages of the different systems, including:
 - combinations of different systems and their limitations
 - maintenance and aftercare requirements
 - the form and feasibility of remedial work
 - impact of different systems
- how membranes work
- building elements and integration, including:
 - product properties and compatibility with building elements
 - installation methods and practices
 - stages of installation and inspection benchmarks
 - waterproofing systems design and relationship with building design
 - permanent formwork
- a range of finishing systems, including decorative finishes
- maintenance of water management systems (drainage systems, sumps, pumps and channels)
- implications of dampness affecting timber in buildings, including:
 - identification of timbers that have been affected by water, decay fungi or wood consuming insects
 - providing suitable advice on the need for specialist assessment
- implications of dampness affecting structural steel in buildings

- properties of waterproofing systems available:
 - substrate assessment and preparation
 - combining components to form a system
 - component compatibility in a combined system
 - component properties for site conditions
- component installation practices
- system analysis for effectiveness
- assessment of complex water and moisture ingress situations:
 - moisture and water remedial system relationships
 - combination of systems to form multiple barriers
- environmental considerations and management
- relevant regulations and legislation.

Assessment Conditions

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

Assessment of performance must be undertaken in the workplace or simulated workplace environment. A simulated workplace is one that fully replicates the resources, environment and any time and productivity pressures that exist in the actual workplace, and which meets industry standards for safety and environmental practices.

Candidates must have access to:

- relevant task or design specifications
- Australian Standards, relevant building legislation, industry codes, NCC and requirements of workplace policies and procedures as required by Commonwealth, state and territory regulators
- relevant environmental requirements.

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>