



Australian Government

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.

Application

This unit of competency specifies the skills and knowledge required to design external above ground waterproofing systems for buildings and structures.

The unit applies to Class 1 and 10 Buildings, and Class 2 to 9 Buildings.

The unit includes planning and preparing to design waterproofing, analysing risk, designing waterproofing systems, and evaluating the design of the waterproofing system solution.

The unit is suitable for builders, building designers, architects, building surveyors, waterproofing design specialists and consultants, engineers and other design specialists.

Licensing, legislative, regulatory or certification requirements may apply to this unit. Relevant work health and safety (WHS) state and territory regulatory authorities should be consulted to confirm jurisdictional requirements.

Pre-requisite Unit

Nil.

Unit Sector

Building and Construction

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. Plan and prepare. | 1.1 Identify above ground areas to be waterproofed and determine external site conditions, waterproofing brief, challenges, waterproofing system design requirements, including finishes in consultation with stakeholder needs and drawings and specifications. |
| | 1.2 Assess types of construction and their permeability to water and moisture, including concrete, masonry and |

framing to be managed and identify potential water ingress points for the construction.

- 1.3 Identify site conditions, including wind speed, climate zone, water catchment area, and outfalls and overflow effects to adjoining buildings and occupancies below.
 - 1.4 Analyse areas impacted by waterproofing system failure for their intended use.
 - 1.5 Determine the management of surface water movement to a drainage point and sub-surface water materials by capillarity.
2. Carry out risk analysis.
- 2.1 Assess risks to external wet areas for the purposes of providing designed systems, including service conditions, wind speed, climate zone, water catchment area, and outfall capacities and overflow effects.
 - 2.2 Assess risk of interstitial condensation within building elements as part of design.
 - 2.3 Determine ultraviolet (UV) exposure of materials and membranes.
 - 2.4 Determine effects of water and moisture on building elements.
 - 2.5 Assess consequence of defects in the waterproofing systems on identified impacted areas.
 - 2.6 Assess external wet area for provision of the proposed design of waterproofing.
3. Carry out waterproofing design.
- 3.1 Identify structural requirements, including wind speeds and climate zone, and the effects on the building envelope and waterproofing systems.
 - 3.2 Develop design requirements for level of risk to moisture and water exposure.
 - 3.3 Identify above ground waterproofing systems available to suit the design that are appropriate for the conditions.
 - 3.4 Analyse and select waterproofing systems suitable for and compatible with site conditions and substrate.

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| | 3.5 | Provide a scope for the installation of the waterproofing system, including substrate considerations and compatibility with finishes, in accordance with principal design, stakeholder needs, compliance with relevant regulations, National Construction Code (NCC) performance requirements, Australian Standards, work health and safety (WHS), environmental requirements, manufacturers' specifications, and drawings and specifications. |
| | 3.6 | Provide quality assurance inspection protocols for waterproofing system installation, including substrate assessment for suitability, compliance of membrane installation with manufacturers' specifications, completion inspection processes, and repair and maintenance plan. |
| 4. Evaluate waterproofing design. | 4.1 | Assess effectiveness of waterproofing system design for suitability with site conditions and consequential affects where water bears at the maximum designed level, risk of moisture and condensation is present, defects are present in the waterproofing system and defects impact the usage of adjoining areas. |
| | 4.2 | Review repair and maintenance plan of waterproofing system. |
| | 4.3 | Record and report on compliant waterproofing design solutions to stakeholders in accordance with service conditions and manufacturers' specifications, Australian Standards, and NCC performance requirements. |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

No equivalent unit.

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>