

<b>UNIT CODE</b>	CPCCWP5006
<b>UNIT TITLE</b>	Survey waterproofing systems
<b>APPLICATION</b>	<p>This unit of competency specifies the skills and knowledge required to conduct a survey of waterproofing systems and remedial recommendations for buildings.</p> <p>The unit applies to Class 1 and 10 Buildings, and Class 2 to 9 Buildings.</p> <p>The unit covers planning and preparing to conduct a survey of waterproofing systems, carrying out the survey of waterproofing systems, analysing report findings and making recommendations and evaluating and communicating survey findings.</p> <p>The unit applies to Class 1 and 10 Buildings, and Class 2 to 9 Buildings.</p> <p>The unit is suitable for builders, building supervisors building surveyors, building designers, architects, waterproofing design specialists, waterproofing supervisors, and consultants, engineers or other design specialists.</p> <p>Licensing, legislative, regulatory or certification requirements may apply to this unit. Relevant work health and safety state and territory regulatory authorities should be consulted to confirm jurisdictional requirements.</p>
<b>PREREQUISITE UNIT</b>	
<b>COMPETENCY FIELD</b>	Building and Construction
<b>UNIT SECTOR</b>	Building and Construction

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes of the unit.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan and prepare.	<p>1.1 Determine scope of survey in consultation with stakeholders, reports and project brief building works or structural specifications.</p> <p>1.2 Gather and review design specifications and data sheets, manufacturers' information, drawings, waterproofing contractors' scopes of work.</p> <p>1.3 Assess site environmental conditions according to approved plans, including surface and sub-surface drainage.</p> <p>1.4 Confirm design complies with National Construction Code (NCC) performance requirements and Australian Standards.</p> <p>1.5 Determine tools, equipment and relevant technologies required for the survey according to site conditions.</p> <p>1.6 Develop the scope for the survey, including installation stages and compliance review.</p>
2. Carry out survey.	<p>2.1 Establish stage inspection protocols and benchmarks for compliance with design and manufacturers' specifications.</p> <p>2.2 Communicate survey procedures and timeframe in consultation with stakeholders.</p> <p>2.3 Conduct quality assurance inspections of the waterproofing systems, including substrate assessment for suitability, component installation and compliance with manufacturers' specifications.</p> <p>2.4 Identify latent conditions outside of the waterproofing system design.</p> <p>2.5 Determine if installation complies with design requirements, manufacturers' specifications.</p> <p>2.6 Record observations of survey of waterproofing systems for analysis.</p>
3. Analyse survey report findings and make recommendations.	<p>3.1 Review report findings and confirm installation complies with manufacturer's specifications, Australian Standards and NCC performance requirements.</p> <p>3.2 Identify and document any non-compliance regarding installation and deviation from design.</p>

	<p>3.3 Provide recommendations for remediation of non-compliances and any defects.</p> <p>3.4 Provide recommendations to remediate the latent conditions to assist with the remediation advice.</p> <p>3.5 Provide a report summary and quality control recommendations for stakeholders.</p>
4. Evaluate survey findings and communicate recommendations.	<p>4.1 Review survey findings against waterproofing systems design.</p> <p>4.2 Review and confirm remediation of non-compliances and defects, including latent conditions.</p> <p>4.3 Review survey results to accommodate use of area at the highest risk level.</p> <p>4.4 Communicate survey findings and any recommendation to stakeholders.</p>

#### **FOUNDATION SKILLS**

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

#### **UNIT MAPPING INFORMATION**

No equivalent unit.

<b>TITLE</b>	Assessment Requirements for CPCCWP5006 Survey waterproofing systems
<b>PERFORMANCE EVIDENCE</b>	<p>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.</p> <p>The candidate must provide one (1) survey report for each of the below:</p> <ul style="list-style-type: none"> <li>• an internal wet area</li> <li>• an external above ground area</li> <li>• a below ground system, and</li> <li>• a remedial waterproofing system.</li> </ul> <p>The survey and report must include a stage inspection or hold point report and final inspection report.</p> <p>The candidate must also provide a review of documentation or specifications for each waterproofing system above.</p> <p>At least one (1) of the survey reports must identify a latent condition and must include recommendations for a resolution of the latent condition.</p> <p>The survey reports must include:</p> <ul style="list-style-type: none"> <li>• parameters of survey in accordance with stakeholders' brief</li> <li>• classification of wet areas</li> <li>• assessment of waterproofing design against compliance with NCC performance requirements, Australian Standards, building design and use of area</li> <li>• site conditions at the time of survey</li> <li>• provision of stage inspection protocols and benchmarks for compliance with design and manufacturers specifications</li> <li>• methodical collation of observations from survey</li> <li>• review of observations against compliance of design and manufacturers' specifications</li> <li>• recommendations for remediation of defects and confirming compliant installation practices</li> <li>• identify latent conditions outside of systems design</li> <li>• recommendations to remediate the latent conditions to assist with the remediation advice</li> <li>• provision of remedial scope and timeframe for remedial works to completion in accordance with survey report</li> <li>• review survey findings and report recommendations against waterproofing design.</li> </ul>

**KNOWLEDGE EVIDENCE**

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

- application of scientific methodology
- diagnostic procedures – non-destructive and destructive, including:
  - site investigation
  - knowledge of construction materials and their properties
  - inspecting and testing protocols utilising factors and influences in accordance with risk levels, including:
    - observation procedures
    - establishing control areas and reference points
  - analysing evidence
  - utilising information from other sources, e.g., hydraulic and drainage reports, BOM observations
  - suitable technologies:
    - thermal
    - microwave
    - ground penetrating radar (GPR)
    - dye water testing
    - impedance and capacitance technologies
    - electronic field vector mapping
    - high and low voltage holiday testing
  - setting control parameters and testing values, including:
    - calibration of testing equipment
    - effects on testing equipment by site conditions and testing procedures
- contributing site factors, including:
  - water ingress sources
  - surface water pathways
  - sub-surface water pathways
  - properties of water and moisture movement
  - gradient or falls
  - hydrostatic pressure
  - surface tension of finishes
  - capillarity
  - size and effectiveness of outfalls
  - penetrations and intrusion points
- causes and effects of dampness in buildings, including the ingress of water, capillary action and surface and interstitial condensation and their remediation
- building elements and integration, including:
  - product properties and compatibility with building elements
  - installation methods and practices

	<ul style="list-style-type: none"> <li>○ stages of installation and inspection benchmarks</li> <li>○ waterproofing systems design and relationship with building design</li> <li>• physical aids to detection of moisture and water ingress and interpretation of results, including: <ul style="list-style-type: none"> <li>○ flood testing</li> <li>○ targeted water testing</li> <li>○ thermal surveys</li> <li>○ moisture meters</li> <li>○ combination of aids</li> <li>○ hygrometric surveys</li> </ul> </li> <li>• National Construction Code (NCC) performance requirements relevant to wet areas tested, including: <ul style="list-style-type: none"> <li>○ waterproofing</li> <li>○ weather proofing</li> <li>○ damp proofing</li> <li>○ condensation management</li> </ul> </li> <li>• Australian Standards and design requirements relevant to wet areas inspected</li> <li>• waterproofing system manufacturer's requirements, including: <ul style="list-style-type: none"> <li>○ installation</li> <li>○ performance of system according to service conditions</li> <li>○ suitability of materials as fit for purpose</li> <li>○ compatibility of components within the system</li> </ul> </li> <li>• risk assessment of water ingress for the purposes of providing designed systems, including: <ul style="list-style-type: none"> <li>○ assessment of service conditions</li> <li>○ risk and management of interstitial condensation within building elements as part of design</li> <li>○ consequence of defects affecting the use of the intended adversely affected areas as wet, damp or dry</li> <li>○ feasibility of repair of the waterproofing system</li> </ul> </li> <li>• properties of waterproofing systems available: <ul style="list-style-type: none"> <li>○ substrate assessment and preparation</li> <li>○ combining components to form a system</li> <li>○ component compatibility in a combined system</li> <li>○ component properties for site conditions</li> <li>○ component installation practices</li> </ul> </li> <li>• system analysis for effectiveness</li> <li>• stakeholders: <ul style="list-style-type: none"> <li>○ architect</li> <li>○ engineer</li> <li>○ builder</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>○ building owner</li> <li>○ consumer</li> <li>○ design team</li> <li>○ construction team</li> <li>○ certifier</li> <li>○ building surveyor</li> <li>○ regulators</li> <li>● report content and communication of findings: <ul style="list-style-type: none"> <li>○ types of diagnostic reports and structures, including: <ul style="list-style-type: none"> <li>○ issue</li> <li>○ performance standard</li> <li>○ remedial action required</li> </ul> </li> <li>○ tables and diagrams</li> <li>○ photographic evidence</li> <li>○ thermal imaging analysis</li> <li>○ interpreting measurement values</li> <li>○ references to Australian Standards and designs</li> <li>○ verbal communication strategies</li> <li>○ different audiences</li> <li>○ presenting evidence.</li> </ul> </li> </ul>
<b>ASSESSMENT CONDITIONS</b>	<p>Assessment of performance must be undertaken in the workplace or in a simulated workplace environment. Where the assessment occurs in a simulated workplace environment, the appropriate simulation(s) must reflect realistic workplace situations.</p> <p>Candidates must have access to:</p> <ul style="list-style-type: none"> <li>● relevant task</li> <li>● Australian Standards, relevant building legislation, industry codes, National Construction Code and requirements of workplace policies and procedures as required by Commonwealth, state and territory regulators</li> <li>● relevant environmental requirements.</li> </ul>
<b>LINKS</b>	<p>Link to Companion Volume Implementation Guide will be inserted here.</p>