



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **CPCCW3002A Apply waterproofing process to internal wet areas**

**Release: 1**

## **CPCCW3002A Apply waterproofing process to internal wet areas**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit descriptor**

This unit of competency specifies the outcomes required to apply waterproofing practices and principles to internal wet areas.

It includes identification of the waterproofing system to be used, its preparation and its application.

### **Application of the Unit**

#### **Application of the unit**

This unit of competency supports the attainment of skills and knowledge to apply waterproofing process to internal wet areas while working with others and in teams.

### **Licensing/Regulatory Information**

Not Applicable

### **Pre-Requisites**

#### **Prerequisite units**

CPCCOHS2001A

Apply OHS requirements, policies and procedures in the construction industry

## Employability Skills Information

**Employability skills**      This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

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Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare.	<p>1.1. Work instructions and operational details are obtained using relevant <i>information</i>, confirmed and applied for <i>planning and preparation</i> purposes.</p> <p>1.2. <i>Safety (OHS)</i> requirements are followed in accordance with safety plans and policies.</p> <p>1.3. Signage and barricade requirements are identified and implemented.</p> <p>1.4. <i>Tools and equipment</i> selected to carry out tasks are consistent with the requirements of the job, checked for serviceability and any faults are rectified or reported prior to commencement.</p> <p>1.5. Material quantity requirements are calculated in accordance with plans and specifications and <i>quality requirements</i>.</p> <p>1.6. <i>Materials</i> appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.7. <i>Environmental requirements</i> are identified for the project in accordance with environmental plans and regulatory obligations and applied.</p>
2. Identify waterproofing system.	<p>2.1. Internal area to be waterproofed is <i>identified</i> from job drawings and specifications.</p> <p>2.2. Area of structure to be waterproofed is inspected for defects and soundness in accordance with job and manufacturer specifications.</p> <p>2.3. Appropriate <i>waterproofing systems</i> and products are identified, analysed and selected for <i>water exclusion</i> in accordance with job and manufacturer specifications, and with material safety data sheet (MSDS) directions.</p> <p>2.4. Range of waterproofing materials is checked for product suitability; conformity to specification; and compatibility with surface material, preparation and waterproofing installation technique.</p> <p>2.5. Termination detailing is determined.</p> <p>2.6. Type of waterproofing material is identified in accordance with job specification, state of <i>structure</i>, and job safety requirements with MSDS directions.</p>
3. Prepare for waterproofing installation.	<p>3.1. <i>Internal wet area</i> and wet area fitment or <i>fixtures</i> are checked for specific measurements and set out in accordance with drawings and specifications.</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>3.2. Substrate is checked for soundness of fit, curing compounds, moisture content and other contaminants, and reported or remedied as required.</p> <p>3.3. Flooring installation levels and falls to waste outlets are checked for conformity to specification.</p> <p>3.4. Corner flashing is installed in accordance with manufacturer recommendations.</p> <p>3.5. Points of connection, termination detailing and over flashings as required are checked to be in place and secure.</p> <p>3.6. Rebates for baths and basins are checked for compliance with standards.</p>
4. Prepare substrate.	<p>4.1. Defects are corrected and made good in accordance with manufacturer specifications, to bring <i>substrate</i> to a smooth and uniform finish.</p> <p>4.2. Surface of structure to be waterproofed is prepared to manufacturers' specification, including fixings and belling out around taps.</p> <p>4.3. Water stops and hobs are installed in required location in compliance with standards and good building practice.</p> <p>4.4. Prepared surface of structure is prime coated to manufacturers' specification, where applicable.</p>
5. Apply waterproofing.	<p>5.1. Waterproofing membrane is applied to primed surface of structure to correct thickness and in accordance with manufacturers' job specification.</p> <p>5.2. Appropriate bond breakers and fillets are applied as required in accordance with manufacturer specifications.</p> <p>5.3. Waterproofing membrane is cured in accordance with manufacturers' specification and workplace requirements.</p> <p>5.4. Flood testing of installation is conducted if required.</p> <p>5.5. Waterproofing system and materials are protected using methods and materials consistent with manufacturers' specification, workplace requirements and good building practice.</p> <p>5.6. Final inspection of site is undertaken in accordance with certifying authority's requirements and sign-off and handover of work is carried out in accordance with workplace requirements.</p>
6. Clean up.	6.1. Work area is cleared and materials disposed of,

**ELEMENT****PERFORMANCE CRITERIA**

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reused or recycled in accordance with legislation, regulations, codes of practice and job specification.

6.2. Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

#### Required skills

Required skills for this unit are:

- communication skills to:
  - follow instructions
  - read and interpret:
    - documentation from a variety of sources
    - drawings and specifications
  - recognise procedures
  - report faults
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
  - written skills to record results of checks and tests and relevant work completion procedures
- evaluate own actions and make judgments about performance and necessary improvements
- identifying and accurately reporting to appropriate personnel any faults in tools, equipment or materials
- organisational skills, including the ability to plan and set out work
- respond to change and contribute to workplace responsibilities, such as current work site environmental and sustainability frameworks and management systems
- teamwork skills to work with others to action tasks and relate to people from a range of cultural and ethnic backgrounds and with varying physical and mental abilities
- technological skills to:

## **REQUIRED SKILLS AND KNOWLEDGE**

- use a range of mobile technology, such as two-way radio and mobile phones
- voice and hand signals to access and understand site-specific instructions.

### **Required knowledge**

Required knowledge for this unit is:

- assessment and appreciation of moisture content in substrate materials
- characteristics and applications of waterproofing materials and adhesives
- construction systems and waterproofing considerations
- general construction terminology
- internal waterproofing materials, processes and techniques
- job safety analysis (JSA) and safe work method statements
- materials storage and environmentally friendly waste management
- MSDS
- plans, drawings and specifications
- plant, tools and equipment types, characteristics, uses and limitations
- principles and considerations of water exclusion
- processes for the calculation of material requirements
- quality requirements
- termination and flashing principals
- workplace and equipment safety requirements.

# Evidence Guide

## EVIDENCE GUIDE

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The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

### Overview of assessment

This unit of competency could be assessed in the workplace or a close simulation of the workplace environment, provided that simulated or project-based assessment techniques fully replicate construction workplace conditions, materials, activities, responsibilities and procedures.

### Critical aspects for assessment and evidence required to demonstrate competency in this unit

A person who demonstrates competency in this unit must be able to provide evidence of the ability to:

- locate, interpret and apply relevant information, standards and specifications
- comply with site safety plan and OHS legislation, regulations and codes of practice applicable to workplace operations
- comply with organisational policies and procedures including quality requirements
- safely and effectively operate and use tools, plant and equipment
- communicate and work effectively and safely with others
- as a minimum:
  - waterproof a bathroom incorporating:
    - lap up a wall
    - appropriate penetrations
    - wastes and hobs
  - install and detail a hobless frame shower enclosure and a bath that abuts a masonry connection wall, ensuring:
    - correct identification of requirement and installation of the waterproofing
    - correct selection and use of appropriate processes, tools and equipment
    - completing all work to specification
    - correct termination and overflashing.

### Context of and specific resources for assessment

This competency is to be assessed using standard and authorised work practices, safety requirements



## EVIDENCE GUIDE

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and environmental constraints.

Assessment of essential underpinning knowledge will usually be conducted in an off-site context.

Assessment is to comply with relevant regulatory or Australian standards' requirements.

Resource implications for assessment include:

- workplace location or simulated workplace
- materials relevant to waterproofing internal wet areas
- hand and power tools, plant and equipment appropriate to waterproofing internal wet areas
- realistic activities covering the mandatory task requirements
- specifications and work instructions.

Assessment of this unit of competency may be in conjunction with assessment of other units commonly performed at the same time in normal job roles.

Reasonable adjustments for people with disabilities must be made to assessment processes where required. This could include access to modified equipment and other physical resources, and the provision of appropriate assessment support.

### Method of assessment

Assessment methods must:

- satisfy the endorsed Assessment Guidelines of the Construction, Plumbing and Services Training Package
- include direct observation of tasks in real or simulated work conditions, with questioning to confirm the ability to consistently identify and correctly interpret the essential underpinning knowledge required for practical application
- reinforce the integration of employability skills with workplace tasks and job roles
- confirm that competency is verified and able to be transferred to other circumstances and environments.

Validity and sufficiency of evidence requires that:

- competency will need to be demonstrated over a period of time reflecting the scope of the role

## EVIDENCE GUIDE

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- and the practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected must relate to a number of performances assessed at different points in time and separated by further learning and practice, with a decision on competency only taken at the point when the assessor has complete confidence in the person's demonstrated ability and applied knowledge
- all assessment that is part of a structured learning experience must include a combination of direct, indirect and supplementary evidence.

Assessment processes and techniques should as far as is practical take into account the language, literacy and numeracy capacity of the candidate in relation to the competency being assessed.

Supplementary evidence of competency may be obtained from relevant authenticated documentation from third parties, such as existing supervisors, team leaders or specialist training staff.

## Range Statement

### RANGE STATEMENT

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The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

***Information*** includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- MSDS
- memos
- regulatory and legislative requirements pertaining to waterproofing internal wet areas

## RANGE STATEMENT

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### ***Planning and preparation***

include:

***Safety (OHS)*** is to be in accordance with state and territory legislation and regulations and project safety plan and may include:

- relevant Australian standards
- safe work procedures relating to waterproofing internal wet areas
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.
- assessment of conditions and hazards
- determination of work requirements and safety plans and policies
- equipment defect identification
- work site inspection.
- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling activities that may require the assistance of others or the use of manual or mechanical lifting devices where size, weight or other issues, such as a disability are a factor
- hazard control
- hazardous materials and substances, including cement and curing agents
- organisational first aid
- PPE prescribed under legislation, regulations and workplace policies and practices
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
  - earth leakage boxes
  - lighting
  - power cables, including overhead service trays, cables and conduits
  - restricted access barriers
  - surrounding structures
  - traffic control
  - trip hazards
  - work site visitors and the public
  - working at heights
  - working in confined spaces
  - working in proximity to others
- use of firefighting equipment

## RANGE STATEMENT

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- Tools and equipment*** include:
- use of tools and equipment
  - workplace environmental requirements and safety.
  - angle grinders
  - brooms
  - brushes
  - buckets
  - caulking guns
  - chisels, including cold chisels
  - cutting blades
  - electric drills and screwdrivers
  - fans
  - floor scrapers
  - hammers
  - heat welders
  - hot air welders
  - lights
  - measuring tapes and rules
  - moisture meters
  - nylon rollers
  - pressure rollers
  - fusion rollers
  - scissors
  - seam probes
  - solvent applicators
  - spirit levels
  - straight edges
  - vacuum cleaners.
- Quality requirements*** include relevant regulations, including:
- Australian standards
  - internal company quality policy and standards
  - manufacturer specifications
  - workplace operations and procedures.
- Materials*** for internal application include:
- adhesives
  - drainage cell
  - liquid applied, including:
    - acrylic
    - cementitious-based
    - injection
    - polyurethane
  - protection board

## RANGE STATEMENT

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- sheet, including:
    - bentonite composites
    - butanol
    - ethylene cop bitumen (ECB)
    - ethylene propylene diene monomer rubber (EPDM)
    - polyvinyl chloride (PVC)
  - substrate primer.
  - clean-up management
  - dust and noise
  - vibration
  - waste management.
- Environmental requirements*** include:
- Identification*** of the waterproofing system includes:
- preparation of the substrate and waterproofing material
  - application to an internal wet area.
  - process:
    - testing
    - drainage
    - protection of the membrane system.
- Waterproofing systems*** include:
- cement-based waterproofing systems.
  - hot mix bituminous felt material membranes
  - liquid sealants
  - sealant devices
  - sheet and sprayed material membranes.
- Considerations in ***water exclusion*** include:
- capillary action
  - causes of water penetration, including:
    - leakage through wall and floor finishes
    - penetration at joints and junctions
    - movement from shrinkage
    - accumulated drainage
    - failure of or damage to waterproofing system corners and terminations
  - curing times of compounds and their applications
  - damp proof courses and flashings
  - direction of fall of substrate or decorative finish
  - hydrostatic pressure
  - impact of environmental conditions

## RANGE STATEMENT

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- joining
  - perimeter treatment, including:
    - pressure seals and over flashing
    - thermal shrinkage (expansion and contraction)
  - shelf life of waterproofing products
  - surface applications and protection requirements
  - use of bond breakers
  - use of sealants
  - waste allowances.
- Structural* considerations include:
- design principles
  - drainage requirements
  - environmental factors, including:
    - water run-off and impact on adjoining property
    - allowing water flow
    - slope, fall and grade of surfaces
  - hydrostatic pressures
  - movement
  - substrate type and condition
  - waterproofing protection.
- Internal wet area* applications include:
- bathrooms
  - en suites
  - laundries
  - showers
  - other wet process areas.
- Wet area *fixtures* include:
- bidets
  - pre-cast baths
  - shower bases
  - sink units
  - trough units
  - urinals
  - vanity units
  - water closets.
- Substrates* include:
- aerated autoclaved concrete materials:
    - Hebel
    - Thermolite
  - blockwork
  - brickwork

## RANGE STATEMENT

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- cement render
- ferrous and non-ferrous piping
- fibrous cement sheeting
- pre-cast concrete
- PVC
- reinforced in situ concrete
- timber and timber-based products
- wet area plasterboard.

## Unit Sector(s)

Unit sector                      Construction

## Co-requisite units

Co-requisite units              Nil

## Functional area

Functional area