



**Australian Government**

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

# **CPCCWP2004A Prepare surfaces for waterproofing application**

**Release: 1**

## CPCCWP2004A Prepare surfaces for waterproofing application

### Modification History

Not Applicable

### Unit Descriptor

#### Unit descriptor

This unit of competency specifies the outcomes required to repair and prepare different material surfaces that form part of the application of waterproofing within the construction process.

It includes the inspection, preparation for, and repair and finishing of surfaces prior to the application of the waterproofing process.

### Application of the Unit

#### Application of the unit

This unit of competency supports the attainment of skills and knowledge to prepare surfaces for waterproofing application while working with others as a member of a team.

### 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. Prepare work area.	<p>2.1. Area to be waterproofed is identified from plans and specifications.</p> <p>2.2. <i>Surface</i> to be waterproofed is <i>inspected and tested</i> to determine appropriateness of the installation and any contaminants, moisture or incompatible materials.</p> <p>2.3. Ventilation is provided in accordance with material safety data sheets (MSDS).</p> <p>2.4. Run-off and environmental controls are provided in accordance with regulatory and workplace requirements.</p> <p>2.5. Work area is prepared for the <i>waterproofing</i> processes in accordance with manufacturer specifications.</p> <p>2.6. Surface mounted <i>wet area</i> construction units, fixtures and attachments are detached, removed or arranged for removal from the work area and stored.</p> <p>2.7. Building structure service penetrations, cavities or knockout sections are cleaned of unwanted materials or debris in accordance with good building practice.</p> <p>2.8. Cross cavity flashings and overlapping are inspected for damage and fitness for purpose.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Prepare and repair substrate.	<p>2.9. Work surface of the building structure is cleaned free of unwanted materials in accordance with good building practice.</p> <p>3.1. Surface or area to be prepared and repaired is assessed for defects to ascertain responsibility for repair, referring areas of concern to supervisor or structural engineer.</p> <p>3.2. Tools are selected to prepare and repair the surface consistent with surface condition and work to be undertaken.</p> <p>3.3. Appropriate tools are used and applied safely to remove loose or protruding material to specification.</p> <p>3.4. Surface is prepared for repair in accordance with manufacturer specifications and workplace procedures.</p> <p>3.5. Method of repairing surface defects is determined in accordance with manufacturer specifications and is consistent with type of material surface, size of defect, compatibility of materials and specified finish.</p> <p>3.6. Repair medium materials are selected, prepared and applied in accordance with manufacturers' and supervisor or structural engineer specifications and consistent with type of material, surface, size of defect, compatibility of materials and specified finish.</p> <p>3.7. Appropriate water stops/hobs and bond breakers/fillets are installed in accordance with manufacturer specifications, drawings and finish levels.</p> <p>3.8. <b>Substrate</b> to be waterproofed is prepared to manufacturer specification.</p> <p>3.9. Substrate is prime coated with waterproofing material in line with manufacturer specification.</p> <p>3.10. Primed surface area is cleaned free of unwanted materials to provide a smooth and uniform surface in accordance with specifications, manufacturer recommendations and good building practices.</p> <p>3.11. Surface is protected until the application of the waterproof membrane in accordance with workplace procedures.</p>
4. Clean up.	<p>4.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations and codes of practice and job</p>

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<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
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specification.

4.2. 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:

- building structures and work scheduling
- characteristics, compatibility and applications of waterproofing materials and adhesives
- construction systems and waterproofing considerations and requirements
- contaminants in waterproofing processes
- flashing and termination detailing
- general construction terminology
- job safety analysis (JSA) and safe work method statements
- levels and falls
- material safety data sheets (MSDS) and the handling of hazardous materials
- materials handling, storage and environmentally friendly waste management
- plans, drawings and specifications
- plant, tools and equipment types, characteristics, uses and limitations
- preparation surfaces for waterproofing application techniques
- principles and considerations of water exclusion
- processes for the calculation of material requirements
- quality requirements
- waterproofing process materials, including durability, compatibility, applications and protection requirements
- 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, prepare for the waterproofing of a bathroom on a suspended concrete slab, with fibrous cement sheeted walls at the corner junction of a masonry wall, ensuring:
  - correct identification of requirement and preparation for the work
  - correct selection and use of appropriate processes, tools and equipment
  - completing all work to specification.

### Context of and specific resources for assessment

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



## EVIDENCE GUIDE

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Resource implications for assessment include:

- workplace location or simulated workplace
- materials relevant to preparing surfaces for the waterproofing application
- hand and power tools, plant and equipment appropriate to preparing surfaces for the waterproofing application
- 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 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

## EVIDENCE GUIDE

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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 preparation of surfaces for the waterproofing application
- relevant Australian standards

## 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:

- safe work procedures relating to preparation of surfaces for the waterproofing application
- 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
- use of tools and equipment

## RANGE STATEMENT

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- Tools and equipment*** include:
- workplace environmental requirements and safety.
  - angle grinders
  - brooms
  - brushes
  - buckets
  - caulking guns
  - chisels, including cold chisels
  - cutting blades
  - dumpy levels, laser and water levels
  - electric drills and screwdrivers
  - electric hammers
  - evacuating equipment
  - extension leads
  - floodlights and fans
  - hammers
  - high pressure water equipment
  - measuring tapes and rules
  - mixers and mixing apparatus
  - moisture meters
  - pump
  - rollers
  - scissors
  - spirit levels
  - straight edges
  - trowels
  - vacuum cleaners
  - wood floats.
- Quality requirements*** include relevant regulations, including:
- Australian standards
  - internal company quality policy and standards
  - manufacturer specifications
  - workplace operations and procedures.
- Materials*** include:
- acid etching compounds
  - brick, block and stone
  - caulking compounds
  - cleaning and degreasing agents
  - concrete
  - fibreglass
  - masonry
  - metal (ferrous and non-ferrous)

## RANGE STATEMENT

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- non-metallic
  - plaster
  - primers
  - proprietary fillers and binders
  - sand and cement
  - sheet material
  - timber.
- Environmental requirements*** include:
- clean-up management
  - dust and noise
  - sand clean-up management
  - vibration
  - waste management.
- Surface*** defects include:
- contaminants
  - cracked or damaged brick or block work
  - cracks and splits
  - holes
  - inadequate substrate fall
  - inappropriate fixings
  - incompatible materials
  - loose fittings, pipework and work stops
  - missing, cracked or damaged substrate
  - moisture
  - out of plumb and level surfaces
  - rough imperfect surfaces
  - sandy, loose and flaked surface materials
  - sheet flutter and soundness
  - substrate drumming
  - surface depressions or dents.
- Inspection and testing*** are to determine:
- preparatory requirements
  - performance of the repair
  - filling
  - priming work prior to installation of the waterproofing system.
- Waterproofing*** processes may be applied to:
- below ground
  - external
  - internal.
- Waterproofing*** may be applied as:
- a liquid
  - a sheet
  - injected material.

## RANGE STATEMENT

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**Wet areas** include:

- bathrooms
- en suites
- food preparation areas
- foundation works
- kitchens
- laundries
- lift pits
- patios and decks
- planter boxes
- retaining walls
- roofs
- showers
- slabs
- stair wells.

**Substrates** include:

- aerated autoclaved concrete materials:
  - Hebel
  - Thermolite
- blockwork
- brickwork
- cement render
- ferrous and non-ferrous piping
- fibrous cement sheeting
- pre-cast concrete
- polyvinyl chloride (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

**Co-requisite units** Nil

## **Functional area**

**Functional area**