



Australian Government

Department of Education, Employment and Workplace Relations

CPCWP2003A Prepare for construction waterproofing process

Release: 1

CPCCW2003A Prepare for construction waterproofing process

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit of competency specifies the outcomes required to apply waterproofing to differing types of wet areas in varying building situations.

It includes identification of the processes required and planning and preparation of materials for application.

Application of the Unit

Application of the unit This unit of competency supports the attainment of skills and knowledge to prepare for construction waterproofing work 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
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Employability Skills Information

Employability skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

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 design concepts and processes.	<p>2.1. Plans and specifications are examined for work area identification, product description, <i>performance requirements</i> and <i>design requirements</i>.</p> <p>2.2. <i>Work site is visited</i> and work requirements are confirmed.</p> <p>2.3. <i>Waterproof process</i> is referenced and identified as conforming to regulations.</p> <p>2.4. Practices and principles of waterproof design for construction of <i>wet areas</i> are identified as conforming to codes and standards.</p> <p>2.5. Appropriateness of the system of waterproofing for the structure or work is determined in relation to <i>structural</i> elements.</p> <p>2.6. Potential for and consequences of water penetration and methods of <i>water exclusion</i> are identified and outlined.</p> <p>2.7. Method of <i>waterproofing installation</i> is identified.</p> <p>2.8. Identified waterproofing materials are confirmed for product suitability and conformity to codes and specification, and are compatible with substrate required finishes, installation technique and building</p>

ELEMENT	PERFORMANCE CRITERIA
3. Select and prepare materials.	<p>schedule.</p> <p>2.9. Application of bond-breaker/fillet system forming part of the waterproofing installation is identified as fit for purpose.</p> <p>2.10. Potential faults, and contingencies and techniques to address them are identified.</p> <p>3.1. Waterproofing material is checked for conformity to specification and compatibility with substrate material and that the proposed application is in accordance with manufacturer specifications.</p> <p>3.2. <i>Substrates</i> to be waterproofed are prepared to manufacturer specification.</p> <p>3.3. Substrates are prime coated with waterproofing material in line with manufacturer specification.</p> <p>3.4. Flashings are prepared to job requirements and ready for placement and fixing to job specifications.</p> <p>3.5. Reinforcing material is set out and cut to requirements of area waterproofing junctions and surface requirements, in accordance with manufacturer specifications and job requirements.</p> <p>3.6. Waterproofing membrane is prepared for installation to wet area surface in accordance with job and manufacturer specifications.</p> <p>3.7. Waterproofing material is mixed or prepared for application to surface in accordance with manufacturer specifications and job requirements.</p>
4. Clean up.	<p>4.1. Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification.</p> <p>4.2. Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

REQUIRED SKILLS AND KNOWLEDGE

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:
 - 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 and applications of waterproofing materials and adhesives
- construction systems and waterproofing considerations and requirements
- general construction terminology
- job safety analysis (JSA) and safe work method statements
- material safety data sheets (MSDS) and the handling of hazardous materials
- materials storage and environmentally friendly waste management
- plans, drawings and specifications

REQUIRED SKILLS AND KNOWLEDGE

- plant, tools and equipment types, characteristics, uses and limitations
- preparation for waterproofing processes and waterproofing 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

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, given the plans and specifications of a waterproofing construction process:
 - read and interpret the plans to assess the specified product's suitability for the work
 - identify the structure and building process, building program and site constraints
 - plan the waterproofing process, identifying the materials and the tools and equipment specifically required for the selected process or membrane
 - confirm plans and specifications on site, including measurements and levels
 - interpret and apply MSDS and manufacturers' instructions and codes
 - prime the substrate and prepare for the application of the membrane, ensuring:

EVIDENCE GUIDE

Context of and specific resources for assessment

- correct identification of requirement and preparation for the installation
- correct selection and use of appropriate processes, tools and equipment
- completing all work to specification.

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.

Resource implications for assessment include:

- workplace location or simulated workplace
- materials relevant to preparing for waterproofing construction processes
- hand and power tools, plant and equipment appropriate to preparing for waterproofing construction processes
- 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

EVIDENCE GUIDE

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 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

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

RANGE STATEMENT

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 for the waterproofing construction process
- relevant Australian standards
- safe work procedures relating to preparation for the waterproofing construction process
- signage
- verbal, written and graphical instructions
- work bulletins
- work schedules, plans and specifications.

Planning and preparation include:

- assessment of conditions and hazards
- determination of work requirements and safety plans and policies
- equipment defect identification
- work site inspection.

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

- 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

RANGE STATEMENT

- 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
 - workplace environmental requirements and safety.
- Tools and equipment*** required to prepare for waterproofing:
- include:
 - measuring tapes and rules
 - mixer and mixing apparatus
 - moisture meters
 - spirit levels
 - straight edges
 - may include:
 - brushes
 - cutting blades
 - dumpy, laser and water levels
 - evacuating equipment and pumps
 - fans
 - floodlights
 - rollers
 - scissors
 - vacuum cleaners.
- Quality requirements*** include relevant regulations, including:
- Australian standards
 - internal company quality policy and standards
 - manufacturer specifications
 - workplace operations and procedures.
- Materials*** required to prepare for waterproofing include:
- adhesives
 - primers
 - sheet:

RANGE STATEMENT

- bentonite composites
 - butanol
 - ethylene cop bitumen (ECB)
 - ethylene propylene diene monomer rubber (EPDM)
 - polyvinyl chloride (PVC)
 - waterproofing material or membrane for the application may be liquid applied:
 - acrylic
 - cementitious-based
 - injection
 - polyurethane.
- Environmental requirements*** include:
- clean-up management
 - dust and noise
 - vibration
 - waste management.
- Performance requirements*** include:
- cost
 - detail relating to materials
 - provision of site access and facilities
 - quality assurance
 - quality and standards of work
 - standard procedures and practices
 - work schedules.
- Design requirements*** include:
- making an assessment of suitability for the construction process
 - selection and preparation of identified materials.
- Work site visit*** permits liaison with others and the confirmation of details such as:
- levels
 - measurements
 - moisture content
 - risk assessment
 - schedules
 - structure
 - substrates
 - termination requirements.
- Waterproofing process*** may be applied:
- below ground
 - externally
 - internally.
- Wet areas*** include:
- bathrooms

RANGE STATEMENT

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

Structural considerations include:

- design principles
- drainage requirements
- environmental factors:
 - allowing water flow
 - slope, fall and grade of surfaces
 - water run-off and impact on adjoining property
- hydrostatic pressures
- substrate type and condition
- waterproofing protection.

Considerations in *water exclusion* include:

- capillary action
- causes of water penetration:
 - 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
- joining

RANGE STATEMENT

- Waterproofing installation* may be applied as:
- shelf life of waterproofing products
 - surface applications and protection requirements
 - use of bond-breakers
 - use of sealants
 - waste allowances
 - perimeter treatment, including:
 - pressure seals
 - over flashing
 - thermal shrinkage (expansion and contraction).
- Substrates* include:
- a liquid
 - a sheet
 - injected material.
 - aerated autoclaved concrete materials:
 - Hebel
 - Thermolite
 - blockwork
 - brickwork
 - 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

Co-requisite units Nil

Functional area

Functional area