



Australian Government

Department of Education, Employment and Workplace Relations

CPC CST3014A Set and anchor stone facades

Release: 1

CPCST3014A Set and anchor stone facades

Modification History

Not Applicable

Unit Descriptor

Unit descriptor This unit specifies the outcomes required to prepare shift, set and anchor a variety of stone facades for a construction project.

Application of the Unit

Application of the unit This unit of competency supports the achievement of skills and knowledge to set and anchor stone product facades, which may include working with others and 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

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 in consideration of <i>hazards</i>.</p> <p>1.4. <i>Tools and equipment</i> selected to carry out tasks are consistent with job requirements, 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, specifications and <i>quality requirements</i>.</p> <p>1.6. Fixing connection materials 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 <i>statutory and regulatory authority</i> requirements, and are applied.</p>
2. Prepare stone for dressing.	<p>2.1. Stone facade erection is planned consistent with AS3850 Tilt up concrete construction.</p> <p>2.2. Delivered stone is checked for conformity to size and colour against specifications and provided material sample.</p> <p>2.3. Area of <i>structure</i> to receive stone for facade is set out for line and level in accordance with job drawings and dimensions and datum or level line is established for base course of stone components.</p> <p>2.4. Area of structure to receive stone components is prepared consistent with manufacturer's fixing recommendations, site drawings and specifications.</p> <p>2.5. Brackets or anchors are installed to structure for line of placement to specifications for structural fixing.</p> <p>2.6. Steel dowels are fitted to base where specified to provide key for base course of components.</p> <p>2.7. Stone is checked for faults prior to installation and stone components are prepared, lifting locations checked and lifting gear attached in accordance with manufacturer requirements and AS3850.</p>

ELEMENT	PERFORMANCE CRITERIA
3. Shift, erect and fix stone.	<p>3.1. Scaffolding is erected, where required, to job requirements and OHS regulations.</p> <p>3.2. Slings, clutches and other predetermined rigging equipment are selected to job requirements and inspected for correct function.</p> <p>3.3. Stone components are shifted and transferred to fixing location at structure in accordance with job safety requirements.</p> <p>3.4. Base components are prepared for placement by drilling holes for dowels where applicable, and placement of wedges or packers for adjustment.</p> <p>3.5. Initial stone is manoeuvred, placed and adjusted in position to be fixed level, to line and plumb.</p> <p>3.6. Base course of stone components are placed and fixed to lines, level, aligned on face and plumb to specifications with location of each stone component to align and tie components together, adjusted and secured to specifications.</p> <p>3.7. Corners of stone facade are joined and fixed to designed junction, to specifications.</p> <p>3.8. Stone facade is installed using appropriate <i>fixing methods</i> to engineer's specifications.</p> <p>3.9. Shifting gear/rigging equipment is removed from stone facade upon engineer's or site authority's approval of fixing.</p> <p>3.10. Stone facade is caulked, sealed and flashed in accordance with job drawings and engineer's specifications.</p>
4. Clean up.	<p>4.1. Area is cleaned to specification.</p> <p>4.2. Waste material is removed and placed into job waste bins.</p> <p>4.3. Tools and equipment are cleaned, inspected, maintained and stored.</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:

- ability to recognise procedures, respond to change and contribute to workplace responsibilities, such as current work site environmental or sustainability frameworks or management systems
- communication skills to:
 - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
 - follow instructions
 - read and interpret drawings and specifications
 - use and interpret non-verbal communication
 - use language and concepts appropriate to cultural differences
- innovation skills to select appropriate tools and equipment, respond to workplace challenges and put ideas into action
- numeracy skills to apply measurements and calculations
- planning and organisational skills to identify requirements, apply relevant resources and sequence tasks
- problem solving skills to recognise and take action to rectify minor faults and problems
- teamwork skills to be able to work with others to action tasks and relate to people from a range of cultural, social, ethnic backgrounds and with varying physical and mental abilities.

Required knowledge

Required knowledge for this unit is:

- Building Code of Australia (BCA) and AS3850 Tilt up concrete construction
- interpretation of drawings and specifications
- job safety analysis (JSA) and safe work method statements
- measuring, levelling and calculation techniques for stonemasonry work
- methods of fixing stone to structures
- safe use of scaffolding
- types and safe use of lifting equipment
- types of stone and their characteristics
- 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 set and anchor a stone facade to at least one of the structural types listed in the range statement, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- comply with organisational policies and procedures
- select and use appropriate processes, tools and equipment to carry out tasks
- apply organisational quality procedures and processes within the context of setting and anchoring stone facades
- demonstrate sound techniques in dressing hard and soft stone
- select stone consistent with specification for material and colour
- accurately set out and install fixing brackets
- demonstrate safe handling practices in moving and placing stone
- fix stone to position and structure
- fix stone to line, level and plumb with clamps securing components
- identify typical faults and problems that occur and action required to rectify them
- communicate with others to ensure safe and effective workplace operations
- complete stone facade to specification.

Context of and specific resources This competency is to be assessed using standard

EVIDENCE GUIDE

for assessment

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:

- work location for installation of stone
- tools, plant and equipment appropriate to installation processes
- construction materials relevant to proposed activity
- appropriate documentation relevant to task.

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 a reasonable inference that competency is not only verified under the particular assessment circumstance, but is 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 practical requirements of the workplace
- where the assessment is part of a structured learning experience the evidence collected

EVIDENCE GUIDE

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 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
- material safety data sheets (MSDS)
- memos
- regulatory and legislative requirements pertaining to handling stone
- relevant Australian standards

RANGE STATEMENT

Planning and preparation include:

- safe work procedures relating to handling stone
- 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.

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
- hazard control
- hazardous materials and substances
- 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:
 - concealed services (water, power and gas)
 - lighting
 - restricted access barriers
 - traffic control
 - 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.

Hazards include:

- barricades
- dust
- excessive noise nearby
- obstructions to clear access for supply
- other work personnel
- power leads

RANGE STATEMENT

<i>Tools and equipment</i> include:	<ul style="list-style-type: none"> • wind. • air compressor and hoses • chalk lines • clogging tools • hammers • lifting gear and equipment • masonry chisels • measuring tapes and rules • power drills, including impact • power grinders • power leads • rollers • rubber mallets • scaffolding • screw cramp and wedges • spirit levels • squares • string lines.
<i>Quality requirements</i> include relevant regulations, including:	<ul style="list-style-type: none"> • internal company quality policy and standards • manufacturer specifications • AS3850 Tilt up concrete construction • workplace operations and procedures.
<i>Environmental requirements</i> include:	<ul style="list-style-type: none"> • clean-up management • dust and noise • vibration • waste management.
<i>Statutory and regulatory authority</i> includes:	<ul style="list-style-type: none"> • federal, state and local authorities administering applicable Acts, regulations and codes of practice.
<i>Structure</i> types include:	<ul style="list-style-type: none"> • brick/concrete masonry walls • in situ reinforced concrete • pre-cast reinforced concrete • structural steel frame.
<i>Fixing methods</i> include:	<ul style="list-style-type: none"> • chemical masonry anchor • mechanical masonry anchor • metal bracket for connection to steel frame • supporting and tying stone components together: <ul style="list-style-type: none"> • S hook • back cramp

RANGE STATEMENT

- corbel plate bracket
- dog cramp
- fish tailed cramp
- pin bracket
- slotted bracket
- turned end cramp.

Unit Sector(s)

Unit sector Construction

Co-requisite units

Co-requisite units Nil

Functional area

Functional area