



**Australian Government**

# **CPCCCA3006B Erect roof trusses**

**Release 1**

## **CPCCCA3006B Erect roof trusses**

### **Modification History**

Change to performance criterion  
Equivalent to CPCCCA3006A  
Added range item: solar panels

### **Unit Descriptor**

This unit of competency specifies the outcomes required to select, set out, erect and brace roof trusses to accommodate roof coverings for waterproofing purposes. It includes gable, hip and valley, and hip roofing types.

### **Application of the Unit**

This unit of competency supports achievement of skills to safely and efficiently erect pre-built roof trusses for gable, hip and valley, hip and flat roof construction projects, which includes working with others and as a member of a team.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

|              |  |
|--------------|--|
| CPCCOHS2001A | Apply OHS requirements, policies and procedures in the construction industry |
|--------------|--|

### **Employability Skills Information**

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

- |   |                   |     |  |
|---|-------------------|-----|--|
| 1 | Plan and prepare. | 1.1 | Work instructions, including plans, specifications, quality requirements and operational details, are obtained, confirmed and applied from relevant <b><i>information</i></b> for <b><i>planning and preparation</i></b> purposes. |
|   |                   | 1.2 | <b><i>Safety (OHS)</i></b> requirements are followed in accordance with safety plans and policies.   |
|   |                   | 1.3 | Signage and barricade requirements are identified and implemented.   |
|   |                   | 1.4 | Plant, <b><i>tools and equipment</i></b> selected to carry out tasks are consistent with job requirements, checked for serviceability, and any faults are rectified or reported prior to commencement.                             |
|   |                   | 1.5 | Material quantity requirements are calculated in accordance with plans, specifications and <b><i>quality requirements</i></b> .  |
|   |                   | 1.6 | <b><i>Materials</i></b> appropriate to the work application are identified, obtained, checked to ensure fitness for purpose, prepared, safely handled and located ready for use according to Australian standards.                 |
|   |                   | 1.7 | <b><i>Environmental requirements</i></b> are identified for the project in accordance with environmental plans and <b><i>statutory and regulatory authority</i></b> obligations, and are applied.                                  |

- |   |                     |     |  |
|---|---------------------|-----|--|
| 2 | Erect roof trusses. | 2.1 | Location of <b>roof trusses</b> for <b>hip and valley roofs</b> are set out on wall top plates to plan layout and specifications.  |
|   |                     | 2.2 | Steel frames are temporarily earthed during erection and are connected to permanent earthing system upon completion.   |
|   |                     | 2.3 | Roof trusses are erected and fixed, including temporary bracing, to set out positions in correct sequence to line at apex and plumb.   |
|   |                     | 2.4 | Top chord is installed above wall plate to be constant height above wall plate.  |
|   |                     | 2.5 | Ceiling trimming and creeper rafter members are fixed to specifications.   |
|   |                     | 2.6 | Bottom chord of truss is used to provide lateral support for internal walls.   |
|   |                     | 2.7 | <b>Roof bracing</b> is provided through hip construction, valley construction, diagonal metal tension or timber bracing or a combination of these, and fixed to specification. |
|   |                     | 2.8 | Lateral restraints to truss chords are fixed in position to manufacturer specifications.   |
| 3 | Clean up.           | 3.1 | Work area is cleared and materials disposed of, reused or recycled in accordance with legislation, regulations, codes of practice and job specification.                       |
|   |                     | 3.2 | Plant, tools and equipment are cleaned, checked, maintained and stored in accordance with manufacturer recommendations and standard work practices.                            |

## 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:
  - determine requirements
  - enable clear and direct communication, using questioning to identify and confirm requirements, share information, listen and understand
  - follow instructions
  - read and interpret:
    - documentation from a variety of sources
    - plans, specifications and drawings
  - report faults
  - use language and concepts appropriate to cultural differences
  - use and interpret non-verbal communication, such as hand signals
- numeracy skills to apply measurements and make calculations
- organisational skills, including the ability to plan and set out work
- 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:

- construction terminology
- job safety analysis (JSA) and safe work method statements
- material safety data sheets (MSDS)
- materials storage and environmentally friendly waste management
- plans, specifications and drawings
- plant, tools and equipment types, characteristics, uses and limitation
- processes for the calculation of material requirements
- quality requirements for roof trusses
- roof bevels
- roof calculations for lengths, quantities and pitch

- roof load transfer
- roof shape and geometry
- roof truss erection and construction techniques
- roof truss materials and installation, including fire control and separation materials required by the National Construction Code (NCC) and other legislation
- roof types and truss components
- roofing regulations
- techniques for lifting and positioning of trusses
- temporary and permanent bracing
- timber types, structural properties and uses, including engineered timber products
- truss set out
- workplace and equipment safety requirements.

## 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, OHS regulations and state and territory legislation applicable to workplace operations
- comply with organisational policies and procedures, including quality requirements
- safely and effectively use tools, plant and equipment
- communicate and work effectively and safely with others
- set out and erect a roof comprising a minimum of one hip end, a valley and enough standard trusses to incorporate bracing for a full size roof in timber and metal.

### 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.

Resource implications for assessment include:

- an induction procedure and requirement
- realistic tasks or simulated tasks covering the mandatory task requirements

- relevant specifications and work instructions
- tools and equipment appropriate to applying safe work practices
- support materials appropriate to activity
- workplace instructions relating to safe work practices and addressing hazards and emergencies
- material safety data sheets
- research resources, including industry related systems information.

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 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

---

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
- memos
- MSDS
- organisation work specifications and requirements
- plans and specifications
- regulatory and legislative requirements pertaining to erecting roof trusses
- relevant Australian standards
- safe work procedures related to erecting roof trusses
- signage
- verbal or written and graphical instructions
- work bulletins
- work schedules.

***Planning and preparation*** include:

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

**Safety (OHS)** is to be in accordance with state or territory legislation, regulations, codes of practice, organisational safety policies and procedures, and project safety plan and may include:

- emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation
- handling of materials
- hazard control
- hazardous materials and substances
- safe operating procedures, including the conduct of operational risk assessment and treatments associated with:
  - earth leakage boxes
  - lighting
  - photovoltaic (solar) panels
  - 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
  - working with dangerous materials
- organisational first aid
- personal protective clothing and equipment prescribed under legislation, regulations and workplace policies and practices
- use of firefighting equipment
- use of tools and equipment
- workplace environment and safety.

**Tools and equipment** include:

- air compressors and hoses
- clamps
- hammers
- marking equipment
- measuring tapes and rules
- nail bags
- nail guns
- power drills
- power leads

- power saws
- saw stools
- scaffolding
- screwdrivers
- spanners
- spirit levels
- squares (combination/tri)
- string lines
- welding equipment.

***Quality requirements*** include relevant regulations, including:

- Australian standards
- internal company quality policy and standards
- manufacturer specifications, where specified
- workplace operations and procedures.

***Materials*** include:

- bolts
- bracing material
- nails
- patented fasteners
- screws
- slotted brackets for truss movement
- timber and metal trusses.

***Environmental requirements*** include:

- clean-up protection
- noise and dust
- vibration
- waste management.

***Statutory and regulatory authorities*** include:

- federal, state and local authorities administering applicable Acts, regulations and codes of practice.

***Roof trusses*** can be:

- timber or metal
- fixed to timber or steel wall plates.

***Hip and valley roofs:***

- include scotch valleys and hip ends
- may include Dutch gables.

***Roof bracing*** includes:

- elementary bracing principles for various shaped roofs.

## **Unit Sector(s)**

**Functional area**

**Unit sector**

Construction

## **Custom Content Section**

Not applicable.