



**Australian Government**

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

# **CPCCSH2002A Use aluminium sections for fabrication**

**Release: 1**

## **CPCCSH2002A Use aluminium sections for fabrication**

### **Modification History**

Not Applicable

### **Unit Descriptor**

**Unit descriptor** This unit specifies the outcomes required to use aluminium sections in fabricated structures and the methods of joining the sections.

### **Application of the Unit**

**Application of the unit** This unit of competency supports the achievement of skills and knowledge to use aluminium sections for fabrication, 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

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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 work.                | <p>1.1. Work instructions and operational details are obtained using relevant <b>information</b>, confirmed and applied for <b>planning and preparation</b> purposes.</p> <p>1.2. <b>Safety (OHS)</b> 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. <b>Tools and equipment</b> 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 <b>quality requirements</b>.</p> <p>1.6. <b>Materials</b> appropriate to the work application are identified, obtained, prepared, safely handled and located ready for use.</p> <p>1.7. <b>Environmental protection requirements</b> are identified for the project in accordance with environmental plans and <b>statutory and regulatory authority</b> requirements, and are applied.</p> |
| 2. Identify extruded aluminium sections. | <p>2.1. Types of <b>aluminium sections</b> are identified for sectional size and design.</p> <p>2.2. Uses of various sections are recognised consistent with their specific design.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 3. Identify methods of joining sections. | <p>3.1. Characteristics of sections are identified for method of <b>joining</b>.</p> <p>3.2. Securing of joints is identified with types of sections.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 4. Use sections to construct frames.     | <p>4.1. Aluminium sections designed for frames are set out and prepared for joining.</p> <p>4.2. Door and sash type sections are set out and prepared for joining.</p> <p>4.3. Joints are made and secured to structural design requirements.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 5. Clean up.                             | <p>5.1. Work area is cleaned and waste material disposed of safely.</p> <p>5.2. Tools and equipment are cleaned, 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**

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
- numeracy skills to apply measurements
- 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:

- design and use of aluminium extrusions
- interpretation of workshop drawings
- job safety analysis (JSA) and safe work method statements
- measuring and marking processes related to aluminium fabrication
- types and performance of materials relevant to aluminium fabrication work
- 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 identify six and assemble four different types of aluminium extruded sections, providing evidence of the ability to:

- comply with OHS regulations applicable to workplace operations
- display compliance with organisational policies and procedures, including quality assurance requirements within the context of aluminium fabrication
- identify designed purpose of six separate aluminium sections
- identify methods of joining different sections
- demonstrate sound and safe techniques in preparing component sections for joining
- demonstrate safe and effective application in the fitting and securing of four different types of construction joints
- display safe and effective handling applications to minimise opportunities for damage of material surfaces
- communicate with others to ensure safe and effective workplace operations.

### 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

## EVIDENCE GUIDE

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or Australian standards' requirements.

Resource implications for assessment include:

- workshop location
- tools and equipment appropriate to required tasks
- materials relevant to proposed activities
- drawings and documentation relevant to activities.

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 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

## EVIDENCE GUIDE

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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.

1.1. ***Information*** includes:

- diagrams or sketches
- instructions issued by authorised organisational or external personnel
- manufacturer specifications and instructions, where specified
- material safety data sheets
- memos
- regulatory and legislative requirements pertaining to the use of aluminium sections in fabrication
- relevant Australian standards
- safe work procedures relating to the use of aluminium sections in fabrication
- signage
- verbal, written and graphical instructions

## RANGE STATEMENT

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| <p>1.2. <b>Planning and preparation</b> include:</p> <p>1.3. <b>Safety (OHS)</b> is to be in accordance with state and territory legislation and regulations and project safety plan and may include:</p> <p>1.4. <b>Tools and equipment</b> include:</p> | <ul style="list-style-type: none"> <li>• work bulletins</li> <li>• work schedules, plans and specifications.</li> <li>• assessment of conditions and hazards</li> <li>• determination of work requirements and safety plans and policies</li> <li>• equipment defect identification</li> <li>• work site inspection.</li> <li>• emergency procedures, including extinguishing fires, organisational first aid requirements and evacuation</li> <li>• hazard control</li> <li>• hazardous materials and substances</li> <li>• organisational first aid</li> <li>• PPE prescribed under legislation, regulations and workplace policies and practices</li> <li>• safe operating procedures, including the conduct of operational risk assessment and treatments associated with:             <ul style="list-style-type: none"> <li>• concealed services (water, power and gas)</li> <li>• lighting</li> <li>• restricted access barriers</li> <li>• traffic control</li> <li>• work site visitors and the public</li> <li>• working at heights</li> <li>• working in confined spaces</li> <li>• working in proximity to others</li> </ul> </li> <li>• use of firefighting equipment</li> <li>• use of tools and equipment</li> <li>• workplace environmental requirements and safety.</li> <li>• air compressor and hoses</li> <li>• docking saws</li> <li>• files</li> <li>• grinders</li> <li>• hammers</li> <li>• measuring tapes and rules</li> <li>• power drills</li> <li>• power leads</li> <li>• screwdrivers</li> <li>• squares.</li> </ul> |
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## RANGE STATEMENT

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| <p>1.5. <b>Quality requirements</b> include:</p>                                 | <ul style="list-style-type: none"> <li>• control of handling procedures</li> <li>• fabrication procedures</li> <li>• quality of materials</li> <li>• relevant regulations, including:               <ul style="list-style-type: none"> <li>• Australian standards</li> <li>• internal company quality policy and standards</li> <li>• manufacturer specifications where specified</li> <li>• workplace operations and procedures</li> </ul> </li> <li>• use and maintenance of equipment</li> <li>• workplace operations and procedures.</li> </ul> |
| <p>1.6. <b>Materials</b> include:</p>                                            | <ul style="list-style-type: none"> <li>• aluminium sheets</li> <li>• rivets.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>1.7. <b>Environmental protection requirements</b> include:</p>                | <ul style="list-style-type: none"> <li>• clean-up management</li> <li>• dust and noise</li> <li>• stormwater protection</li> <li>• waste management.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>1.8. <b>Statutory and regulatory authority</b> includes:</p>                  | <ul style="list-style-type: none"> <li>• federal, state and local authorities administering applicable Acts, regulations and codes of practice.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                          |
| <p>1.9. <b>Aluminium sections</b> are those designed for the fabrication of:</p> | <ul style="list-style-type: none"> <li>• door and window frames</li> <li>• doors (swing, slide and revolving type)</li> <li>• partitions</li> <li>• sashes</li> <li>• screens</li> <li>• shopfront components</li> <li>• wet area unit components.</li> </ul>                                                                                                                                                                                                                                                                                       |
| <p>1.10. <b>Joining</b> may involve:</p>                                         | <ul style="list-style-type: none"> <li>• cutting for joint</li> <li>• cutting to length</li> <li>• drilling holes</li> <li>• punching holes</li> <li>• trimming for fit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                 |

## Unit Sector(s)

**Unit sector**                      Construction

## **Functional area**

### **Functional area**