



**Australian Government**

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

# **CPCCSI3005A Use engraving systems**

**Release: 1**

## CPCCSI3005A Use engraving systems

### Modification History

Not Applicable

### Unit Descriptor

#### Unit descriptor

This unit of competency specifies the outcomes required to engrave signs using laser or rotary routers.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

### Application of the Unit

#### Application of the unit

This unit of competency supports the achievement of skills and knowledge for engraving for sign manufacture using specialist equipment, and includes working with others and as a member of a team.

### Licensing/Regulatory Information

Refer to Unit Descriptor

### 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.	1.1. <b>Quality assurance requirements</b> of signage operations are recognised and adhered to. 1.2. <b>Safety (OHS)</b> requirements in accordance with application tasks and workplace operations are recognised and adhered to. 1.3. <b>Job requirements</b> are identified from drawings, specifications, instructions and client briefs. 1.4. Product range is assessed and selected in accordance with job requirements and <b>relevant Australian standards</b> . 1.5. <b>Tools and equipment</b> and materials are selected to carry out tasks consistent with job requirements. 1.6. Routine maintenance requirements of equipment are identified and implemented in accordance with workplace and quality assurance procedures. 1.7. Temporary or permanent application of materials is determined from job requirements. 1.8. Potential material shrinkage is determined to ensure quality of completed work.
2. Work with engraving materials and equipment.	2.1. <b>Engraving materials</b> to be used for specified job are identified and selected. 2.2. Types of engraving systems and cutter types appropriate to job specifications are identified and applied. 2.3. Appropriate engraving systems to engrave on flat or curved surfaces are used where required.
3. Use software in engraving and maintain cutters.	3.1. Appropriate software is selected to engrave sign and used when engraving according to manufacturer specifications. 3.2. Cutters are sharpened as required using correct techniques. 3.3. Cutters are cleaned and stored after use safely and correctly.
4. Clean up.	4.1. Work area is cleaned and waste materials removed in accordance with <b>statutory and regulatory authority requirements</b> . 4.2. Tools and equipment, including personal protective equipment, are cleaned, maintained and stored.

## 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 and sustainability frameworks or management systems
- 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:
    - charts and hand drawings
    - computer programs
    - job drawings
    - manufacturer specifications and instructions
    - organisational work specifications
    - requirements and instructions issued by authorised organisational or external personnel
  - report faults
  - 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
- organisational skills, including the ability to plan and set out work
- problem solving skills to recognise, and take action to rectify, minor faults and problems
- teamwork skills to be able to coordinate with others, action tasks and relate to people from a range of social, cultural, ethnic backgrounds and with varying physical and mental abilities.

#### Required knowledge

Required knowledge for this unit is:

- job safety analysis (JSA) and safe work method statements
- maintenance of engravers and cutters
- material safety data sheets (MSDS)
- relevant Australian and New Zealand standards, and:

**REQUIRED SKILLS AND KNOWLEDGE**

- manufacturer specifications
- OHS requirements
- other applicable codes or standard operating procedures relevant to the sector
- statutory and regulatory authority requirements, particularly those relating to removal of waste products
- terminology and definitions used in engraving
- theory of engraving, including:
  - cutter types
  - engraving depths
  - engraving materials and their uses
  - engraving software
  - guillotine systems
  - types of engraving systems.

# 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 understanding and applying:

- characteristics and uses of engraving materials and equipment
- engraving set up
- maintenance of engravers and cutters.

### 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 engrave using laser/rotary router
- support materials appropriate to activity
- workplace instructions relating to engraving using laser/rotary router
- material safety data sheets
- research resources, including industry-related systems information
- relevant software.

## EVIDENCE GUIDE

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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.



## EVIDENCE GUIDE

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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.

***Quality assurance requirements*** include:

- attention to work specifications
- Australian and international standards relevant to the sign industry
- control of handling procedures
- internal company quality assurance policy and risk management strategies
- procedures for installing and finishing
- quality of materials
- use and maintenance of equipment
- workplace operations and procedures.

***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

## RANGE STATEMENT

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- 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 machines
  - use of tools and equipment
  - workplace environmental requirements and safety.
- Job requirements* include:
- assessment of conditions and hazards
  - determination of work requirements
  - equipment defect identification
  - safety plans and policies
  - work site inspection.
- Relevant Australian standards* include:
- regulatory requirements
  - standard drawings and details
  - urban design manuals.
- Tools and equipment* include:
- cutting tools
  - laser routers
  - rotary routers.
- Engraving materials* include:
- acrylic
  - glass
  - metal.
- Statutory and regulatory authority requirements* include:
- federal, state and local authorities administering applicable Acts, regulations and codes of practice and also can pertain to:
    - removal of waste products
    - storage of chemicals.

## Unit Sector(s)

Unit sector                      Construction

## Co-requisite units

**Co-requisite units** Nil

## **Functional area**

**Functional area**