



Australian Government

CPCCSH3001 Fabricate shopfitting components using CNC machines

Release: 1

CPCCSH3001 Fabricate shopfitting components using CNC machines

Modification History

Release 1.

This version first released with CPC Construction, Plumbing and Services Training Package Version 2.

New unit of competency.

Application

This unit of competency specifies the outcomes required to fabricate components for shopfitting units using computer numerically-controlled (CNC) machinery. It covers interpreting specifications for components, programming and testing the CNC machine, and producing and marking components for assembly. The components include cabinets, benches, counters, showcases, wall units and work stations.

The unit supports shopfitters working as part of a team to fabricate a range of shopfitting units for transportation to different installation work sites. It applies to off-site shopfitting work conducted in manufacturing premises or workshops.

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

Pre-requisite Unit

Nil

Competency Field

Shopfitting

Unit Sector

Construction

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions.

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| 1 | Plan and prepare. | 1.1 | Job requirements are obtained, reviewed and confirmed with relevant personnel and applied to planning. |
| | | 1.2 | Work site conditions and hazards are identified and reported as required, and health and safety requirements for fabricating components for shopfitting units are confirmed with relevant personnel and applied to planning. |
| | | 1.3 | Details of structure of shopfitting unit are identified and confirmed. |
| | | 1.4 | CNC machinery is selected to carry out tasks according to job requirements, checked for serviceability, and faults are rectified or reported before starting work. |
| | | 1.5 | Materials specified for shopfitting units are identified, and quantity requirements are calculated according to drawings, specifications and quality requirements. |
| | | 1.6 | Materials appropriate to the work application are obtained, safely handled, prepared, and located ready for use. |
| 2 | Adjust data input. | 2.1 | Programming terms, methods and data storage capacity are determined and checked as consistent with job requirements and machine specifications. |
| | | 2.2 | Program is edited to produce the required straight or circular tool movements, compensating for tool profiles and according to machine specifications. |
| | | 2.3 | Program is entered according to machine specifications. |
| 3 | Transfer program to machine control. | 3.1 | Methods of transferring programs into machine memory are identified and selected. |
| | | 3.2 | Program is loaded into machine memory using appropriate method. |
| 4 | Test program and produce components. | 4.1 | Program operations are tested through dry run simulation mode, and alarm settings and program are edited where required using the control station. |

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| | 4.2 | Specified components are produced using automatic mode according to manufacturer specifications. |
| | 4.3 | Component identity, face and edge are marked on each piece of material according to design specifications. |
| | 4.4 | Components are located ready for assembly with relevant plans and specifications. |
| 5 | Clean up. | 5.1 CNC machinery is cleaned, checked and stored, and faults are report as necessary, according to manufacturer and workplace requirements. |
| | 5.2 | Work area is cleared and waste and unwanted materials are removed safely according to workplace requirements. |
| | 5.3 | Plans, specifications and set-outs are stored for future reference, and tools and equipment are cleaned, maintained and stored according to workplace requirements. |

Foundation Skills

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Learning skills to:	• apply previous experience of CNC machine capabilities and programs when selecting machines and editing programs for new tasks • recognise minor faults and problems with CNC machine operation and select and apply appropriate action.
Numeracy skills to:	• interpret numerical data in shopfitting component plans and specifications and apply to CNC machine program editing • determine efficient cutting strategies to minimise waste.
Oral communication skills to:	• use questioning to identify and confirm job requirements • interact with workplace personnel and contribute to safe and efficient component production.

This section describes the language, literacy, numeracy and employment skills essential to performance in this unit but not explicit in the performance criteria.

Skill	Performance feature
Reading skills to:	- interpret job requirements in a range of familiar workplace documentation, including job safety analyses (JSA), safe work method statements (SWMS), drawings and specifications - interpret CNC machine programming instructions.
Writing skills to:	- enter CNC programming details - clearly and legibly mark components to assist with efficient assembly - complete workplace documentation, including short, simple equipment fault reports.
Initiative and enterprise skills to:	respond to workplace challenges, including short timeframes and material delivery delays; and put ideas into action to overcome issues and meet project schedules.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Job requirements</i> must include:	- job specifications for shopfitting units to be fabricated, including: - computer-based set-out software and machining - materials take-off - production scheduling - quality requirements for the completed work - timeframe for completion - JSA or SWMS for tasks - workplace procedures incorporating requirements of relevant legislation, regulations, codes and Australian standards - workplace and work site environmental and sustainability requirements, including:
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- clean-up management
- dust and noise management
- waste management.

Health and safety requirements must include:

- selection, correct fitting, and use of personal protective equipment (PPE) prescribed under legislation, regulations and workplace policies and practices
- emergency procedures, including:
 - evacuation
 - first aid
 - location and use of firefighting equipment
- hazard identification and risk control procedures
- induction into safe use of CNC machines
- safe operating procedures, including:
 - AS 1473 Guarding and safe use of woodworking machinery
 - manual handling techniques
 - manufacturer specifications
 - safety data sheets (SDS)
 - requirements for:
 - lighting
 - work site visitors and the public
 - working in proximity to others
 - selection and use of tools and equipment
- identifying, safe handling, securing and labelling of hazardous materials.

Shopfitting units must include three of the following:

- cabinet
- counter
- showcase
- wall unit
- workstation.

Materials must include two or more of the following:

- acrylic
- glass
- laminates
- manufactured board
- solid timber.

Program operations

- boring

must include:

- cutting
- forming or shaping
- milling.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCCSH3001 Fabricate shopfitting components using CNC machines

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Performance Evidence

A person who demonstrates competency in this unit must satisfy all of the elements, performance criteria and foundation skills of this unit, and must manufacture components using a computer numerically-controlled (CNC) machine for three different internal shopfitting units as follows:

- one counter
- one showcase
- and one from the following:
 - cabinet
 - wall unit
 - workstation.

Two of the units must include shelves, drawers and doors.

At least one of the units must include a glass, stone or acrylic surface.

In doing the above work, the person must:

- comply with health and safety regulations applicable to workplace operations
- apply organisational quality procedures and processes in the context of manufacturing fitments
- select and correctly apply program opening and shut-down procedures
- use correct procedures to provide data input to achieve job requirements
- operate machine through a reduced speed dry run to check functions and alarms
- fabricate shopfitting components to design according to job specifications and drawings
- identify typical faults and problems that occur and actions required to rectify them
- communicate with others to ensure safe and effective workshop operations.

Knowledge Evidence

A person demonstrating competency in this unit must demonstrate knowledge of:

- types of shopfitting units

- organisation's quality assurance requirements relating to fabricating shopfitting components
- specifications and drawings relating to production of shopfitting components
- handling of materials relevant to shopfitting unit construction
- manufacturing processes for shopfitting unit components
- materials relevant to shopfitting unit construction and their characteristics
- range of software applications appropriate to CNC machinery
- types and uses of CNC machinery
- work health and safety requirements relating to fabricating shopfitting components, including AS 1473 Guarding and safe use of woodworking machinery.

Assessment Conditions

Suitable assessment of performance requires:

- equipment:
 - CNC machines suitable for fabricating components for the shopfitting units specified in the performance evidence
- materials:
 - as listed in the range of conditions
- specifications:
 - as listed in job requirements in the range of conditions
 - AS 1473 Guarding and safe use of woodworking machinery
- physical conditions:
 - suitable workshop with CNC machines
- relationships with team members:
 - work may be performed as part of a team
- timeframe:
 - according to job requirements.

Assessor requirements

As a minimum, assessors must satisfy the assessor requirements in the Standards for Registered Training Organisations (RTOs) current at the time of assessment.

Links

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