



Australian Government

CPCSHP3001 Fabricate shopfitting components using CNC machines

Release: 2

CPCSH3001 Fabricate shopfitting components using CNC machines

Modification History

Release 2 Updated reference to general construction induction training program.

Release 1 This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.

Supersedes and is equivalent to CPCCSH3001 Fabricate shopfitting components using CNC machines. Updated to meet the Standards for Training Packages 2012.

Application

This unit of competency specifies the skills and knowledge required to program and use computer numerically-controlled (CNC) machines to fabricate components for shopfitting units. It includes inputting correct data into selected software programs and sequencing the fabrication process.

It applies to those who fabricate components for a range of shopfitting units in an off-site manufacturing premises ready for installation on commercial sites.

Individuals at this level take responsibility for organising and completing these tasks with a high degree of self-direction.

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

Completion of the general construction induction training program, specified in the Safe Work Australia model *Code of Practice: Construction Work*, is required by anyone carrying out construction work. Achievement of *CPCWHS1001 Prepare to work safely in the construction industry* meets this requirement.

Pre-requisite Unit

Nil.

Unit Sector

Shopfitting

Elements and Performance Criteria

Elements describe the Performance criteria describe what needs to be done to

essential outcomes.	demonstrate achievement of the element.
1 Plan and prepare to use CNC machines.	1.1 Identify, read and interpret details of shopfitting components from job requirements, plans and specifications. 1.2 Produce a full size set out of all shopfitting components and detail fabrication method, joint type, grain direction, and drawer and door clearance. 1.3 Calculate material quantities for fabrication of shopfitting components from dimensions on plans. 1.4 Develop an efficient cutting list to minimise waste. 1.5 Determine job priorities and sequence job tasks in consultation with others in the workplace. 1.6 Identify workplace hazards and conditions, assess risks and implement risk controls following work health and safety requirements and environmental practices. 1.7 Select, fit and used personal protective equipment (PPE) required for the task. 1.8 Obtain, safely handle and prepare materials appropriate to the work application and locate ready for use. 1.9 Check serviceability of CNC machinery, and identify, report and rectify faults.
2 Prepare CNC program.	2.1 Select appropriate CNC machine and software program for the task. 2.2 Define the machine functions and select the appropriate program commands for the machine control system in preparation to perform and save programming operations for the fabrication process. 2.3 Determine and check that programming terms, methods and data storage capacity are consistent with job requirements and machine specifications. 2.4 Identify and select method of transferring programs into machine memory. 2.5 Edit machine specification program, compensating for tool profiles, to produce the required straight and circular

tool movements.

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| 3 | Transfer and test machine controls. | 3.1 | Load appropriate program into machine memory using selected method. |
| | | 3.2 | Enter program following machine specifications to fabricate shopfitting components. |
| | | 3.3 | Conduct a dry run simulation to test program operations. |
| | | 3.4 | Recognise minor faults and problems with CNC machine operation, and select and apply appropriate action to overcome issues and meet project schedules. |
| | | 3.5 | Edit program and alarm settings as required using the control station. |
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| 4 | Fabricate components. | 4.1 | Follow manufacturer specifications to fabricate components using automatic mode. |
| | | 4.2 | Identify and legibly mark face and edge of each component following design specifications to assist with efficient and accurate assembly. |
| | | 4.3 | Locate and arrange components ready for assembly to align with relevant plans and specifications. |
| | | 4.4 | Store plans, specifications and set-outs for future reference. |
| | | | |
| 5 | Clean up. | 5.1 | Clean CNC machinery, tools and equipment, check for serviceability and report damage or faults. |
| | | 5.2 | Clear work area and dispose of, reuse or recycle materials following workplace and environmental requirements. |
| | | 5.3 | Store and secure tools and equipment following workplace procedures. |

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Unit Mapping Information

Supersedes and is equivalent to CPCCSH3001 Fabricate shopfitting components using CNC machines.

Links

Companion volumes to this training package are available at the VETNet website -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

Assessment Requirements for CPCSHP3001 Fabricate shopfitting components using CNC machines

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Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by selecting, programming and using a computer numerically-controlled (CNC) machine to fabricate components as outlined below:

- select, edit, produce and trial a CNC machine program
- use a CNC machine to fabricate components for:
 - one point of sale counter with a minimum size of 2.4 metres in length
 - one showcase with a minimum size of 2.0 metres high and 1.8 metres wide, with doors and glass
 - and one of the following, which must include a stone or acrylic surface:
 - cabinet with a minimum size of 750 mm high and 2.4 metres wide
 - wall unit with shelves and a minimum size of 1.8 metres high and 1.2 metres wide
 - workstation with a 90-degree return
- utilise milling, boring and pocketing operations during the fabrication process of the above shopfitting components.

Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- shopfitting regulations, codes and standards relevant to fabricating components on a CNC machine
- organisation's quality assurance requirements relating to fabricating components on a CNC machine
- sustainable shopfitting practices
- CNC machine manufacturer specification
- key features of working drawings and specifications

- workplace processes and procedures, and environmental requirements
- fabrication methods, types and uses of shopfitting components for:
 - cabinets
 - counters
 - showcases
 - wall units
 - workstations
- characteristics, applications and limitations of materials used for shopfitting components:
 - acrylic
 - glass
 - laminates
 - manufactured board
 - solid timber
- workplace safety:
 - job safety and environmental analysis (JSEA)
 - safe work method statements (SWMSs)
 - safety data sheets (SDSs)
 - hazardous manual tasks
 - exposure to excessive noise
 - exposure to dust
 - electrical safety
 - emergency procedures (evacuation, location and use of firefighting equipment, first aid)
 - safety of public, visitors and others in the workplace
- processes and techniques for fabricating shopfitting unit components:
 - measuring relevant to dimensions and shapes
 - materials take-off
 - production scheduling
 - quality requirements and completion timeframes
- functional and operational features of tools and equipment, including battery operated tools
- CNC machine programming:
 - common conventions used in CNC
 - purpose of the zero point
 - axes of movement
 - data input to achieve job requirements
 - range of software applications
 - sequence of machine operations
 - correction of tool data to match selected tool
 - reasons for selecting tool paths:

- tool cutter rotational direction and speed
- lead in and lead out types
- testing and proving the CNC program
- procedures for editing and effects on finished products
- induction and safe operation of CNC equipment:
 - guarding and safe use of woodworking machinery
 - start-up and shutdown procedures
 - reduced speed dry run to check functions and alarms
 - faults and problems and actions to rectify
- types, functions and uses of CNC machinery.

Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations.

Candidates must have access to:

- relevant shopfitting regulations, codes and Australian Standards
- current workplace procedures, workplace safety and environmental documentation
- shopfitting drawings and specifications, organisational policies, procedures and equipment to undertake the performance criteria and assessment requirements
- digital technology, devices and software to program equipment and to develop and save documents electronically.

Links

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