

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery



Overview

This standard is about

- 1 interpreting information
- 2 adopting safe and healthy working practices
- 3 selecting materials, components and equipment
- 4 preparing, setting up, operating and maintaining CNC/NC machinery to produce wood and wood-based products

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Performance criteria

- You must be able to:*
- P1 interpret the given information relating to the work and resources to confirm its relevance
 - P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe work practices
 - P3 select the required quantity and quality of resources for the methods of work
 - P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
 - P5 comply with the given contract information to carry out the work efficiently to the required specification
 - P6 complete the work within the allocated time, in accordance with the programme of work

Note: Contract information in performance criteria five can relate to drawings, specifications, schedules, cutting lists, manufacturer's information and oral instruction

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K2 the types of **information**, their source and how they are interpreted
- K3 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

Performance Criteria 2

Safe work practices

You need to know and understand:

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 how **emergencies** should be responded to and who should respond
- K6 the organisational **security procedures** for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why and when **personal protective equipment (PPE)** should be used
- K9 the safe use and storage of tools and **equipment**

Performance Criteria 3

Selection of resources

You need to know and understand:

- K10 the characteristics, quality, uses, limitations and defects associated with the **resources** and how defects should be rectified
- K11 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K12 the organisational procedures to select **resources**, why they have been developed and how they are used
- K13 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

Performance Criteria 4

Minimise the risk of damage

You need to know and understand:

- K14 how to **protect work** and **equipment** from damage and the purpose of protection
- K15 why **removal of waste** should be carried out safely and how it is achieved

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Performance Criteria 5

Meet the contract specification

You need to know and understand:

K16 how **methods of work**, to meet the specification, are carried out and **problems** reported

K17 how **maintenance** of tools and **equipment** is carried out

Performance Criteria 6

Allocated time

You need to know and understand:

K18 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Additional Information

Scope/range related to performance criteria

Performance Criteria 1

- 1 interpretation of drawings, specifications, schedules, cutting lists, risk assessments and manufacturers' information related to the work to be carried out

Performance Criteria 2

- 2 comply with all current statutory legislation and approved Codes of Practice to carry out the activity safely
- 3 safe use of personal protective equipment (PPE) to carry out the activity
- 4 safe use and storage of tools and equipment

Performance Criteria 3

- 5 selection and handling of resources associated with own work
 - 5.1 materials and components
 - 5.2 tools, tooling and equipment
 - 5.3 dimensional control aids as appropriate

Performance Criteria 4

- 6 protection of the work, equipment and its surrounding area from damage
- 7 minimise damage and maintain a clean work space
- 8 removal of waste in accordance with legislation

Performance Criteria 5

- 9 demonstration of work skills to measure, mark out, adjust, fit, finish, position and secure
- 10 use and maintain hand tools and ancillary equipment
- 11 prepare, set up, operate and maintain the following CNC/NC machines (one from list A or two from list B) to produce wood and wood-based products to given working instructions
 - 11.1 List A: high-speed router; window centre
 - 11.2 List B: single-end tenoner; double-end tenoner; panel saw; morticing machines; lathe; four-sided planer; sanding machine; boring machine; shaping machine; edge bander; spindle moulder; beam saw
- 12 set up and change appropriate tooling to meet the requirements

Performance Criteria 6

- 13 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Scope/range related to knowledge and understanding

Emergencies

- 1 operative's response to situations in accordance with organisational authorisation and personal skills when involved with
 - 1.1 fires, spillages, injuries, accidents

Equipment

- 2 tools, machinery, safety aids, safety guards as appropriate, dimensional control aids and extraction devices

Hazards

- 3 those identified by method of work, manufacturers' technical information, statutory regulations and official guidance

Information

- 4 drawings, specifications, schedules, cutting lists, risk assessments, manufacturers' information and regulations governing wood machining

Legislation and official guidance

- 5 this relates to the operative's responsibilities regarding potential accidents and health hazards whilst working in the workplace, with tools, tooling and equipment, with materials and substances, with movement of materials and by manual and mechanical lifting

Maintenance

- 6 operative care of hand tools and ancillary equipment

Methods of work

- 7 application of knowledge for safe work practices, procedures and skills, relating to the method/area of work and materials used, to
 - 7.1 prepare and set up the CNC/NC machinery
 - 7.2 operate the CNC/NC machinery
 - 7.3 maintain the CNC/NC machinery
 - 7.4 identify the compatibility of materials with machines
 - 7.5 identify how damage to materials and machines can be avoided
 - 7.6 identify the correct use of lubricants
 - 7.7 identify the relevant dimensional control aids and their uses
 - 7.8 identify and report defects and discrepancies in materials and machines
 - 7.9 set up and change appropriate tooling
 - 7.10 identify the types and suitability of tooling
 - 7.11 identify the scope and limitations of the machine
 - 7.12 select the appropriate machine for the work to be carried out
 - 7.13 use hand tools, power tools and equipment
- 8 team work and communication
- 9 needs of other occupations associated with producing wood and wood-based products using CNC/NC machinery

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Personal protective equipment (PPE)

10 occupational use, types, purpose of each type and work situations

Problems

11 those arising from information, resources and methods of work

11.1 own authority to rectify

11.2 organisational reporting procedures

Programme

12 types of progress charts, timetables and estimated times

13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

14 protect work against damage from general workplace activities and other occupations

Removal of waste

15 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Resources

16 materials, components and equipment relating to types, quantity, quality and sizes of standard and/or specialist

16.1 CNC machinery

16.2 NC machinery

16.3 wood materials

16.4 wood-based materials

16.5 lubricants

16.6 hand tools and ancillary equipment

17 methods of calculating quantity, length, area and wastage associated with the method/procedure to produce wood and wood-based products using CNC/NC machinery

Security procedures

18 workplace, company and operative

COSVR472 – SQA Unit Code HM2R 04

Produce wood and wood-based products using computer numerically controlled/numerically controlled (CNC/NC) machinery

Developed by ConstructionSkills

Version number 1

Date approved December 2006

Indicative review date July 2014

Validity Current

Status Original

Originating organisation ConstructionSkills

Original URN VR472

Relevant occupations Paper and Wood Machine Operatives; Furniture Makers and Other Craft Woodworkers

Suite Woodmachining (Construction/Sawmilling Extrusion and Furniture); Wood Occupations (Construction)

Key words Single-end tenoner; Double-end tenoner; Panel saw; Morticing machines; Lathe; Four-sided planer; Sanding machine; Boring machine; Shaping machine; Edge bander; Spindle moulder; Beam saw