



Australian Government

Department of Education, Employment and Workplace Relations

LMFCP3003A Produce barrels using fired processes

Revision Number: 1

LMFCP3003A Produce barrels using fired processes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit specifies the outcomes required for the production of fired processed barrels, and includes the preparation, machining, assembly, firing and finishing of the products.
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Application of the Unit

Application of the unit	This unit supports the attainment of skills and knowledge required for competent workplace performance of advanced coopering operations. This unit generally applies to a factory or plant environment and involves application of skills and knowledge at a trade skills level. These skills and knowledge are to be used within the scope of the individual's job and authority.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for production	1.1. Applicable OHS, legislative and organisational requirements relevant to coopering operations are verified and complied with 1.2. Work order is reviewed, confirmed and clarified with appropriate personnel 1.3. Barrel production sequence is planned 1.4. Procedures are determined for checking quality at each stage of the process 1.5. Suitable work area is selected for the task 1.6. Tools and equipment suitable for the work are selected and checked for safe operation
2. Select and prepare components	2.1. Materials, hardware, fittings and attachments are collected 2.2. Fixing and joining devices are selected in line with work instructions and type of materials to be joined 2.3. Jigs are selected and checked for suitability of purpose 2.4. Components, including staves and heads are machined and prepared to specification
3. Pre-assemble barrel components	3.1. Components are laid out inspected and selected for use and joined using jigs 3.2. Heads are joined and clamped 3.3. Staves are fitted and hooped 3.4. Hand and/or power tools, equipment are used as required 3.5. Assembled components are checked for compliance with specifications
4. Fire the barrel	4.1. Barrel's intended use and related technical instructions are analysed to determine the toasting technique and timing 4.2. Barrel interior is toasted to specification 4.3. Tensioning processes are applied 4.4. Hoops are fitted 4.5. Crozing is completed to specification 4.6. Heads are cut, bevelled to size and fitted
5. Finish the product	5.1. Barrel is finished using belt, disk or machine sander and hand tools 5.2. Final hoops and decorative features or fittings are

ELEMENT	PERFORMANCE CRITERIA
	fitted and secured to specification 5.3. Barrel is tested for leakage and faults are repaired
6. Clean work area/s and maintain equipment	6.1. Faulty and/or defective equipment is tagged and reported in accordance with workplace procedures 6.2. Finished products are organised and stored in holding area 6.3. Waste and scrap is removed following workplace procedures 6.4. Tools and equipment used is cleaned; inspected for serviceable condition and stored appropriately in accordance with workplace procedures 6.5. Equipment and work area clean-up is maintained in accordance with workplace procedures 6.6. Records and reports are completed to workplace requirements

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- collect, organise and understand information related to barrel production (fired process), work orders, basic plans and safety procedures
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity
- use checking and inspection techniques to ensure barrels comply with specifications and that instances of non-compliance are remedied
- recognise and respond to circumstances outside instructions or personal competence
- plan and organise activities including the preparation and layout of own worksite and the obtaining and use of tools and materials to avoid any backtracking, work flow interruptions or wastage during the production cycle
- use mathematical ideas and techniques to correctly complete measurements, calculate area and volume, and estimate other material requirements
- clarify and confirm work instructions
- plan own work within the given task parameters
- accept responsibility for given tasks
- set, monitor and satisfy personal work goals
- satisfy the competency requirements for the job
- maintain current knowledge of tools and fired process barrel production materials
- maintain current knowledge of fired process barrel production coopering techniques
- seek learning opportunities
- use the workplace technology related to the production of barrels, including hand and power tools, calculators and measuring devices

Required knowledge

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for coopering operation
- barrel construction terminology and techniques
- barrel firing/toasting techniques
- barrel repair terminology and techniques
- the impact of firing on barrel content characteristics
- organisational and site standards, requirements, policies and procedures for coopering

REQUIRED SKILLS AND KNOWLEDGE

- types of coopering tools and equipment and procedures for their safe use, operation and maintenance
- characteristics of timber, timber products and defects
- coopering components standard shapes and forms
- environmental protection requirements relating to the disposal of waste material
- established communication channels and protocols
- problem identification and resolution
- set up and operation of machining equipment
- cutting patterns and sequences
- cutting tool condition assessment
- storage systems and labelling
- procedures for the recording, reporting and maintenance of workplace records and information

appropriate mathematical procedures for estimation and measurement

Evidence Guide

EVIDENCE GUIDE

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Read and interpret a work/job specification
- Complete a fired and fully finished barrel or equivalent product to specification
- Effectively conduct operator maintenance on tools and equipment
- Comply with legislation, regulations, standards, codes of practice and established safe practices and procedures for coopering operations
- Communicate effectively and work safely with others in the work area

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or realistically simulated workplace
- Assessment is to occur under standard and authorised work practices, safety requirements and environmental constraints
- Assessment of essential underpinning knowledge, other than confirmatory questions, will usually be conducted in an off-site context
- Assessment is to comply with relevant regulatory or Australian Standards requirements
- The following resources should be made available:
 - workplace location or simulated workplace
 - materials and equipment relevant to producing a fired coopering product
 - specifications and work instructions

Method of assessment

- Assessment must satisfy the endorsed assessment guidelines of the Furnishing Industry Training Package
- Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of underpinning knowledge
- Assessment methods must be by direct observation of tasks and include questioning on underpinning knowledge to ensure its correct interpretation and application
- Assessment may be applied under project related conditions (real or simulated) and require evidence of

EVIDENCE GUIDE

	process • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances • Assessment may be in conjunction with assessment of other units of competency
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Range Statement

RANGE STATEMENT

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.

OHS requirements

- are to be in accordance with Commonwealth, State or Territory legislation and regulations, organisational safety policies and procedures. Requirements may include but not be limited to the use of personal protective equipment and clothing, fire fighting equipment, first aid equipment, hazard and risk control and elimination of hazardous materials and substances, manual handling, including lifting and carrying

Legislative requirements

- are to be in accordance with applicable legislation from all levels of government that affect organisational operation. Requirements may include but not be limited to award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, OHS, the environment, equal opportunity, anti-discrimination, relevant industry codes of practice, duty of care and heritage

Organisational requirements

- may include but not be limited to legal, organisational and site guidelines, policies and procedures relating to own role and responsibility, quality assurance, procedural manuals, quality and continuous improvement processes and standards, OHS, emergency and evacuation, ethical standards, recording and reporting, access and equity principles and practices, equipment use, maintenance and storage, environmental management (waste disposal, recycling and re-use guidelines)

Work order

- is used to determine job requirements, including design, tolerances, process, materials, finish and quantity

Appropriate personnel

- may include but not be limited to supervisors, suppliers, clients, colleagues and managers

RANGE STATEMENT	
Barrel	may be referred to as barrels or casks
Production sequence	includes docking and grading staves, dressing staves, jointing staves, using or assembling barrel, bending the barrel, firing, trussing and toasting, crozing, making heads, cutting the head, fitting the head, finishing the barrel, fitting final hoops and testing
Tools and equipment	- hand tools for coopering are to include, but not be limited to hand plane, chisels, hand saws, spokeshave, hammer, mallet, auger, croze, driver, knives (draw, belly, crum, heading, hollow), cooper's hammer, maul, bradawl, adze(s), hollowing knives, shaves (hoop, inside, heading), swift, marking-out tools, files, rasps, scraper, screwdrivers and hand drill - power tools for coopering are to include, but not be limited to bench grinder, presses (hoops), head making machine, drop saw, circular power saw, planer, double sided planer, drill, jig saw, CNC router, laser cutter, trimmer, brad/nail and staple gun, and sanders (long belt, disk and machine)
Materials	are oak and may include oak and other suitable timbers, caulking cotton, wedges, workhole pegs and tooth picks
Jigs	may include but not be limited to shaped templates for routing
Coopering Components	are to include heads, staves and hoops and may include decorative features or fittings in steel, stainless steel or copper
Checking	- is to cover: - fit - correct number and fitting of staves - hoop and hardware, fittings and attachments, and - conformity to work instruction and quality requirements
Decorative features or fittings	may include final hoops and taps which may be steel, stainless steel or copper
Testing	is to include standard hot water leakage testing

RANGE STATEMENT	
Repair of leakage faults	may include plugging, caulking or re-machining
Storage	must ensure that there is no obstruction of traffic, components and products are not damaged in storage and products are accessible for further distribution/despatch
Waste	may include but not be limited to off-cuts, shavings and sawdust
Records and reports	may include but not be limited to the machining method, product type, size, inspection, grading and labelling outcomes, storage locations, quality outcomes, hazards, incidents or equipment malfunctions

Unit Sector(s)

Unit sector	Coopering
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		