



Australian Government

Department of Education, Employment and Workplace Relations

LMFCP3001A Apply product and material knowledge to cooperating operations

Revision Number: 1

LMFCP3001A Apply product and material knowledge to coopering operations

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit covers the competency required to apply product and material knowledge to coopering operations by identifying and responding to timber properties, applying sensory evaluation techniques to wine products, identifying basic wine faults and responding to the impact of barrel properties on wine 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 in coopering operations. Apply product and material knowledge to coopering operations to a factory or on-site environment and involves the application of skills and knowledge at a tradesperson 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. Identify and respond to timber and material properties	1.1. Applicable OH&S, legislative and organisational requirements relevant to coopering operations are verified and complied with 1.2. The types of timber and inherent characteristics are analysed to select the optimum timber for the product 1.3. The characteristics and properties of oak are identified and considered 1.4. The properties and impacts of metals are identified and considered
2. Apply sensory evaluation techniques to wine products	2.1. Correct tasting procedures using sight, smell and taste are followed 2.2. The four key taste sensations of the tongue are identified 2.3. Characteristics of the key wine styles and grape varieties with regards to sight, smell and taste are explained 2.4. Wine is identified according to style and grape variety 2.5. The quality and characteristics of the wine style are evaluated ensuring conditions for evaluation are as favourable as possible
3. Identify basic wine faults	3.1. Basic wine faults are recognised and reported 3.2. The cork is inspected and faults identified
4. Respond to the impact of the barrel properties on wine product	4.1. The cause and effects on the product of controlled oxidation is considered and responded to 4.2. The cause and effects on the product of barrel maturation is considered and responded to 4.3. The cause and effect of the fermentation in barrel is considered and responded to 4.4. The impacts of toasting on the barrel and the product are responded to as a factor in the toasting operation 4.5. The impact of seasoning on the barrel timber components and the product are considered as a factor in determination of seasoning 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 detailed technical information related to the materials and the products used in and related to coopering operations
- 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
- maintain records related to product and materials quality
- work with others and in a team by recognising dependencies and using co-operative approaches to optimise work flow and productivity
- use sensory evaluation techniques to identify basic wine faults
- identify, anticipate and respond to the problems related to timber and material properties
- identify, anticipate and respond to the impact of the barrel properties on the product (wine and spirits)
- recognise and respond to circumstances outside instructions or personal competence
- plan and organise activities to avoid any backtracking, work flow interruptions or wastage
- 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 materials
- maintain current knowledge of coopering techniques
- seek learning opportunities
- use the workplace technology related to the selection, preparation and application of products and materials

Required knowledge

- State or Territory OH&S legislation, regulations, standards and codes of practice relevant to the full range of processes for coopering operation
- barrel construction terminology and techniques
- barrel repair terminology and techniques
- grape and wine types, characteristics, production methods and faults
- organisational and site standards, requirements, policies and procedures for

REQUIRED SKILLS AND KNOWLEDGE

- coopering
- types of timbers used in the coopering industry, their characteristics, properties, uses and limitations
 - types and sources of oak and the advantage/disadvantages of each
 - the effects of the structure of timber including:
 - parts of the tree
 - tree cell structure
 - optimum stave production techniques
 - types of seasoning and the impacts of techniques, including combination techniques, on the cell structure
 - the effects of the barrel properties on the wine product
 - the effects of the barrel properties on other products including spirits
 - environmental protection requirements relating to the disposal of waste material
 - established communication channels and protocols
 - problem identification and resolution
 - 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
- Identify a range of timber types, including oak, and detail their uses and limitations
- Identify and explain the properties of American and French oak
- Identify and describe the characteristics of four main wine types through sensory evaluation (wine tasting)
- Explain the likely effects of controlled oxidation, barrel maturation and in barrel fermentation on products
- Identify the likely impact of various levels of toasting on products
- 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
 - examples of timber
 - samples of oak
 - a range of wine types
 - a range of toasting specifications

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

EVIDENCE GUIDE

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 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

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.

OH&S 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, OH&S, 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, OH&S, 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)
Timber	used in the broader coopering operations may include French/American/Australian oak, red gum, maple spruce, jarrah, birch, cyprus, elm and fir

RANGE STATEMENT	
Oak properties	are to include types and sources, composition, medullary rays, tyloses
Metals	used in coopering may include steel, stainless steel, copper and other alloys
Key wine taste sensations	include acidity, sweetness, weight or body and length
Key wine styles	include white, rose, red, fortified, sparkling, still, light-bodied, full-bodied, dessert, dry and medium
Grape varieties	include Shiraz, Cabernet Sauvignon, Merlot, Grenache, Pinot Noir, Chardonnay, Riesling and Semillon. Wines should be single varietals or a blend of two varieties
Wine characteristics	include clarity, colour type and intensity, alcohol (light, medium, high) intensity and character of aroma and flavour, sweetness, acidity, body, weight, mouth feel, tannin, balance and length
Wine faults	may include deposits, haze, tartrates, oxidation, cork taint, excessive sulphur
Controlled oxidation	may contribute to softening of tannins, increase colour and wine stability and production of various aroma compounds by oxidative processes
Barrel maturation	may contribute to extraction of flavours from the oak which enhance the complexity and intensity of the wine flavour
Fermentation in barrel	may influence flavour extraction
Toasting impact	includes the effects of increased agents such as guaiacol, vanilla and syringaldehyde and others on the taste and aroma of the wine
Seasoning impact	includes the effects on the levels of extractable oak constituents, particularly oak lactones

Unit Sector(s)

Unit sector	Coopering
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		