



Australian Government

Department of Education, Employment and Workplace Relations

FDFCEL2010A Operate the fine filtration process

Release: 2

FDFCEL2010A Operate the fine filtration process

Modification History

This unit supersedes and is equivalent to FDFCELFFPB Operate the fine filtration process.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This specialist unit has been developed for the cellar stream of the wine sector. It covers the skills and knowledge required to prepare for and operate the fine filtration process.
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Application of the Unit

Application of the unit	This unit applies to cellar operations staff operating fine filtration equipment. Preparation and checking of the product to be filtered is covered including, where required, pre-filtering. The unit also covers checking and monitoring of equipment, including filter membranes and cartridges, and ensuring appropriate levels of sanitisation or sterilisation. The unit requires operating the fine filtration process to achieve pre-set specifications, taking samples and tests, routine and emergency shutdowns, and keeping of records. The unit can apply to both manual and computer-controlled fine filtration processes.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

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.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the fine filtration process for operation	1.1 Product is confirmed and available to meet filtration requirements 1.2 Product is prepared to meet filtration requirements 1.3 Services are confirmed as available and ready for operation 1.4 Equipment is checked to confirm readiness for use 1.5 The process is set to meet filtration requirements
2. Operate and monitor the fine filtration process	2.1 The fine filtration process is started up according to workplace procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Filtered product meets specification 2.4 Equipment is monitored to confirm operating condition 2.5 Out-of-specification product, process and equipment performance is identified, rectified and/or reported
3. Shut down the fine filtration process	3.1 The process is shut down according to workplace procedures 3.2 Equipment is dismantled and prepared for cleaning 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of, or recycled according to workplace procedures 3.4 Work is conducted in accordance with workplace environmental guidelines
4. Record information	4.1 Workplace information is recorded in the appropriate format

Required Skills and Knowledge

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

Required skills include:

Note: The following required skills should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Ability to:

- access workplace information to identify filtration requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary product and services
- liaise with other work areas
- prepare product as required. This may include pre-filtering product to meet turbidity parameters of membrane
- confirm equipment status and condition. This may include:
 - conditioning membrane and/or cartridges prior to use
 - confirming operation of housing vents
 - checking integrity of 'o' ring seals on filter and/or membrane housing and/or plates
 - ensuring sanitation or sterilisation requirements have been met
- set up and start up the process
- monitor the process and equipment operation to identify out-of-specification results or non-compliance. This may involve monitoring:
 - type and grade of filter media
 - taints in filter media
 - level of dilution and product loss
 - product integrity
 - filter integrity
 - blockages in air filter
 - product displacement from filter
 - pressure differential
 - filter pressure
 - relevant product characteristics
- monitor supply and flow of product to and from the process
- take corrective action in response to out-of-specification results or non-compliance
- report and/or record corrective action as required
- conduct product or batch changeovers
- sort, collect, treat, recycle or dispose of waste
- shut down equipment in response to an emergency situation
- shut down equipment in response to routine shutdown requirements
- record workplace information
- maintain work area to meet housekeeping standards

- prepare equipment for cleaning. This may involve draining and/or dismantling equipment, and removing waste either manually or by rinsing, in preparation for cleaning and sanitation
- identify, rectify and/or report environmental non-compliance
- conduct tests according to enterprise procedures
- perform transfer operations according to enterprise procedures
- handle inert gas according to enterprise procedures
- carry out routine maintenance according to enterprise procedures
- use oral communication skills/language to fulfil the job role as specified by the organisation, including questioning, active listening, asking for clarification and seeking advice from supervisor
- work cooperatively within a culturally diverse workforce

Required knowledge includes:

Note: The following required knowledge should be applied as appropriate to the equipment and processes that are used in the particular winery or workplace.

Knowledge of:

- purpose and principles of fine filtration
- link to related processes
- stages and changes which occur during fine filtration
- effect of process stages on end product
- quality characteristics and uses of fine filtration product
- product preparation requirements and effect of variation on the process
- main methods used in fine filtration
- process specifications, procedures and operating parameters
- equipment and instrumentation components, purpose and operation
- basic operating principles of process control systems where relevant
- services used
- significance and method of monitoring control points within the process
- common causes of variation and corrective action required
- Occupational Health and Safety (OHS) hazards and controls
- lock-out and tag-out procedures
- procedures and responsibility for reporting problems
- environmental issues and controls
- shutdown and cleaning requirements associated with changeovers and types of shutdowns
- waste handling requirements and procedures
- recording requirements and procedures
- testing procedures where relevant
- routine maintenance procedures where relevant
- transfer procedures where relevant
- inert gas handling procedures where relevant

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.

Overview of assessment

Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.

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

Evidence of ability to:

- use personal protective equipment and follow other specified OHS procedures
- prepare product for fine filtering, including any pre-filtering
- prepare and confirm status of membranes, filters and other equipment before commencing fine filtration process
- monitor fine filtration process control points and equipment, including checking for blockages, filter integrity and taints
- take corrective action in response to out-of-specification results or non-compliance
- demonstrate knowledge of OHS hazards, controls and emergency procedures
- identify, rectify and/or report environmental non-compliance
- handle and/or remove waste in accordance with specified procedures
- record information appropriately.

Context of and specific resources for assessment

Assessment must occur in a real or simulated workplace where the assessee has access to:

- personal protective clothing and equipment as required
- work procedures, including advice on company practices, safe work practices, food safety, quality

EVIDENCE GUIDE	
	and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

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.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information can include: • Standard Operating Procedures (SOPs) • specifications • production schedules and instructions • routine maintenance schedules

RANGE STATEMENT	
	• work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions • verbal direction from manager, supervisor or senior operator
Equipment	Equipment may include: • various filters using pad and membrane (sheet or cartridge) filter media • cross-flow micro filtration • sparging units • pumps • lines and fittings
Product	Product may include: • product to complete fine filtration, including a range of juice and/or wine products
Services	Services may include: • power • gas • compressed and instrumentation air • steam and water
Confirming equipment status	Confirming equipment status involve: • checking that hygiene and sanitation standards, safety standards and pre-start requirements are met and that equipment is operational • checking the operation and calibration status of measuring instrumentation
Monitoring the process	Monitoring the process may involve: • the use of production data • checking turbidity and dissolved oxygen • filter integrity • bubble point tests • pressures
Process set up, operation and monitoring functions	Process set up, operation and monitoring functions may be: • manual or involve the use of a process control system
Control points	Control points refer to those key points in a work process that must be monitored and controlled. This includes:

RANGE STATEMENT	
	• food safety (critical) • quality and regulatory control points • inspection points
Information systems	Information systems may be: • print or screen based
Work hazards	Work may involve exposure to: • chemical, dangerous or hazardous substances

Unit Sector(s)

Unit sector	Wine operations
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Custom Content Section

Not applicable.