



Australian Government

Department of Education, Employment and Workplace Relations

FDFOP2069A Operate a beer filtration process

Release: 1

FDFOP2069A Operate a beer filtration process

Modification History

New Unit.

Unit Descriptor

This unit covers the filtration of beer obtained from the maturation process into bright beer ready for transfer into bright beer tanks. It includes working within quality requirements and standard operating procedures.

Application of the Unit

This unit applies to operators and other personnel responsible for filtration of beer. It applies to filtration processes in both large and small breweries and includes monitoring of control points and specifications and complying with OHS and environmental procedures. Where changeovers require maintenance related skills, the unit FDFOP2011A Conduct routine maintenance should be considered.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

FDFOP2071A Identify key stages and beer production equipment in a brewery

Employability Skills Information

This unit contains employability skills.

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

ELEMENTS	PERFORMANCE CRITERIA
1 Prepare the filtration process for operation	1.1 Availability of required materials is confirmed 1.2 Availability of services is confirmed 1.3 Pre-operational checks of equipment are conducted including checking that hygiene and sanitation standards are met 1.4 The filtration process is set to meet production requirements
2 Operate and monitor the beer filtration system	2.1 The system is started up according to specified procedures 2.2 Control points are monitored to confirm performance is maintained within specification 2.3 Blending of beer is undertaken if required as part of filtration process 2.4 System and sub-system outputs meet specifications 2.5 Equipment is monitored to confirm operating condition 2.6 Out-of-specification beer, process and equipment performance is identified, rectified and/or reported 2.7 Production and other workplace information is recorded in the appropriate format
3 Shut down the filtration system	3.1 The system is shut down according to company procedures 3.2 Equipment is cleaned and maintained to meet the cleaning schedule and procedural requirements 3.3 Waste generated by both the process and cleaning procedures is collected, treated and disposed of or recycled according to company procedures
4 Contribute to continuous improvement of the system	4.1 Beer quality and other process outputs are assessed against specifications 4.2 Opportunities for improvement are identified and reported 4.3 Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures
5 Record information	5.1 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:

Ability to:

- identify stages and changes during filtration
- identify correct filter aids, filtration beds and filters in the beer production process
- undertake vessel transfers according to specifications
- handle dangerous goods according to procedures
- confirming equipment status including checking that hygiene and sanitation standards are met and that all safety guards are in place and equipment is operational
- operate filtration equipment according to specifications, procedures and operating parameters
- monitor control points within the filtration process
- undertake required corrective action in the event of variations to specification and procedures
- identify OHS hazards and implement appropriate action
- select, fit and use personal protective clothing and equipment
- maintain work area to meet housekeeping standards
- shutdown filtration process and equipment and implement cleaning requirements associated with changeovers
- apply waste handling requirements and procedures
- record information requirements and procedures
- apply routine maintenance procedures
- collect samples and conduct tests according to enterprise procedures
- clean and sanitise equipment according to enterprise procedures
- use oral communication skills/language competence 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:

Knowledge of:

- purpose and principles of the filtration process
- relationship between the wort production process, fermentation process, maturation process, bright beer tanks and the fermentation process
- stages and changes which occur during filtration
- requirements of filtration
- purpose of filter aids, filtration beds and filters in the beer production process
- quality characteristics to be achieved
- process specifications, procedures and operating parameters
- significance and methods of monitoring control points within the filtration process
- equipment and instrumentation components, purpose and operation

- common causes of variation and corrective action required
- OHS hazards and controls
- procedures and responsibilities 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
- cleaning and sanitation procedures
- sampling and testing procedures
- routine maintenance procedures

Evidence Guide

<p>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.</p>	
<p>Overview of assessment</p>	<p>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.</p>
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>Evidence of ability to:</p> <ul style="list-style-type: none"> • access workplace information to identify filtration requirements and schedules including type of beer being filtered • confirm the supply of necessary materials and services to the filtration process • confirm equipment status and condition • set up, start, operate and shut down the filtration process • pre-coat a filter mesh or cloth with filter aid • dose pre-filtered beer with filter aid • monitor the filtration process and equipment operation to identify out-of-specification results or non-compliance • take corrective action in response to out-of-specification results or non-compliance • conduct product/beer-type changeovers.
<p>Context of and specific resources for assessment</p>	<p>Assessment of this unit must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> • work procedures including advice on OHS policy, system and procedures including relevant legislation and codes of practice, safe work practices, food safety and environmental requirements • standard operating procedures and related advice • personal protective clothing and equipment as required • relevant hazard control equipment and storage areas for hazardous goods as required • emergency and/or evacuation procedures for the potential range of hazards • Filtration equipment • Filter aids (such as lucilite, perlite and kieselguhr) and stabilising agents)

	<ul style="list-style-type: none"> • Workplace information systems and procedures.
Method of assessment	<p>This unit should be assessed together with core units and other units of competency relevant to the function or work role. Examples could be:</p> <ul style="list-style-type: none"> • FDFOP2003A Clean equipment in place • FDFOP2004A Clean and sanitise equipment • FDFOP2011A Conduct routine maintenance • FDFOP2013A Apply sampling procedures • FDFOP2030A Operate a process control interface • MSL973001A Perform basic tests.
Guidance information for assessment	<p>To ensure consistency in one's performance, competency 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.</p>

Range Statement

<p>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.</p>	
<p>Filtration process</p>	<p>The filtration process includes:</p> <ul style="list-style-type: none"> • receiving beer obtained from the maturation process • rough filtering of beer to remove yeast, protein, and other solids • stabilising and polishing filtration • transferring the filtered beer to bright beer tanks. <p>Depending on the enterprise and type of beer blending may also be done as part of the filtration process.</p>
<p>Materials used may include:</p>	<p>Filter aids (such as lucilite, perlite and kieselguhr), stabilising agents CO₂, deaerated water.</p>
<p>Services</p>	<p>May include:</p> <ul style="list-style-type: none"> • power • gas • water • steam • compressed air • refrigeration.
<p>Filtration equipment</p>	<p>Filtration equipment may include:</p> <ul style="list-style-type: none"> • powder hoppers • plant protection devices (such as explosion dampeners) • filter cloths • mesh • sieves • valves • pumps • tanks • cleaning equipment • equipment accessories • monitoring instruments • candle filters • plate and frame filters • horizontal tank, vertical leaf filters

	<ul style="list-style-type: none"> • horizontal pressure leaf filters • buffer tanks • filter aid and dosing tanks • trim chillers • trap filters • blending manifolds • valves (auto and control) • pumps • spent aid handling systems • transfer systems.
Filtration system controls	The filtration control system for operation and monitoring may be manual or involve the use of a process control system include and may also involve the use of production data such as performance control charts.
Control points refer to:	those key points in a work process, which much be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points.
Workplace information can include:	<ul style="list-style-type: none"> • Standard Operating Procedures (SOPs); specifications and production schedules • Information systems may be print or screen based.

Unit Sector(s)

Operations.