



**AUSTRALIAN
NATIONAL TRAINING
AUTHORITY**

Food Processing Industry

FDF 98

Plant Baking (Bread) Competency Units

**NATIONAL FOOD INDUSTRY
TRAINING COUNCIL**

| Qualification | Code |
|------------------------------------|-------------|
| Certificate III in Food Processing | FDF30198 |
| Certificate II in Food Processing | FDF20198 |
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Locate industry and company products and processes (Plant Baking)

| | |
|---------------------|--|
| FD F PBDC1 A | Locate industry and company products and processes (Plant Baking) |
|---------------------|--|

Descriptor This is a specialist unit that has been customised for the plant baking sector. It covers the products and processes used in the workplace.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Processes and procedures are carried out within company policy and procedures and legislative requirements
- Plant baking processes typically include dough making, dough make up, proving, baking, slicing and bagging
- Stages refer to functions or activities in the production, packaging and despatch processes. Examples of typical stages are mixing, cooking, extruding, homogenising, packing, storing and despatching

| Element | Performance criteria | Evidence guide – Part A |
|--|---|--|
| Identify products and quality requirements | Company product range is identified Quality requirements of final products are identified in accord with company specifications | Part A of the Evidence guide identifies the knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. It should be read in conjunction with the Range of variables. Demonstrated ability to: <ul style="list-style-type: none"> - access workplace information to identify materials and production requirements - identify and locate materials used in the work process - identify and locate production and/or packaging stages and process in the workplace - comply with OHS and food safety requirements when moving around the workplace |
| Identify and locate production and packaging processes | Raw materials and related handling systems are located and operated as required Production and packaging stages and processes are identified Equipment used for each stage is located | Underpinning knowledge: <ul style="list-style-type: none"> - range of final products produced by the company - quality requirements/specifications for final products - consequences of product failing to meet quality requirements - stages and processes used to manufacture and package product - basic purpose of equipment used at each stage - outputs at each stage of the process - raw materials/consumables used <i>(cont)</i> |

| Element | Performance criteria | Evidence guide – Part A |
|---------|----------------------|---|
| | | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – preparation, packaging, handling and storage of finished product prior to sale – OHS, quality, food safety and environmental requirements relating to own work |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry’s endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry’s core competencies for the particular AQF level.

Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to describe general foods products and processes given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production systems, stages and processes
- raw materials, in-process and finished product requirements and/or specifications

Relationship to other units

Co-requisites:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Relationship to learning resources

Main learning resources:

- Introduction to Plant Baking

Related learning resources:

- Industrial Communication A

- Calculations A
- Occupational Health & Safety A
- Quality Assurance A
- Food Safety A (Hygiene and Sanitation A)

Locate industry and company products and processes (Plant Baking)

FDF ZZIP1 A Carry out basic ingredient preparation

Descriptor This is a specialist unit that applies to the biscuit, pastry and plant baking sectors. It covers basic ingredient preparation such as inspecting and weighing materials and operating simple preparation equipment.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- Workplace information can include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Basic preparation equipment typically describes single purpose equipment with minimal adjustment and monitoring required by the operator
- Basic preparation methods may include inspection, sorting and grading of materials/ingredients, weighing, use of simple equipment to prepare materials such as sieving, shredding, grinding, soaking, roasting and conditioning
- Materials may include flours, salt, grains, bread improvers, yeasts, water, fibre, fats/oils, pre-mixed or concentrated ingredients. They may be supplied in bulk and non-bulk form
- Weighing and measuring includes both manual and automated weighing/measuring methods
- Typical preparation methods include weighing, sieving, conditioning and preparing slurries
- Inspection is typically visual inspection to confirm ingredient appearance
- Information systems may be print or screen based
- Work may involve exposure to chemicals, dangerous or hazardous substances

| Element | Performance criteria | Evidence Guide – Part A |
|---|---|---|
| Prepare materials for use in production | <p>Type and quality of materials/ingredients are confirmed and available to meet production/recipe requirements</p> <p>Materials are prepared to meet production/recipe requirements</p> <p>Materials meet specification for pre-processing</p> | <p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify materials preparation/quality requirements – select, fit and use personal protective clothing and/or equipment – confirm supply of necessary materials and services – liaise with other work areas – confirm that materials meet specification. This may include: <ul style="list-style-type: none"> ➤ confirming type of materials ➤ visual inspection of appearance ➤ checking codes/use-by dates <p>(cont.)</p> |

| Element | Performance criteria | Evidence Guide – Part A |
|---------|----------------------|---|
| | | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – set up equipment as required. This may include taring scales and confirming that equipment is clean, operational and safe to use – prepare materials as required by recipe/specification. This may include: <ul style="list-style-type: none"> ➢ measuring and weighing ➢ basic preparation methods ➢ conditioning ➢ preparing slurries – label and/or code materials as required – monitor the preparation process – identify out-of-specification results or non-compliance – take corrective action in response to out-of-specification results or non-compliance – monitor supply and flow of materials to and from the process – sort, collect, treat, recycle or dispose of waste – record workplace information – maintain work area and equipment to meet housekeeping standards <p>May include:</p> <ul style="list-style-type: none"> – set up, operate and clean basic preparation equipment – shut down equipment in response to an emergency situation and/or routine shut down requirements <p>Underpinning knowledge</p> <ul style="list-style-type: none"> – purpose of ingredient preparation processes – link to related processes – effect of ingredient preparation on end product – quality standard to be achieved by preparation method – materials/ingredient specifications – common causes of contamination – cross contamination risks and consequences. This includes an awareness of common allergens – materials handling requirements of bulk and non-bulk materials used – ingredient identification and codes – storage requirements of materials used – purpose and operating requirements of basic preparation equipment/processes – OHS hazards and controls <p><i>(cont)</i></p> |

| Element | Performance criteria | Evidence Guide – Part A |
|---------|----------------------|--|
| | | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – environmental issues and controls – procedures and responsibility for reporting problems – waste handling requirements and procedures – recording requirements and procedures <p>May include</p> <ul style="list-style-type: none"> – basic equipment set up and operation – cleaning requirements and procedures |

Evidence Guide – Part B

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to inspect and prepare materials for processing given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- raw materials
- specifications, control points and processing parameters
- production advice
- conveying equipment/systems
- preparation equipment/instrumentation
- services as required
- material safety data sheets where appropriate
- relevant OHS clothing and equipment
- related work areas and communication system
- cleaning schedule as required

- documentation and recording requirements and procedures

Relationship to other units

Co-requisites:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices
- Use basic product and stores knowledge to complete work operations
- Shift materials safely
- Use manual handling equipment

Relationship to learning resources

Main learning resources:

- Basic Ingredient Preparation (Plant Baking)
- Basic Ingredient Preparation (Confectionery)
- Product Preparation A (Fruit and Vegetable)

Related learning resources:

- Industrial Communication A
- Occupational Health & Safety A
- Quality Assurance A
- Food Safety A (Hygiene and Sanitation A)
- Materials Handling A

FDf PBSW2 A**Operate cooling, slicing and wrapping processes****Descriptor**

This is a specialist unit that has been developed for the plant baking sector. It covers the preparation and operation of equipment used to cool, slice and wrap bread and other plant bakery products.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and batch instructions
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Equipment may include cooler, slicer, bagging and bag closing equipment, metal detector and scales
- Services may include power, compressed and instrumentation air
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

| Element | Performance criteria | Evidence guide – Part A |
|-----------------------------------|--|--|
| Prepare the process for operation | <p>Baked bread products and packaging consumables are confirmed and available to meet packaging requirements</p> <p>Product and packaging consumables are loaded as required</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The process is set to meet production requirements</p> | <p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify cooling, slicing and bagging requirements – select, fit and use personal protective clothing and/or equipment – confirm supply of necessary materials and services – liaise with other work – confirm equipment status and condition – transfer baked products to cooler |

| | | |
|--|---|---|
| <p>Operate and monitor the cooling, slicing and wrapping process</p> | <p>The cooling, slicing and wrapping process stages are started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>Wrapped bread meets specification</p> | <ul style="list-style-type: none"> - set cooling parameters for bread variety/type. This may include <ul style="list-style-type: none"> ➤ conveyor speed/rack positions ➤ humidity ➤ air flow/fan settings ➤ product spacing - set slicing and bagging settings for bread variety/type. This may include: <ul style="list-style-type: none"> ➤ machine speed ➤ heights, width, distance ➤ air pressure ➤ bag/tag type and coding (<i>cont.</i>) |
|--|---|---|

| Element | Performance criteria | Evidence guide – Part A |
|---|---|--|
| Operate and monitor the cooling, slicing and wrapping process | <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – set up bag closing and coding equipment for bread type/variety – operate the process to meet specifications – monitor each stage of the process and equipment operation to identify out-of-specification results or non-compliance <p>Monitoring requirements may include:</p> <ul style="list-style-type: none"> ➢ spacing of product entering the cooler ➢ air flow ➢ humidity levels ➢ speed of process/throughput ➢ waste levels ➢ equipment condition such as knife blades ➢ temperature of cooled bread |
| Shut down the cooling, slicing and wrapping process | <p>The process is shut down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned to meet production and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p> | <ul style="list-style-type: none"> – monitor supply and flow of materials and packaging consumables 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/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 shut down requirements. – prepare equipment for cleaning. This includes removal of all waste product and crumb – clean and sanitise equipment according to procedures – maintain workplace records – maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> – conduct routine maintenance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and basic principles of cooling, slicing and wrapping processes – link to related processes – codes and legislation relating to product and packaging requirements – common causes of variation and corrective action required. This includes an understanding of how ambient conditions affect the process – process specifications, procedures and operating parameters. This may include materials handling procedures required to transfer product through the process – ingredient/materials handling and storage requirements <p><i>(cont.)</i></p> |

| Element | Performance criteria | Evidence guide – Part A |
|--------------------|---|---|
| Record information | Workplace information is recorded in the appropriate format | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – equipment and instrumentation components, purpose and operation – basic operating principles of process control systems where relevant – bread varieties and packaging consumables used – services used – significance and method of monitoring control points within the process – OHS hazards and controls – lock out and tag out procedures – cleaning/sanitising requirements and procedures – procedures and responsibility for reporting problems – environmental issues and controls – waste handling requirements and procedures – recording requirements and procedures <p>May include:</p> <ul style="list-style-type: none"> – routine maintenance requirements and procedures |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a cooling, slicing and wrapping process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- specifications, control points and processing parameters
- cooling, slicing and wrapping equipment and related equipment such as materials handling and metal detecting equipment.
- services
- bread products and packaging consumables
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning schedule
- routine preventative maintenance schedule as required
- documentation and recording requirements and procedures

Relationship to other units

Pre-requisites or equivalent:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

Co-requisites:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Related units:

- Clean and sanitise equipment
- Conduct routine preventative maintenance

Where related units are required to operate cooling, slicing and wrapping processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resource:

- Cooling, Slicing and Wrapping Bread Products

Related learning resources:

- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Food Safety B (Hygiene and Sanitation B and C)
- Cleaning and Sanitation

FD F PBMU3 A**Make up dough****Descriptor**

This unit has been developed for the plant baking sector. It covers the preparation and operation of processes used to make up dough. This includes dividing and rounding, intermediate proving, moulding and panning.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Equipment may include dividers, rounders, intermediate provers, moulders, panners and materials handling equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational. It may also involve checking operation/calibration of measuring instrumentation
- Monitoring the process may involve the use of production data such as performance control charts
- Process set up, operation and monitoring functions may be manual or involve the use of a process control system
- Services may include power, oil (for the divider) and compressed and instrumentation air
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

| Element | Performance criteria | Evidence guide – Part A |
|--|--|--|
| <p>Prepare the divider, rounder, moulder and panning equipment for operation</p> | <p>Dough is confirmed and available to meet production/recipe requirements</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment and pans are checked to confirm readiness for use</p> <p>The process is set to meet production requirements</p> | <p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify production requirements – select, fit and use personal protective clothing and/or equipment – confirm supply of necessary materials and services – liaise with other work areas – confirm equipment status and condition <p>set up and start up the divider. Specific settings may include speed and weight and oil supply</p> <ul style="list-style-type: none"> – set up and start up the rounder. This includes confirming air flow from fans – set up and start up the intermediate proving process. Specific settings may include airflow and dusting as required <p><i>(cont.)</i></p> |

| Element | Performance criteria | Evidence guide – Part A |
|---|--|---|
| Operate and monitor the dough make up process | <p>Processes are started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>Dough pieces meet specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – set up and start up the moulding process. Specific settings may include sheeting, sealing board height and width, four piecing and roller adjustments – set up and start up the panning process. Specific settings may include side guides, sealing board, knives, folders and side belts – set up and start up panning unit. This includes confirming supply of pans, oiling pans as required and setting pan stops and guides – operate the process to meet specifications – monitor the process and equipment for each process stage to identify out-of-specification results or non-compliance. This includes: <ul style="list-style-type: none"> ➢ dough height in hopper ➢ dough weight ➢ oil flow to divider ➢ size and shape of dough piece ➢ skin formation during intermediate proof ➢ presence of 'doubles' ➢ process variables such as time, temperature and humidity – monitor supply and flow of materials to and from the process – take corrective action in response to out-of-specification results or non-compliance. This can involve application of basic problem solving skills – report and/or record corrective action as required – conduct product/batch changeovers – sort, collect, treat, recycle or dispose of waste – shut down equipment in response to an emergency situation |
| Shut down the dough make up process and clean equipment | <p>The process is shut down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned to meet production and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p> | <ul style="list-style-type: none"> – shut down equipment in response to routine shut down requirements. – prepare equipment for cleaning – clean/sanitise equipment according to procedures – maintain workplace records – maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> – conduct routine maintenance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and basic principles of each stage of the process – link to related processes – the effect of process variables such as time, temperature and humidity on process stages – the effect of process stages such as moulding on dough structure |
| Record information | <p>Workplace information is recorded in the appropriate format</p> | <p>(cont.)</p> |

| Element | Performance criteria | Evidence guide – Part A |
|---------|----------------------|---|
| | | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – process specifications, procedures and operating parameters – equipment and instrumentation components, purpose and operation – basic operating principles of process control systems where relevant – services used – common causes of variation and corrective action required – significance and method of monitoring control points within the process – OHS hazards and controls – lock out and tag out procedures – cleaning and sanitation procedures – procedures and responsibility for reporting problems – environmental issues and controls – rework requirements and procedures – dough characteristics affecting changeover requirements – waste handling requirements and procedures – recording requirements and procedures <p>May include:</p> <ul style="list-style-type: none"> – routine maintenance requirements and procedures |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry’s endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry’s core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to make up dough given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- process specifications, control points and processing parameters
- dough make-up equipment
- services
- dough
- dough transfer equipment
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning schedule as required
- routine preventative maintenance schedule
- documentation and recording requirements and procedures

Relationship to other units

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Clean and sanitise equipment
- Diagnose and rectify equipment faults

Where related units are required to make up dough pieces in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resource:

- Dough Make-up A
- Dough Make-up B

Related learning resources:

- Industrial Communication C
- Occupational Health and Safety C
- Quality Assurance C
- Food Safety B (Hygiene and Sanitation D)
- Cleaning and Sanitation

Descriptor This unit has been developed for the plant baking sector. It covers the preparation and operation of processes used to carry out the final proofing and baking of dough. This includes de-panning the baked product.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions
- Equipment may include final proofers and ovens
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, steam or water, gas and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process set up, operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

| Element | Performance criteria | Evidence guide – Part A |
|---|---|---|
| <p>Prepare the final proof and baking processes for operation</p> | <p>Dough is supplied to the final proofer to meet production/batch requirements</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment and pans are checked to confirm readiness for use</p> <p>The process is set to meet production requirements</p> | <p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> - access workplace information to identify production requirements - select, fit and use personal protective clothing and equipment - confirm supply of dough and services - liaise with other work areas - confirm equipment status and condition - set up and start up the final proofer. Specific settings may include time and temperature, humidity and position of the loading arm - set up finishing equipment. This may include setting topping application equipment, water sprays and splitters - set up and start up the oven. This may include setting time, temperature, lid positions, conveyors, loaders and dischargers, circulation and exhaust fans, burner controls and steam |

Conduct final proof and bake dough

| | | |
|--|--|----------------|
| | | <p>(cont.)</p> |
|--|--|----------------|

| Element | Performance criteria | Evidence guide – Part A |
|--|--|--|
| Operate and monitor the final proof and baking processes | <p>Processes are started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>Baked product meets specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – set up and start up depanning equipment. Specific settings may include heights, tin guides and air blowers and pre-blast conveyor – operate the process to meet specifications – monitor the process and equipment for each process stage to identify out-of-specification results or non-compliance. <p>For final proof, this may include:</p> <ul style="list-style-type: none"> ➤ dough condition/surface ➤ dough size/height <p>For finishing/topping, this may include:</p> <ul style="list-style-type: none"> ➤ coverage/distribution of topping ➤ visual inspection of appearance <p>For baking, this may include:</p> <ul style="list-style-type: none"> ➤ crust colour ➤ sheen ➤ uniformity of shape ➤ weight ➤ size |
| Shut down the final proof and baking process | <p>The process is shut down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned to meet production and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p> | <p>For the depanning unit, this may include:</p> <ul style="list-style-type: none"> ➤ bread is cleanly removed from the pan <ul style="list-style-type: none"> – monitor supply and flow of materials to and from the process – take corrective action in response to out-of-specification results or non-compliance – conduct batch/product changeovers – report and/or record corrective action as required – sort, collect, treat, recycle or dispose of waste. This may include clearing dust extractors – shut down equipment in response to an emergency situation – shut down equipment in response to routine shut down requirements – prepare equipment for cleaning |
| Record information | Workplace information is recorded in the appropriate format | <ul style="list-style-type: none"> – clean/sanitise equipment according to procedures – maintain workplace records – maintain work area to meet housekeeping standards <p>May include the ability to:</p> <ul style="list-style-type: none"> – conduct routine maintenance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and basic principles of each stage of the final proof and baking process – link to related processes – changes which occur in dough during baking. This includes starch gelatinisation, gluten coagulation and enzyme activity – effect of process stages on end product – the effect of process variables such as time, temperature and humidity on process stages – the effect of yeast activity on the end product – quality characteristics of the final product. This includes factors influencing crust formation and colour (<i>cont.</i>) |

| Element | Performance criteria | Evidence guide – Part A |
|---------|----------------------|---|
| | | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – process specifications, procedures and operating parameters – equipment and instrumentation components, purpose and operation – basic understanding of process control systems used – 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 – OHS hazards and controls – lock out and tag out procedures – procedures and responsibility for reporting problems – environmental issues and controls – rework requirements and procedures – dough characteristics affecting changeover requirements – waste handling requirements and procedures – recording requirements and procedures <p>May include:</p> <ul style="list-style-type: none"> – routine maintenance requirements and procedures |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry’s endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry’s core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to carry out final proof and baking of dough given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- process specifications, control points and processing parameters
- final proofing, baking and de-panning equipment
- services as required
- panned dough
- dough transfer equipment
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning schedule as required
- routine preventative maintenance schedule as required
- documentation and recording requirements and procedures

Relationship to other units

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Clean and sanitise equipment
- Diagnose and rectify equipment faults

Where related units are required to final proof and baking processes in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resource:

- Proofing and Baking

Related learning resources:

- Industrial Communication C
- Occupational Health and Safety C
- Quality Assurance C
- Food Safety B (Hygiene and Sanitation D)
- Cleaning and Sanitation

Descriptor

This unit has been developed for the plant baking sector. It covers the preparation and operation of processes used to make up dough. This includes selecting and mixing dough ingredients.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- Workplace information may include Standard Operating Procedures (SOPs), specifications, production schedules and batch/recipe instructions and related ingredient advice such as flour quality reports
- Equipment may include mixers, scales, grain conditioners and materials handling equipment
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, water, compressed and instrumentation air and refrigerant
- Monitoring the process may involve the use of production data such as performance control charts
- Process set up, operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

| Element | Performance criteria | Evidence guide – Part A |
|---|---|--|
| <p>Prepare the dough making process for operation</p> | <p>Ingredients are confirmed and available to meet production/recipe requirements</p> <p>Materials are weighed or measured to meet recipe requirements</p> <p>Materials handling, mixing/blending equipment is checked to confirm readiness for use</p> <p>The process is set to meet production requirements</p> | <p>This part of the evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. The Assessment guide and context following, outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – access workplace information to identify recipe and batch requirements – confirm supply of necessary materials and services. This may involve liaison with other work areas – confirm condition of ingredients such as flour, to determine set up requirements – load materials in correct quantities and sequence according to company procedures – confirm equipment status and condition – set up and start up the dough making process. Specific settings may include: <ul style="list-style-type: none"> ➤ mixing rate ➤ mixing time/work input ➤ ice/water requirements ➤ water temperature ➤ speed ➤ flour temperature ➤ cooling ➤ vacuum delay and level ➤ slurry addition (<i>cont.</i>) |

| Element | Performance criteria | Evidence guide – Part A |
|--|--|--|
| Monitor the dough making process | <p>Ingredients are introduced to the mixing process in correct sequence and quantity</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>Dough meets specifications</p> <p>Equipment is monitored to confirm operating condition</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Mix is transferred to designated location</p> | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – monitor the process and equipment to identify out-of-specification results or non-compliance. This includes monitoring dough consistency, temperature, development and timeliness – monitor supply and flow of materials to and from the process – adjust yeast levels to allow for rework addition and ambient temperature – take corrective action in response to out-of-specification results or non-compliance. This can involve application of basic problem solving skills – report and/or record corrective action – conduct product/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 shut down requirements. – prepare equipment for cleaning – clean and sanitise equipment according to procedures – maintain workplace records – maintain work area to meet housekeeping standards |
| Shut down the dough making process and clean equipment | <p>The process is shut down according to company procedures</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned to meet production and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p> | <p>May include the ability to:</p> <ul style="list-style-type: none"> – conduct routine maintenance <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and principles of dough making – link to related processes – ingredient characteristics and purpose – stages and changes which occur during baking – significance of factors such as dough temperature, development, water addition, yeast activity and consistency of dough – effect of dough mix on final production schedule, batch/recipe instructions – required characteristics of dough – common causes of variation and corrective action required. This includes an understanding of the impact of variation in flour quality and the components of wheat flour – process specifications, procedures and operating parameters – ingredient/materials handling and storage requirements. This may include handling of hazardous goods – stock management procedures. This includes an understanding of stock rotation and use-by codes – equipment purpose and operation – services used – equipment and instrumentation components, purpose and operation <p><i>(cont.)</i></p> |

| Element | Performance criteria | Evidence guide – Part A |
|--------------------|---|---|
| Record information | Workplace information is recorded in the appropriate format | <p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> – basic operating principles of process control systems where relevant – significance and method of monitoring control points within the process – OHS hazards and controls – lock out and tag out procedures – procedures and responsibility for reporting problems – environmental issues and controls – rework requirements and procedures – cleaning/sanitation requirements and procedures – waste handling requirements and procedures – recording requirements and procedures <p>May include:</p> <ul style="list-style-type: none"> – routine maintenance requirements and procedures |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry’s endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry’s core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare dough given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule
- recipe/batch instructions, product and dough charts and related advice on ingredients such as flour quality reports
- specifications, control points and processing parameters
- dough mixing equipment
- dough transfer equipment
- services
- ingredients
- relevant OHS clothing and equipment
- related work areas and communication system
- material safety data sheets where appropriate
- cleaning schedule
- routine preventative maintenance schedule as required
- documentation and recording requirements and procedures

Relationship to other units

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Clean and sanitise equipment
- Diagnose and rectify equipment faults

Where related units are required to make dough in the workplace, units should be co-assessed.

Relationship to learning resources

Main learning resource:

- Dough Making
- Principles of Dough Making

Related learning resources:

- Industrial Communication C
- Occupational Health and Safety C
- Quality Assurance C
- Food Safety B (Hygiene and Sanitation D)
- Cleaning and Sanitation

FDF PBOS3 A**Operate a system (Plant Baking)****Descriptor**

This is a specialist unit that has been customised for the plant baking sector. It covers the preparation and operation of a production or packaging system.

A system typically describes the operation of an entire process which may be comprised of a number of sub-systems. System operation requires higher level planning and problem solving skills than are necessary when operating an individual sub-system or piece of equipment. It can also involve facilitating the work of others.

Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- System operation typically involves planning, co-ordination and troubleshooting within their level of authority
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Co-ordination, planning and troubleshooting is undertaken with assistance from others
- Workplace systems are in place to support production and packaging processes. These include quality, food safety, occupational health and safety and environmental management

| Element | Performance criteria | Evidence guide – Part A |
|---|--|--|
| <p>Prepare the system for operation</p> | <p>Supply of materials is confirmed to meet production/packaging requirements</p> <p>Work area is prepared for operation</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The system is set to meet specifications</p> | <p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p>Demonstrated ability to:</p> <ul style="list-style-type: none"> – liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production requirements – confirm that all equipment within the system meets hygiene and sanitation standards, all safety guards are in place and equipment is ready for operation – confirm that materials and/pr packaging consumables have been cleared for use – monitor materials flow and work-in-progress through the system – monitor observance of work procedures and systems – monitor implementation of set-up and start up procedures. This may involve monitoring the use of checksheets by others <p><i>(cont.)</i></p> |

| Element | Performance criteria | Evidence guide – Part A |
|--|--|--|
| Operate and monitor the system | <p>The system is started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p> <p>Product meets specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>System outputs meet specification</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> | <p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> – confirm that the system operates within specified parameters and control points are monitored – determine responses to out-of-specification results or non-conformance within level of responsibility – co-ordinate batch/product changeovers – communicate information effectively – plan maintenance and cleaning procedures to minimise disruption – monitor operating efficiencies of the system and investigate, resolve and/or report problems – review and maintain procedures to support system improvements <p>Underpinning knowledge:</p> <ul style="list-style-type: none"> – purpose and principles of the system – equipment purpose and operation including an understanding of process control systems where used |
| Shut down the system | <p>The system is shut down according to company procedures</p> <p>Equipment is cleaned and maintained to meet cleaning schedule and procedural requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p> | <ul style="list-style-type: none"> – technical knowledge of product/packaging characteristics and processing/packaging requirements – codes and legislation relating to product and packaging requirements – equipment calibration schedule and responsibilities – type and purpose of sampling and testing conducted – related work areas and departments – relevant procedures, specifications and operating parameters – relevant systems and legislative responsibilities in areas such as human resources, food safety, quality, occupational health and safety and environmental management |
| Contribute to continuous improvement of the system | <p>Quality of process outputs is assessed against specifications</p> <p>Opportunities for improvement are identified and investigated</p> <p>Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures</p> | <ul style="list-style-type: none"> – industrial awards and agreements relating to system operation – hazards, risks, controls and methods for monitoring processes within the system – maintenance and cleaning requirements of equipment in system – process improvement procedures and related consultative arrangements – troubleshooting procedures and problem solving techniques – recording and reporting requirements |
| Record information | <p>Workplace information is reported and recorded in the appropriate format</p> | |

Evidence guide – Part B

Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.

Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate a production system given:

- work procedures including advice on safe work practices, food safety and environmental requirements for processes within the system
- company policies and workplace systems including human resources, OHS, quality, food safety and environmental management
- production/packaging schedule
- specifications, control points and processing parameters
- production/packaging system equipment
- personnel operating the system
- services
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning, calibration and maintenance schedules as required
- sampling and testing schedules as required
- troubleshooting advice where available
- documentation and record keeping system
- planning, resources management and training arrangements

Relationship to other units

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures
- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Facilitate Teams

Where related units form an integral part of system operation in the workplace, these units should be co-assessed.

Relationship to learning resources

Main learning resource:

- There are no specific learning resources currently available for this sector of the food processing industry

Related learning resources:

- Industrial Communication C
- Quality Assurance C
- Occupational Health and Safety C
- Food Safety C (Hygiene and Sanitation D)
- Work Team Communication