



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **FDFOP2029A Operate a baking process**

**Revision Number: 1**

## FDFOP2029A Operate a baking process

### Modification History

Not applicable.

### Unit Descriptor

<b>Unit descriptor</b>	This unit of competency covers the skills and knowledge required to set up, operate, adjust and shut down processes used to bake and de-pan baked products.
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### Application of the Unit

<b>Application of the unit</b>	<p>This unit has application in a food processing production workplace. It typically targets the production worker responsible for producing baked products that may include pastry, biscuits, cake and other dough-based products and may be fresh or frozen.</p> <p>This unit does not apply to production of bread. For bread baking refer to the relevant plant baking and/or retail baking units of competency.</p> <p>When operators are required to perform batch or product changeover procedures as part of this work process, the procedures should be used to customise the application of this unit. Where more detailed changeovers are carried out, FDFOP2011A Conduct routine maintenance, should be selected.</p>
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### Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare the baking equipment and process for operation	1.1. Materials are confirmed and available to meet operating requirements 1.2. Materials are prepared to meet production requirements 1.3. Services are confirmed as available and ready for operation 1.4. Equipment performance and pans are checked and adjusted as required 1.5. The process is set to meet safety and production requirements
2. Operate and monitor the baking process	2.1. The baking process is started and operated according to workplace procedures 2.2. Product is loaded into oven and baked to specification 2.3. Equipment is monitored to identify variation in operating conditions 2.4. Variation in equipment operation is identified and maintenance requirements are reported according to workplace reporting requirements 2.5. The process is monitored to confirm that specifications are met 2.6. Out-of-specification product/process outcomes are identified, rectified and/or reported to maintain the process within specification 2.7. The work area is maintained according to housekeeping standards 2.8. Work is conducted in accordance with workplace environmental guidelines 2.9. Workplace records are maintained according to workplace recording requirements
3. Shut down the baking process	3.1. The appropriate shutdown procedure is identified 3.2. The process is shut down according to workplace procedures 3.3. Maintenance requirements are identified and reported according to workplace reporting requirements

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

##### *Ability to:*

- access workplace information to identify baking process requirements
- select, fit and use personal protective clothing and/or equipment
- confirm supply of necessary materials and services
- confirm condition and quality of ingredients
- conduct pre-start checks, such as inspecting equipment condition to identify any signs of wear, selecting appropriate settings and/or related parameters, cancelling isolation or lockouts as required, confirming that equipment is clean and correctly configured for processing requirements, positioning sensors and controls correctly, ensuring any scheduled maintenance has been carried out, and confirming that all safety guards are in place and operational, and rework bins are positioned
- confirm settings and parameters, including:
  - correct oven settings are selected for baking time, oven zone temperatures, conveyor speed, loaders and dischargers, circulation and exhaust fans, water seals, burner controls and steam as required
  - heights, guides and air blowers, and pre-blast conveyor are correctly set
- start, operate, monitor and adjust process equipment to achieve required outcomes, including monitoring control points and conducting inspections as required to confirm process remains within specification, such as:
  - baking output, including quantities and product appearance (colour and sheen, uniformity of shape, weight and size and moisture)
  - confirming product is cleanly removed from the pan (depanning stage) and/or belt/band as required
- take corrective action in response to out-of-specification results
- respond to and/or report equipment failure within level of responsibility
- locate emergency stop functions on equipment
- follow isolation and lock out/tag out procedures as required to take process and related equipment off-line in preparation for cleaning and/or maintenance within level of responsibility
- demonstrate batch/product changeovers
- sort, collect, treat, recycle or dispose of waste, including clearing dust extractors
- complete workplace records as required
- maintain work area to meet housekeeping standards
- set up, start up and monitor the proofer, such as time and temperature, humidity, and position of the loading arm
- monitor the proving process according to enterprise procedures, including dough

## REQUIRED SKILLS AND KNOWLEDGE

- condition/surface and dough size and height
- set up and operate finishing equipment according to enterprise procedures, including setting topping application equipment, water sprays and splitters (monitoring typically involves checking appearance to confirm even coverage and/or finish as required by product specification)
- use process control systems according to enterprise procedures
- collect samples and conduct tests according to enterprise procedures
- conduct routine maintenance 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

### *Knowledge of:*

- purpose and basic principles of each stage of the baking process, including the stages of the baking process and changes that occur in the product, such as starch gelatinisation, the effect of variables (e.g. time, temperature and humidity), and oven zones as appropriate to oven type
- basic operating principles of equipment, including the difference between convection and impingement ovens, main equipment components, status and purpose of guards, equipment operating capacities and applications, and the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of the baking process and the effect of outputs on customer satisfaction and downstream processes, such as packaging
- quality requirements of materials and effect of variation on baking process performance
- quality characteristics to be achieved by the baked product
- process specifications, procedures and operating parameters for different baked pastry products
- operating requirements, parameters and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including signs and symptoms of faulty equipment and early warning signs of potential problems
- methods used to monitor the baking process, such as inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the baking process and the related procedures and recording requirements, such as the ability to conduct dew point and/or wet bulb tests as required
- contamination/food safety risks associated with the baking process and related

**REQUIRED SKILLS AND KNOWLEDGE**

control measures

- common causes of variation and corrective action required
- occupational health and safety (OHS) hazards and controls, including risks of spontaneous combustion and limitations of protective clothing and equipment used
- requirements of different shutdowns as appropriate to the baking process and workplace production requirements, including emergency and routine shutdowns and procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- baking process changeover procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the baking process, including waste/rework collection and handling procedures related to the process
- purpose and operating procedures for related processes, such as in-line proving and finishing equipment where relevant
- basic operating principles of process control where relevant, including the relationship between control panels and systems and the physical equipment
- sampling and testing associated with process monitoring and control where relevant
- routine maintenance procedures where relevant
- cleaning and sanitation 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:

- conduct pre-start checks on machinery used for bake products
- start, operate, monitor and adjust process equipment to achieve required quality outcomes
- take corrective action in response to typical faults and inconsistencies
- complete workplace records as required
- apply safe work practices and identify OHS hazards and controls
- safely shut down equipment
- apply food safety procedures.

#### 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
- work procedures including advice on safe work practices, food safety, quality and environmental requirements
- information on equipment capacity and operating parameters
- specifications, control points and processing parameters
- production schedule and recipe/batch instructions
- baking and depanning equipment and services, and related equipment as required
- product to be baked
- sampling schedules and test procedures and equipment as required
- documentation and recording requirements and procedures
- cleaning procedures, materials and equipment as



<b>EVIDENCE GUIDE</b>	
	required.
<b>Method of assessment</b>	<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"><li>• FDFOP2003A Clean equipment in place</li><li>• FDFOP2004A Clean and sanitise equipment</li><li>• FDFOP2011A Conduct routine maintenance</li><li>• FDFOP2013A Apply sampling procedures</li><li>• FDFOP2030A Operate a process control interface</li><li>• PMLTEST300B Perform basic tests.</li></ul>
<b>Guidance information for assessment</b>	<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

### 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.

<b>Policies and procedures</b>	Work is carried out according to company policies and procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements
<b>Legislative requirements</b>	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes: <ul style="list-style-type: none"> <li>the Food Standards Code, including labelling, weights and measures legislation</li> <li>legislation covering food safety, environmental management, OHS, anti-discrimination and equal opportunity</li> </ul>
<b>Workplace information</b>	Workplace information may include: <ul style="list-style-type: none"> <li>standard operating procedures (SOPs)</li> <li>specifications</li> <li>production schedules and instructions</li> <li>manufacturers' advice</li> <li>standard forms and reports</li> </ul>
<b>Product</b>	Product includes, but is not limited to: <ul style="list-style-type: none"> <li>pastry</li> <li>biscuits</li> <li>cake</li> <li>other dough-based products and may be fresh or frozen</li> </ul>
<b>Equipment</b>	Equipment typically includes: <ul style="list-style-type: none"> <li>in-line provers</li> <li>ovens</li> <li>trolleys</li> <li>oven trays/tins</li> <li>depanning equipment</li> <li>cooling tunnels</li> </ul>

<b>RANGE STATEMENT</b>	
	<ul style="list-style-type: none"> <li>finishing equipment</li> </ul>
<b>Operation of equipment and processes</b>	<p>Operation of equipment and processes may require:</p> <ul style="list-style-type: none"> <li>the use of process control panels and systems</li> </ul>
<b>Shutdown procedures</b>	<p>Shutdown procedures may include:</p> <ul style="list-style-type: none"> <li>cleaning (in some cases cleaning may be carried out by a dedicated cleaning crew)</li> </ul>
<b>Services</b>	<p>Services may need to be confirmed. These depend on the nature of the process. Typical examples include:</p> <ul style="list-style-type: none"> <li>power</li> <li>steam</li> <li>compressed and instrumentation air</li> </ul>

## Unit Sector(s)

<b>Unit sector</b>	Operational
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## Competency field

<b>Competency field</b>	
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## Co-requisite units

<b>Co-requisite units</b>		