

<b>Title</b>	<b>Prepare, mix, and bake bread products using sponge and dough process, and liquid ferment process</b>		
<b>Level</b>	<b>3</b>	<b>Credits</b>	<b>6</b>

<b>Purpose</b>	People credited with this unit standard are able to: use safe working practices; prepare and weigh and/or measure ingredients for sponge and dough process, and liquid ferment process; mix and ferment sponges; prepare and mix liquid ferments; divide, mould and prove bread doughs produced by sponge and dough process, and liquid ferment process; and bake doughs produced by sponge and dough process, and liquid ferment process.
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<b>Classification</b>	Food and Related Products Processing > Baking - Bread
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and references**  
 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the:  
 Food Act 2014;  
 Health and Safety at Work Act 2015;  
 Resource Management Act 1991;  
 Food Amendment Regulations 2017;  
 Australia New Zealand Food Standards Code, available at <http://www.foodstandards.govt.nz/>.  
 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 2 Range**  
 Competence is to be demonstrated on three occasions of preparing, mixing, and baking bread products using sponge and dough process, and liquid ferment process.
- 3 Definitions**  
*PPE* refers to personal protective equipment such as protective clothing; gloves; safety glasses, headwear, and footwear; hearing protection; and safety devices.  
*Sponge* refers to the preliminary dough produced after the first mixing in a sponge and dough process.

*Workplace procedures* refer to procedures used by the organisation carrying out the work and applicable to the tasks being carried out, such as recipes, production specifications, standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, and procedures to comply with legislative and local body requirements.

#### 4 Assessment information

Evidence generated during assessment against this standard must meet applicable workplace procedures.

Equipment may include but is not limited to – mixers, balance or digital scales, dough hooks, water meter, thermometer, timer, containers, soaking containers, moulders, dividers, provers, rounders, ovens (electric, gas, conventional, radiant, deck, rack, fan-forced, direct or indirect), knives, scrapers, plastic covers, proving boards, proving cloths, bread tins, baking trays, bakery racks, measuring jugs, table brush, knife.

Products may include but are not limited to – high-sugar enriched doughs, mixed grain breads, variety breads.

Ingredients may include but are not limited to – flour, salt, water, yeast, eggs, fats, oils, sugar, emulsifiers, enzymes, improvers, conditioners, gluten, grains.

#### 5 Recommended skill and knowledge

Unit 14710, *Weigh ingredients for bulk bread doughs in a plant bakery*; Unit 29069, *Demonstrate knowledge of and comply with health and safety, and food safety practices in a commercial baking environment*; Unit 29070, *Demonstrate knowledge of legislation, codes, and rules for the production of bakery products*; and Unit 29078, *Make basic bread products in a commercial baking environment under supervision*; or demonstrate equivalent knowledge and skills.

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## Outcomes and performance criteria

### Outcome 1

Use safe working practices.

#### Performance criteria

- 1.1 PPE is used.
- 1.2 Work environment is kept clean and free from hazards.
  - Range hazards to – personnel, product, plant.
- 1.3 Documentation is referred to and/or completed.

### Outcome 2

Prepare and weigh and/or measure ingredients for sponge and dough process, and liquid ferment process.

**Performance criteria**

- 2.1 Ingredients are checked for shelf life and signs of contamination.
- 2.2 Ingredients are prepared in accordance with recipe specifications.
- Range may include but is not limited to – temperature, pre-soaking, sieving of dry ingredients.
- 2.3 Reactive ingredients are kept separate during preparation.
- Range may include but is not limited to – yeast, salt, sugar.
- 2.4 Ingredients are accurately weighed and/or measured in accordance with recipe specifications.
- 2.5 Preparation and weighing and/or measuring of ingredients is performed.

**Outcome 3**

Mix and ferment sponges.

**Performance criteria**

- 3.1 Mixing equipment is selected to suit dough type and scheduled production.
- 3.2 Mixing equipment is checked for cleanliness and to confirm it is free from contamination, and operational.
- 3.3 Primary ingredients are mixed to a sponge in accordance with process specifications.
- Range may include but is not limited to – flour, yeast, yeast food, enzymes, moisture, shortening or oil, dough conditioners, monoglycerides, gluten.
- 3.4 Condition of sponge after first mixing is checked to meet required specification.
- Range may include but is not limited to – temperature, blend of ingredients, dough strength.
- 3.5 Sponge is fermented under controlled conditions.
- Range temperature, humidity, time.
- 3.6 Condition of fermented sponge is in accordance with process specifications.
- Range temperature, feel, moisture content, structure.

- 3.7 Faults in sponge condition due to fermentation errors are identified.
- Range may include but is not limited to – wet, sticky, strong aroma, maturity.
- 3.8 Balance of dough ingredients are added to fermented sponge.
- 3.9 Second mixing action is applied and dough is developed in accordance with recipe and process specifications.
- Range may include but is not limited to – speed, time.
- 3.10 Fermentation errors are corrected during second mixing stage.
- 3.11 Mixed dough is checked to meet required specifications.
- Range temperature, uniform dispersion of ingredients, gluten network development.
- 3.12 The mixing equipment is operated in accordance with workplace procedures.

#### **Outcome 4**

Prepare and mix liquid ferments.

#### **Performance criteria**

- 4.1 Primary ingredients are combined into a brew.
- Range may include but is not limited to – flour, water, buffer salts, yeast, sugar, salt, ammonium salt.
- 4.2 Fermentation tank is set in accordance with process specifications and flour content of the brew.
- Range temperature, agitation.
- 4.3 Brew is fermented for required length of time in accordance with process specifications and flour content of the brew.
- 4.4 Brews are cooled in accordance with process specifications.
- 4.5 Balance of dough ingredients are added to cooled brew.
- 4.6 Dough is mixed and developed in accordance with brew composition.
- Range may include but is not limited to – speed, time.

4.7 Mixed dough conforms to dough specifications.

Range temperature, uniform dispersion of ingredients, gluten network development.

4.8 The mixing equipment is operated in accordance with workplace procedures.

### Outcome 5

Divide, mould, and prove bread doughs produced by sponge and dough process, and liquid ferment process.

#### Performance criteria

5.1 Dough is confirmed to meet the required condition and sufficient quantity for scheduled and anticipated production.

5.2 Dough is divided into required weight for product specifications and production requirements.

5.3 Dough is divided in a manner that minimises waste and optimises production.

5.4 Dough is moulded to specifications and is tear free.

Range size, shape.

5.5 Moulded dough pieces are tinned or trayed.

5.6 Dough pieces are proved in accordance with recipe specifications.

Range temperature, humidity, time.

5.7 Proved dough pieces are confirmed to meet recipe specifications.

Range may include but is not limited to – volume, size, skinning, resilience.

5.8 The dividing, moulding, and proving equipment is operated.

### Outcome 6

Bake doughs produced by sponge and dough process, and liquid ferment process.

#### Performance criteria

6.1 Oven is checked for cleanliness and confirmed to be free from contamination and available for baking.

6.2 Oven is set and operated according to recipe specifications.

Range may include but is not limited to – temperature top and bottom, damper controls, time, alarms, fans, gas valves.

6.3 Products are baked in accordance with recipe specifications and production schedule.

6.4 Products are depanned and cooled according to product requirements.

6.5 Baked products are confirmed to meet product specifications.

Range may include but is not limited to – crust and/or crumb colour, uniformity of baking, weight, height, overall appearance.

<b>Planned review date</b>	31 December 2030
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#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 November 1998	31 December 2018
Review	2	20 April 2006	31 December 2018
Review	3	17 March 2016	N/A
Review	4	26 June 2025	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this unit standard.