

## QUICK REFERENCE GUIDE

# DESIGN & FIT-OUT OF FOOD BUSINESSES

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### PURPOSE

This document has been developed for food businesses to use as a quick reference when undertaking the planning, design and fit-out of new or upgraded food premises.

The document summarises the outcome based *Australia New Zealand Food Standards Code, Food Safety Standard 3.2.3* (Food premises and equipment).

The full version of the Food Safety Standards can be downloaded at [www.foodstandards.gov.au/foodstandardscode](http://www.foodstandards.gov.au/foodstandardscode).

Food operations vary from business to business and in meeting the requirements of the standard it is important to take into account the nature of the food operations and the food safety outcomes that must be achieved.

For clarification/guidance on meeting the required outcomes, please contact Council.



### PLANS AND APPROVAL PROCESS

1. Prior to commencing any works ensure you submit plans to Council for consideration and assessment.
2. Once approved you will receive formal confirmation of compliance from Council with regards to the design and fit-out of your premises.

#### Types of plans required

- Site plan - to a suitable scale (e.g. 1:100) including refuse area and toilet facilities
- Floor plan - to a suitable scale (e.g. 1:50)
- Sectional elevation plans - to a suitable scale (e.g. 1:50)

#### Details required on plans

You need to ensure the following details are included on the plans for your premises:

- Finishes to floors, walls and ceilings
- Layout of all equipment, benches, fittings and fixtures, and mechanical ventilation
- Door and window openings
- Customer and staff toilet details (if detached, provide the distance to the facilities and the number available for use)
- Process flow, from product received through to end-product delivered

### DESIGN FOR EASE OF MAINTENANCE

Regular maintenance is essential to ensure the premises, fixtures, fittings and equipment are maintained in a good state of repair and working order, so as not to compromise food safety and suitability. The correct design and layout can greatly assist this process.

### TEMPERATURE MEASURING DEVICES

All food businesses that handle potentially hazardous food must have a temperature measuring device (thermometer) at each premises where the food is being handled.

The thermometer must be readily accessible and must accurately measure the temperature of potentially hazardous food to  $\pm 1^{\circ}\text{C}$ .



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TABLE 1

Food safety standard clause	Outcome	Guidance/Examples
<p><b>General Requirements</b>  <i>Food Safety Standard 3.2.3</i> (Food premises and equipment),                      Division 2, Clause 3</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• be appropriate for the types of food produced and activities conducted</li> <li>• provide adequate space for all activities conducted and all equipment to be used or stored</li> <li>• allow easy cleaning/sanitising procedures of all structures and equipment</li> <li>• prevent entry of pest, dust, fumes, smoke and other contaminants</li> <li>• exclude favourable sites for pests to live and breed.</li> </ul>	<ul style="list-style-type: none"> <li>• the correct design and layout can help streamline work practices, reduce cleaning and maintenance, and prevent cross contamination</li> <li>• proper planning will effectively designate adequate space and areas for food activities and storage of equipment</li> <li>• adequate bench space for preparation</li> </ul>
<p><b>Water Supply</b>  <i>Food Safety Standard 3.2.3</i> (Food premises and equipment),                      Division 2, Clause 4</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• have an adequate supply of potable water* for all activities within the food premises that require water and be available at a volume, pressure and temperature that is adequate for the purpose for which the water is used.</li> </ul> <p>*water that is acceptable for human consumption</p>	<ul style="list-style-type: none"> <li>• warm water (ie. mixer taps) for wash hand basins</li> <li>• hot water for dishwashers and sinks</li> <li>• sinks must be supplied with water at a temperature of not less than 54°C for washing and 77°C for sanitising (if sanitising takes place in the sink)</li> <li>• private water supply must be fit for human consumption</li> <li>• require plumbing and drainage approvals</li> </ul>
<p><b>Sewage and Waste Water Disposal</b>  <i>Food Safety Standard 3.2.3</i> (Food premises and equipment),                      Division 2, Clause 5</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• have a sewage and waste water system that will effectively dispose of all sewage and waste water so as not to jeopardise food safety; and</li> <li>• be constructed and located so that it will not pollute the water supply or contaminate food.</li> </ul>	<ul style="list-style-type: none"> <li>• installation of external floor waste drains within 5m of cold room</li> <li>• wastewater generated from mop buckets, cleaning mops and other cleaning activities must be disposed of in a cleaners sink or other approved facility</li> <li>• require plumbing and drainage approvals</li> </ul>
<p><b>Storage of Waste and Recyclable Matter</b>  <i>Food Safety Standard 3.2.3</i> (Food premises and equipment),                      Division 2, Clause 6</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• have capacity to hold all the garbage and recyclable matter on the food premises until collection or removal</li> <li>• be enclosed or lidded so that pests and animals can not gain access; and</li> <li>• be designed and constructed from non-porous materials so that they may be easily and effectively cleaned.</li> </ul>	<ul style="list-style-type: none"> <li>• external refuse and recycling storage must be paved with an impervious material</li> <li>• plastic or metal bins with lids are suitable</li> </ul>
<p><b>Ventilation</b>  <i>Food Safety Standard 3.2.3</i> (Food premises and equipment),                      Division 2, Clause 7</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• have sufficient natural or mechanical ventilation to effectively remove fumes, smoke, steam and vapours.</li> </ul>	<ul style="list-style-type: none"> <li>• Mechanical ventilation certified to Australian Standard 1668.1-1991 (The use of ventilation and air conditioning in buildings – Part 1) and Australian Standard 1668.2-1991 (The use of ventilation and air conditioning in buildings – Part 2)</li> </ul>



TABLE 1 (CONT.)

Food safety standard clause	Outcome	Guidance/Examples
<p><b>Lighting</b>  <i>Food Safety Standard 3.2.3</i>                      (Food premises and equipment),                      Division 2, Clause 8</p>	<p>The facility must:</p> <ul style="list-style-type: none"> <li>• have a lighting system that provides sufficient natural or artificial light for the activities on the food premises.</li> </ul>	<ul style="list-style-type: none"> <li>• see table 3 for minimum illumination levels</li> </ul>
<p><b>Floors</b>  <i>Food Safety Standard 3.2.3</i>                      (Food premises and equipment),                      Division 3, Clauses 9 and 10</p>	<p>Floors must:</p> <ul style="list-style-type: none"> <li>• be able to be effectively cleaned</li> <li>• be unable to absorb food particles, grease or water</li> <li>• not allow the ponding of water; and</li> <li>• be sealed to prevent the entry of dirt, dust and pests.</li> </ul>	<ul style="list-style-type: none"> <li>• see table 4 for floor finishes</li> </ul>
<p><b>Walls &amp; Ceilings</b>  <i>Food Safety Standard 3.2.3</i>                      (Food premises and equipment),                      Division 3, Clauses 9 and 11</p>	<p>Walls and Ceilings must:</p> <ul style="list-style-type: none"> <li>• be appropriate for activities conducted on the food premises</li> <li>• protect food from contamination where necessary</li> <li>• prevent the entry and harbourage of dirt, dust and pests</li> <li>• prevent absorption of grease, food particles and water</li> <li>• be easily and effectively cleaned.</li> </ul>	<ul style="list-style-type: none"> <li>• see table 5 &amp; 6 for walls and ceiling finishes</li> </ul>
<p><b>Fixtures, Fittings and Equipment</b>  <i>Food Safety Standards 3.2.3</i>                      (Food premises and equipment),                      Division 4, Clause 12</p>	<p>Fixtures, fittings and equipment must:</p> <ul style="list-style-type: none"> <li>• be adequate for the production of safe food and fit for their intended use.</li> </ul> <p>All fixtures, fittings and equipment must be designed, constructed, located and installed so that they:</p> <ul style="list-style-type: none"> <li>• will not contaminate food</li> <li>• can be easily and effectively cleaned</li> <li>• provide easy access to floors, ceiling, and other surfaces for effective cleaning</li> <li>• are unable to provide spaces where pests may breed.</li> </ul> <p>All food contact surfaces of fixtures, fittings and equipment must be:</p> <ul style="list-style-type: none"> <li>• able to be effectively cleaned and/or sanitised</li> <li>• unable to absorb food particles, grease or water</li> <li>• constructed with material that will not contaminate food.</li> </ul> <p>All eating and drinking utensils must be:</p> <ul style="list-style-type: none"> <li>• able to be easily and effectively cleaned and sanitised. This includes the appropriate design of equipment used to clean utensils which must be designed to ensure that effective cleaning and sanitising can be achieved</li> <li>• in good condition and not chipped, broken or cracked.</li> </ul>	<ul style="list-style-type: none"> <li>• see table 2 for sink requirements</li> <li>• cleaners sink, hose connection for cleaning requirements</li> <li>• ensure dead insects from electronic insect devices do not fall into food</li> <li>• readily accessible access panels in ducts</li> <li>• ensure unpackaged, ready to eat foods are stored in food grade containers</li> <li>• cardboard/wood containers not suitable for unpackaged ready-to-eat foods</li> </ul>



TABLE 1 (CONT.)

Food safety standard clause	Outcome	Guidance/Examples
<p><b>Connections for Specific Fixtures, Fittings and Equipment</b>  <i>Food Safety Standard</i>                      3.2.3 (Food premises and equipment), Division 4, Clause 13</p>	<p>Fixtures, fittings and equipment used for food handling or other activities that are designed to be connected to a water supply must:</p> <ul style="list-style-type: none"> <li>• be connected to an adequate supply of potable water.</li> </ul>	<ul style="list-style-type: none"> <li>• sinks, basins, dishwashers, ice making machines etc.</li> </ul>
<p><b>Hand Washing Facilities</b>  <i>Food Safety Standard</i>                      3.2.3 (Food premises and equipment), Division 4, Clause 14</p>	<p>Hand washing facilities must be:</p> <ul style="list-style-type: none"> <li>• located in food preparation areas, that is easily accessible</li> <li>• located immediately adjacent to toilets, if there are toilets on the food premises</li> <li>• permanent and supplied with warm running potable water of a size that allows easy and effective hand washing</li> <li>• clearly designated for the sole purpose of washing hands, arms and face</li> <li>• supplied with soap or other item that may be used to thoroughly clean hands</li> <li>• provided with single use towels or other means of effectively drying hands and a container for used towels.</li> </ul>	<ul style="list-style-type: none"> <li>• minimum basin size of 11L capacity and/or dimensions of 500mm x 400mm</li> <li>• sensor/knee/foot operated hand wash basin</li> <li>• located within 5m of all food handling areas</li> </ul>
<p><b>Storage Facilities</b>  <i>Food Safety Standard</i>                      3.2.3 (Food premises and equipment), Division 5, Clause 15</p>	<p>The facility must have:</p> <ul style="list-style-type: none"> <li>• adequate and separated space for storing chemicals, clothing, personal belongings and other items that are likely to be a source of contamination.</li> </ul>	<ul style="list-style-type: none"> <li>• enclosed designated cupboards or drawers away from food preparation and food storage areas</li> </ul>
<p><b>Toilet Facilities</b>  <i>Food Safety Standard</i>                      3.2.3 (Food premises and equipment), Division 5, Clause 16</p>	<p>A food business must:</p> <ul style="list-style-type: none"> <li>• ensure that adequate toilets are available for the use of food handlers.</li> </ul>	<ul style="list-style-type: none"> <li>• require compliance and certification with the <i>Building Code of Australia</i> (BCA)</li> </ul>
<p><b>Food Transport Vehicles</b>  <i>Food Safety Standard</i>                      3.2.3 (Food premises and equipment), Division 3, Clause 17</p>	<p>Vehicles used to transport food must:</p> <ul style="list-style-type: none"> <li>• be designed and constructed to protect food if there is a likelihood of food being contaminated during transport.</li> </ul> <p>Food contact surfaces in parts of vehicles used to transport food must:</p> <ul style="list-style-type: none"> <li>• be able to be effectively cleaned and, if necessary, sanitised.</li> </ul>	<ul style="list-style-type: none"> <li>• food compartment should be separate from drivers compartment or any passenger areas</li> <li>• maintain the temperature of potentially hazardous food either at or below 5°C or at or above 60°C at all times</li> </ul>



**TABLE 2 - FACILITIES FOR FOOD PREPARATION, CLEANING AND SANITISING**

Activity	Comments
No preparation/minor handling of pre-packaged food	Single bowl sink (capable of immersing the largest equipment)
Handling unpackaged food	<ul style="list-style-type: none"> <li>• Double bowl sink (capable of immersing the largest equipment), or</li> <li>• Dishwasher/glass washer and single bowl sink (where all food contact equipment will fit in the dishwasher/glass washer), or</li> <li>• Double bowl sink and a dishwasher/glass washer (where some equipment has to be washed/sanitised in the sink)</li> </ul>
Where food is prepared by immersion or rinsing in water	Designated food preparation sink
Where floors and equipment are to be hosed	Designated hose connection
Cleaning of floors and disposal of waste water	Designated cleaners, sink or approved alternative solution.

**TABLE 3 - MINIMUM ILLUMINATION LEVEL (LUX) FOR FOOD PREMISES**

Activity	Illumination level (lux)
Food preparation areas	500
Food and equipment storage areas	110-150
Dishwashing, hand washing and toilet areas	200-300

**TABLE 4 - SUITABILITY OF FLOOR FINISHES IN FOOD PREPARATION AREAS**

Finish	Wet areas	Food preparation	Vegetable preparation	Servery	Store room	Chillers /freezers	Bin store	Eating areas	Comments
Stainless steel non-slip	✓	✓	✓	✓	✓	✓	✓	✓	Welded joints
Ceramic tiles	✓	✓	✓	✓	✓	✓	✓	✓	Epoxy grout
Quarry tiles	✓	✓	✓	✓	✓	✓	✓	✓	Sealed
Steel trowel case hardened concrete			✓		✓	✓	✓	✓	Smooth sealed finish; no joints
Carpet/carpet tiles								✓	
Wooden flooring								✓	Sealed
Poly vinyl sheet	✓	✓	✓	✓	✓	✓	✓	✓	Heat welded joints
Vinyl tiles			✓	✓	✓	✓	✓	✓	
Plastic matting				✓				✓	
Cork tiles								✓	Sealed
Epoxy resin	✓	✓	✓	✓	✓	✓	✓	✓	



TABLE 5 - SUITABILITY OF WALL FINISHES IN FOOD PREMISES AREAS

Finish	Wet areas	Food preparation	Vegetable preparation	Servery	Store room	Chillers /freezers	Bin store	Eating areas	Comments
Stainless steel	✓	✓	✓	✓	✓	✓	✓	✓	Welded joints
Ceramic tiles	✓	✓	✓	✓	✓	✓	✓	✓	Epoxy grout
Vinyl tiles	✓	✓	✓	✓	✓	✓	✓	✓	Sealed
Painted plaster					✓		✓	✓	Smooth sealed finish; no joints
Feature brick								✓	
Aluminium sheet	✓	✓	✓	✓	✓	✓	✓	✓	Sealed
Steel sheet							✓	✓	Heat welded joints
Smooth trowelled cement		✓	✓	✓	✓	✓	✓	✓	
Wood panelling								✓	
Painted brickwork					✓		✓	✓	Sealed
Concrete					✓		✓	✓	
Pre-formed panels	✓	✓	✓	✓	✓	✓	✓	✓	

TABLE 6 - SUITABILITY OF CEILING FINISHES FOR FOOD PREMISES AREAS

Finish	Wet areas	Vegetable preparation	Servery	Store room	Chillers /freezers	Bin store	Eating areas	Comments
Painted plaster	✓	✓	✓	✓		✓	✓	Smooth finish
Steel sheet	✓	✓	✓	✓		✓	✓	
Smooth trowelled cement	✓	✓	✓	✓		✓	✓	Polished surface
Wood panelling							✓	Sealed surfaces
Concrete	✓	✓	✓	✓		✓	✓	Sealed smooth finish
Pre-formed panels	✓	✓	✓	✓	✓	✓	✓	
Acoustic panels							✓	Suspended T - bars
Decorative panels							✓	

**USEFUL REFERENCES**

**Water supply**

- AS/NZS 3500.1: 2003: Plumbing and Drainage: Water Services.
- AS/ANZ 3500.4: 2003: Heated Water Services

**Sewage and waste water disposal**

- AS/NZS 3500 Plumbing and Drainage Part 2: Sanitary Plumbing and Drainage – Performance Requirements

**Lighting**

- AS/NZS 1680.1:2006: Interior and workplace lighting - General principals and recommendations.

**For more information**

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