

Structural standards for food businesses

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1 Structural standards for food premises

The *Food Act 1984* and *The Australia New Zealand Food Standards Code* require the construction and fitting out of food premises to meet certain requirements.

The City of Boroondara Guidance on the Structural Standards for Food Premises aims to assist businesses to ensure compliance with the general legislative provisions of the *Food Act 1984* and the *Food Standards Code*.

The guide also provides reference to requirements contained with the Australian Standards AS 4674 Design Construction and Fit out of Food Premises.

Good food premises design will promote good hygiene which will result in the safe storage and preparation of food.

If you would like to discuss any aspect of these specifications, contact your Environmental Health Officer.

Councils Building Services and Planning Services should also be consulted for further requirements. Matters such as lighting, ventilation and toilets are also covered by the Building Code of Australia.

This publication does not intend to be a prescriptive document. It's purpose is to provide guidance through the planning and design stage of a new premises or when planning alterations and repairs to an existing food establishments.

It is recognised that alternative techniques or procedures may be available to achieve compliance with the *Food Act 1984* and you should familiarise yourself with other legal obligations under the *Food Act 1984* and Food Standards Code to ensure your business is compliant.

1.1 Floor plans

Although not mandatory, it is requested that you submit a copy of floor plans with a scale not less than 1:100 to the Health Services Team before any work on the construction, renovation or alteration of your premises is carried out.

The plans should include details such as the location and finish of walls, ceilings, floors, fixtures and fittings, and the nature of the work processes to be completed.

Separate plans should also be provided, outlining the details of any mechanical exhaust system to be installed.

When developing plans for a new business the following factors should be considered:

- adequate space to permit a workflow that will separate food handling areas to prevent cross-contamination between food handled in one area and another
- chilled, hot and dry goods storage space for ingredients, raw materials and final products

- storage space for recalled and other products kept separate from products for sale
- the correct number of sinks for the practices to take place at the business, such as a food preparation sink, equipment washing sinks, dishwasher, easily accessible hand washing basins, coffee slop sink to be installed to meet the requirements of the *Food Standards Code*
- storage of personal belongings and chemicals to separate from other business storage
- areas to access for cleaning and to store chemicals based on cleaning processes
- adequate storage for garbage and recyclable materials
- adequate hot water system to provide enough hot water to the business
- sewage disposal and grease trap.

This list is not exhaustive but indicates the scope of what is required.

1.2 Food premises requirements

1.2.1 Water supply

There must be an adequate supply of drinkable quality water for all activities conducted on the food premises. There must be enough hot and cold water capacity for the food business to carry out all operations even during peak operating times.

1.2.2 Sewage and waste water disposal

Food businesses must have a sewage and waste water disposal system that will effectively dispose of all sewage and waste water and be constructed and located so that there is no likelihood of the sewage and waste water polluting the water supply or contaminating food.

Guidance must be sought from Yarra Valley Water as to whether a grease trap is required. If required the location of any grease traps should be shown on the floor plan.

Grease traps should not be installed in a room used for preparation, processing, packing or storing of foods for sale.

1.2.3 Storage of Garbage and Recycling Material

There should be a suitable storage area which contains the volume and type of garbage and recyclable material.

This should be:

- large enough to store the number of bins to be kept there
- properly bonded, graded and drained to a silt trap connected to the sewer in accordance with Water Authority requirements
- supplied with a *single outlet* hot and cold water hose tap for the washing of receptacles, and
- suitably enclosed to keep pests and animals away.

1.2.4 Lighting

Adequate natural or artificial lighting is essential. The Building Code of Australia and Australian Standard 1680 recommend 300 lux as the minimum lighting level for premises preparing food.

Light fixtures should be flush mounted or recessed into the ceiling to enable effective cleaning of the ceilings.

Fully enclosed dust and shatterproof lighting is required in areas where exposed food is handled or stored to prevent the risk of glass contamination.

1.2.5 Floors

The floor surface of each room must be able to be effectively cleaned, unable to absorb grease, food particles or water and be laid so that there is no ponding of water.

Examples of such impervious materials include:

- quarry tiles
- ceramic tiles
- epoxy finishes
- laminate and vinyl.

This list is not exhaustive and other materials may also be suitable.

Approved coving material should be fitted to all floor and wall junctions in all food preparation and storage.

In any room where large amounts of water are required for cleaning, the floor may create potential harbourage for pests and it could also be a source of bacterial contamination.

AS4674 -2004 Design, Construction and Fit out of Food Premises indicates that floors should be evenly graded to at least 1 in 100 so that water falls to the floor waste. Floor waste should be connected to the sewer in accordance with the Water Authority's requirements.

1.2.6 Walls

The surface of internal walls must be capable of being easily cleansed. Walls in areas where food is manufactured or handled must be smooth, easy to clean and impervious. Wall surfaces should also be a light colour to assist cleaning.

Examples of suitable materials include:

- stainless steel
- ceramic tiles
- vinyl tiles
- painted plaster.

This list is not exhaustive and other materials may also be suitable.

Walls behind cooking equipment should be faced with a smooth and impervious material from floor level to the underside of the mechanical exhaust canopy.

It is recommended that walls behind cooking equipment should be covered with stainless steel rather than tiles to allow easy cleaning.

AS 46774 indicates that all service pipes should be concealed in the wall or fixed with brackets at least 25mm clear of any wall and not less than 100mm clear of any floor to enable easy cleaning.

1.2.7 Ceilings

The ceilings in areas where food is manufactured, prepared, packed or stored other than unopened packages, should be made of a rigid, dustproof, non-absorbent material and free from cracks, crevices or openings.

The use of flush jointed plasterboard painted with washable gloss paint is recommended however other materials may also be suitable. This should be discussed with your Environmental Health Officer.

1.3 Premises protection from infestation

The premises should be designed to prevent entry of rodents, birds, animals and insects.

1.3.1 Building

All parts of the food premises should be constructed to prevent access for pests. This includes making sure there are no gaps or holes in walls, ceilings and floors so preventing pathways for mice and rats or harbourage for crawling insects like cockroaches.

Access should be provided to spaces above false or suspended ceilings so the spaces can be inspected for pests.

1.3.2 Windows

Every window and ventilation opening to the outer air should be covered with a fly-wire screen or other suitable method to prevent pest entry.

1.3.3 Doorways

Doorways should be provided with either:

- a full door fitted with an efficient heavy duty self-closer, or
- a self-closing commercial flywire door, or
- heavy duty plastic strips properly designed and fitted. Strips must be thick enough to span the entire height and width of the doorway, or
- a suitable air curtain that prevents insects entering the business.

1.3.4 Yards

All yards and sheds should be maintained in an orderly and sanitary condition so they don't harbour vermin.

1.4 Fixtures, fittings and equipment

Fixtures, fittings and equipment must be designed, constructed, located and installed so that there is no likelihood that they will cause food contamination, they are able to be easily and effectively cleaned and they do not harbour pests.

The Australian Standard AS4674 Design, Construction and Fit out of Food Premises provides guidance on the installation of equipment, appliances (including stoves, ovens, deep fryers) and fittings used within a food business.

AS 4674 states that these fixtures and fittings should be:

- placed no closer than 25mm to any wall, and
- at least 150mm above the floor unless sealed to the floor or that eliminates any open gap to prevent liquids, food particles, grease or other refuse from collecting.

The surface of shelving including edges should be smooth, durable, non-absorbent, free of cracks and crevices and suitable to the nature of work processes to be carried out, e.g. glass, metal, plastic or laminate.

The surface of all tables, benches, trays, counters, appliances, equipment and fittings should be constructed of rigid, non-toxic, durable impervious material and be free of cracks and crevices.

All food on display at bars, counters etc. must be protected from contamination by customers. This may include the use of screens, sneeze guards or other suitable method to protect food from contamination.

There must be adequate bench space for food preparation activities and to prevent cross contamination.

To protect all food, utensils and equipment from contamination the following must be considered:

- Do not store food, utensils or equipment on the floor.
- Provide adequate drawers for storage of utensils.
- Provide single service dispensers for the distribution of straws to customers.

1.4.1 Cooking appliances

All cooking appliances should be installed so they are able to be effectively cleaned and that there is no likelihood that they will cause food contamination.

Flexible connections are recommended for gas appliances and cooking facilities or if these pieces of equipment cannot be moved, sufficient clearance space (150mm) is provided between equipment and other surfaces to allow for effective cleaning of the surrounding areas.

Advice should be sought from [Energy Safe Victoria](#) when installing electrical or gas equipment.

1.4.2 Washing facilities

An adequate number of hand washing basins must be provided within close proximity to each food handling and preparation area for all food handlers to wash their hands regularly.

Hand washing basins must be used solely for washing hands.

Food handlers should not have to travel more than 5 metres to the nearest basin.

Each basin must be provided with an adequate supply of hot and cold water delivered through a single outlet and be of a sufficient size to allow easy and effective hand washing.

The *Food Standards Code* states that a basin of 11 litres capacity with minimum dimensions of 500mm by 400mm off the wall will be adequate for most food handlers.

Soap and approved hand drying facilities such as paper towels are to be provided adjacent to the basin.

1.4.3 Sinks and food preparation areas

An adequate number of stainless steel double bowl sinks are to be provided with an adequate supply of hot (70°C) and cold water and an integral drainer to one side to provide for adequate manual cleaning and sanitising of equipment and utensils. There must be adequate loading space and draining and/or drying space adjacent to the sink.

Sink facilities must be of adequate size to accommodate the largest pots or equipment to be used.

It is recommended a commercial dishwasher with adequate loading and drying space is provided to clean and sanitise equipment and utensils.

In addition to cleaning and sanitising sinks, separate sinks are required for food processing.

If required by the relevant Water Authority, sinks should be connected to a grease trap.

All sinks and wash basins should be fitted with an appropriate splash back that is smooth, impervious and capable of being effectively cleaned. It is recommended that such splash backs should be a minimum of 480mm in height.

A suitable area should be provided for the storage of cleaning equipment and materials, and fitted with a cleaner's trough with an adequate supply of hot and cold water. This should not be within an area where food is prepared.

1.4.4 Storage facilities

All storage areas must be located so that there is no likelihood of non-food items contaminating food or food contact surfaces. All storage areas should be provided with sufficient shelving so that food is not stored on the floor.

It is recommended that shelving is on legs at least 150mm in height to enable access for cleaning.

All storage areas must be adequately pest proofed to prevent contamination for animals, vermin or flying insects.

1.4.5 Refrigeration units, cool rooms and freezer rooms

Adequate refrigerated or freezer space must be provided for the storage of all perishable foods on the premises. The *Food Standards Code* requires that all high-risk food must be stored below 5°C and food that is intended to be stored frozen must be stored in a freezer that is capable of keeping food frozen. All freezers should maintain a temperature of less than -15°C.

These units or if installing cool or freezer rooms, should have internal and external lining surfaces that are capable of being effectively cleaned, provides sufficient insulation and are resistant to damage by moisture.

Examples of such materials include:

- aluminium
- stainless steel
- Colorbond-type insulation panels

This list is not exhaustive and other materials may also be suitable.

The cooling unit discharge is required to be connected and drained to the sewer.

Where large amounts of water are required for cleaning, floors in cool or freezer rooms should be graded and drained to the sewer as per the Water Authority requirements.

1.4.6 Dry goods

A storage area should be provided for the separate storage of bulk materials, for example dry ingredients.

Dry ingredients such as flour, rice and the like should be kept in impervious airtight containers with tight-fitting lids on shelves or on castors in approved, designated areas. All food storage containers must be made of a food safe material appropriate for storing food.

1.4.7 Clothing

Separate facilities should be provided for the storage of employees' outdoor clothing and personal effects such as bags and phones, such as a cupboard or change room.

1.4.8 Chemical storage

There must be provision for separate storage of cleaning materials, equipment, detergents etc so that it does not present a source of contamination for food.

1.4.9 Toilet facilities

Adequate toilet and hand washing facilities must be provided for staff and customers in accordance with the sanitary requirements of *the Building Code of Australia*. The Building Department or private building surveyor should be consulted.

Staff toilets must:

- be accessible at all times when staff are working
- be clean and operating properly
- not be entered directly via a food preparation area but through a ventilated lobby
- have no likelihood that droplet-borne contamination will affect the safety of food
- be located within a reasonable distance from the food handlers' work area
- be provided with hand basins with a supply of warm, potable running water through a single outlet
- be provided with liquid hand soap and paper towel in dispensers at hand basins.

1.4.10 Ventilation

Food businesses must have sufficient natural or mechanical ventilation to effectively remove fumes, smoke, steam and vapours from the business.

To determine whether a ventilation system is adequate the following should be considered:

- Do the food operations or other activities such as cleaning produce fumes, smoke or any vapours?
- Does the proposed ventilation system remove all steam and fumes?
- Are air intakes and intakes for make-up air located so that they provide fresh air uncontaminated by fumes or smoke?
- Does the system draw contaminated air into clean preparation areas?

Guidance on the design and installation of mechanical ventilation can be found in [Australian Standard 1668 Part 1 and 2: The use of mechanical ventilation and air conditioning in buildings](#).

Compliance with Australian Standard 1668 Part 1 and 2 will normally ensure compliance with the ventilation requirements of the Food Standards Code.

In addition, the proprietor of any food premises must paint or affix, and maintain, the name of the proprietor in letters 30mm high that contrast against the background on the front of the premises.

2 Food safety standards

Food safety standards place obligations on Australian food businesses to produce food that is safe and suitable to eat. A food business is any business or activity that involves the handling of any type of food for sale, or the sale of food in Australia.

The standards, which also contain health and hygiene obligations for food handlers, aim to lower the incidence of food-borne illness.

Charity and community groups, temporary events and home-based businesses are exempt from **some** of the requirements in the food safety standards. These groups and businesses can contact their Environmental Health Officer for further information.

FSANZ has developed separate standards for food businesses in the primary production and processing sectors. You can find these in Chapter 3 of the Australia New Zealand Food Standards Code (Australia only):

- [Standard 3.1.1 Interpretation and application](#)
- [Standard 3.2.2 Food safety practices and general requirements](#)
- [Standard 3.2.3 Food premises and equipment.](#)

See also the Safe Food Australia guide, listed in More resources at the bottom of this document.

2.1 Temperature control

Temperature control is important for ensuring the safety and suitability of food. Ensure that you use a food grade probe thermometer that can accurately measure internal temperature of food to plus and minus 1°C.

Remember:

- Cook food to an internal temperature of 75°C without overloading the oven.
- Cool food as quickly as possible.
- Keep hot food at 60°C or above.
- Keep cold food at 5°C or less.
- Control temperatures during transportation to and from your home.

What to look for when buying a thermometer

All food businesses where potentially hazardous food is handled must have a temperature measuring device that is readily accessible and can accurately measure the temperature of potentially hazardous hot and cold food to plus and minus 1°C.

The thermometer must not be constructed of mercury and glass, due to the danger of it breaking into food.

The thermometer must be able to measure the temperature of your freezers, which should be less than -18°C but also be able to measure the temperature of foods you are cooking or re-heating to ensure that bacteria is being killed.

Thermometers with a probe measure the internal temperature of the food. Non-contact thermometers such as infra-red thermometers measure the surface temperature of the food and are not suitable for use. Care must be taken when measuring the temperature of food to ensure the probe is sanitised. This should be done with a solution of 70% alcohol or contact with hot water at or above 77°C for at least 30 seconds.

This information may be used as a guide to assist you when selecting a thermometer to use in a food premises.

3 More resources

- Download the *Food Act 1984* on the [Victorian Legislation website](#)
- Download the Safe Food Australia guide to food safety standards on the [Food Standards Australia and New Zealand website](#)
- Australian Standard AS4674: Design, Construction and Fit out of Food Premises
- Australian Standard 1668: Part 1 and 2 The use of mechanical ventilation and air conditioning in buildings
- Building Code of Australia.