



STANDARD 3.2.3
FOOD PREMISES AND EQUIPMENT

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Division 1 — Interpretation and application

1 Interpretation

This clause includes definitions applicable to this standard only. Definitions that apply to more than one of the standards are specified in Standard 3.1.1. Standards 1.1.1 and 1.1.2 also provide definitions of terms used throughout the Code.

Definitions

In this Standard —

adequate supply of water means potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used.

The term is used in clauses 4 and 13.

potable water means water that is acceptable for human consumption.

Where there is doubt as to the acceptability of a particular water supply, reference should be made to the *Australian Drinking Water Guidelines 2011* (NHMRC and NRMMC 2011) as updated.

The term is used in clauses 4 and 14.

sanitise means to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of microorganisms on the surface is reduced to a level that:

- (a) does not compromise the safety of food with which it may come into contact; and
- (b) does not permit the transmission of infectious disease.

The definition makes it clear that businesses may use one or a combination of methods to sanitise. See the discussion under Standard 3.2.2, paragraph 20(2)(b).

The word is used in clauses 3, 9, 12, 13 and 17.

sewage includes the discharge from toilets, urinals, basins, showers, sinks and dishwashers, whether discharged through sewers or by other means.

The definition covers all waste water, whether or not it drains to a sewer, septic tank, vehicle tank or other disposal system.

The word is used in clauses 5 and 13.

2 Application of this Standard

2(1) This Standard applies to all food businesses in Australia in accordance with Standard 3.1.1 (Interpretation and Application).

2(2) A food business may only use food premises and food transport vehicles that comply with this Standard.

2(3) A food business may only use equipment, fixtures and fittings in or on food premises and in or on food transport vehicles that comply with this Standard.

The standard applies to all food premises, food transport vehicles and associated equipment, fixtures and fittings used by food businesses (as per definitions in Standard 3.1.1 clause 1). It applies to existing premises, new premises, domestic premises used for commercial purposes, temporary premises and mobile premises. Obligations on food businesses are the same regardless of the type of premises, except for exemptions that may be granted under specific clauses (e.g. domestic and temporary premises may be granted exemptions regarding hand washing facilities).

There is no prescribed list of specifications for the design and construction of food premises, equipment, fixtures or fittings to meet the standard. Food operations vary in size and complexity and what is considered appropriate and adequate for a business's food premises and food transport vehicles will depend on the operations. The evaluation of food premises should be based on risks to food safety and suitability and consider the outcomes intended by the standard.

The following documents provide useful guidance:

- Australian Standard AS 4674-2004 *Design, Construction and Fit-Out of Food Premises* provides uniform criteria recommended for food premises.
- The National Construction Code Series Volume 1 (Building Code of Australia Class 2–Class 9 Buildings, ABCB 2016) outlines provisions for special-purpose buildings, including specifics for individual states and territories in the appendices.
- Various guides on design, construction and fit-outs for different types of food premises have been developed by states and territories (refer to websites in Resources and References).
- Appendixes in this document contain collated information on requirements for temporary and mobile premises (Appendix 9) and for home-based businesses (Appendix 10).

When preparing plans for any new food premises, or alterations to existing premises, advice should be sought from the appropriate government agency responsible for food safety (i.e. local council/ government authority) to avoid potential issues.

Division 2 — Design and construction of food premises

3 General requirements

The intended outcome is that food premises are designed and constructed to:

- be appropriate for the purposes for which they are used
- provide adequate space for food production and equipment
- facilitate cleaning, sanitising and maintenance
- prevent access by and harbourage of pests
- keep out dust, dirt, fumes, smoke and other contaminants.

3 The design and construction of food premises must:

(a) be appropriate for the activities for which the premises are used;

The word 'activities' in this clause includes food handling operations (defined in Standard 3.1.1 clause 1) and all associated activities such as storing packaging materials and chemicals, providing access for delivery and garbage vehicles, and storing garbage and recyclable material.

The design and construction of food premises may vary considerably and its appropriateness under this clause will depend on the business's particular food operations. Factors that help make premises suitable as food premises include those listed below.

Layout

The layout of premises can minimise the likelihood of food becoming contaminated through enabling an appropriate flow of activities, providing physical separation of different activities and facilitating cleaning.

To minimise cross contamination, the food flow should ideally be in one direction from receipt → storage → preparation → dispatch/service. If activities are organised so that food is handled in progression without repeatedly crossing back and forth across the layout, this will avoid chances of contamination from, for example, areas where raw meat packages are opened, and areas where the final cooked product is served.

Separation of areas where different activities take place could include, for example:

- physically separating areas where raw products are handled from areas where the final product is dispatched
- separating food preparation areas from wash-up areas, chemical storage areas and garbage areas
- locating entrances, toilets and change rooms so that staff and visitors do not have to cross food preparation areas.

Location of equipment and facilities

Equipment and facilities should be located where staff can readily use them. If this is not practicable, the business should consider the likely impact on food safety and determine whether the situation is acceptable. For example, at a temporary event a coolroom may need to be located some distance from a stall intending to prepare ready-to-eat potentially hazardous food. There is a risk that potentially hazardous food might be left out of temperature control and become unsafe if staff do not have time to walk to the coolroom. In this situation, a solution could be to provide ice boxes on site where potentially hazardous food can be temporarily stored until there is time to place food in the coolroom.

The location of hand washing facilities is covered under clause 14 to ensure such facilities are available and accessible to all food handlers.

Construction standards and materials

The standard of construction should ensure that appropriate food safety and hygiene standards may be maintained by the business, taking into account the food handling activities and permanency of the premises. For example, a stall used once a week at a market may be built of more lightweight materials than permanent premises while still preventing the entry of dust, dirt and pests.

Construction materials should be durable under the conditions they are used for (e.g. canvas would be suitable for a temporary stall but not for a permanent structure).

Construction materials should not pose a risk of tainting or contaminating food with fumes, migrating chemicals, splinters, food debris, etc. Specific clauses in this standard require materials (of walls, ceilings, floors, fixtures, etc.) to be able to be effectively cleaned and, if necessary, sanitised.

Examples

Inappropriate design for food premises

1. The owner of a building proposes to open a basement as a restaurant. Refrigerators, washing facilities and toilets are two storeys above the basement. There is no plumbing or drainage to the basement. The enforcement officer advises the owner that the premises would be inappropriate for this use unless a water supply and connections to the sewer, washing facilities including a hand basin, and refrigeration are provided in the basement.
2. A business is designing a commercial kitchen for preparing and packaging cooked ready-to-eat foods. However, the proposed design is poorly organised because food handlers will need to walk back and forth through several different food handling areas to dispose of waste and to wash their hands. This would present a risk that the ready-to-eat foods will become contaminated with for example, waste or raw meat juices, or from dirty hands touching food packaging. The business is advised to change elements of the kitchen design and/or reorganise its proposed activities so that, for example:
 - the flow of activities is one direction from ingredient storage to raw food preparation to food cooking to final packaging
 - washing and waste disposal facilities are located where they are actually needed so staff do not have to cross through different areas unnecessarily.

(b) provide adequate space for the activities to be conducted on the food premises and for the fixtures, fittings and equipment used for those activities;

'Equipment' is defined (3.1.1 Interpretation) and includes, for example, washbasins, stoves, food-processing equipment, refrigerators, garbage containers and hot water services. The terms 'fixtures' and 'fittings' take their dictionary definitions and broadly include benches, shelves, sinks, cupboards, lights, garbage chutes, conveyors and ventilation ducts.

The amount of space a food business needs will depend on the complexity of its operations, including the volume and type of food it handles and the number of staff on site. Space needed for activities such as receiving, preparing and dispatching food as well as cleaning and sanitising should be considered. In addition to space for equipment, fittings and fixtures, storage space is usually needed for food, packaging, utensils, staff belongings, garbage and so on.

'Adequate' space

The space should be sufficient to allow all activities to be conducted without compromising food safety. Factors that could be considered include, for example:

- space to separate food handling activities to prevent cross-contamination — e.g. sufficient bench space/table area for work flow so that, for the volume of food being handled, prepared ready-to-eat foods are separated from raw foods and ingredients
- space to safely store ingredients, food packaging and other raw materials — e.g. sufficient cupboards, refrigerators, secure storage areas for the scale of operations
- storage space for recalled product to be kept separate from product for sale
- the need to install/accommodate additional equipment to prevent cross-contamination — e.g. separate food preparation sinks may be needed for preparing raw foods separately to washing of ready-to-eat salad ingredients
- staff numbers and protective clothing requirements — e.g. changing room space may be needed
- cleaning — e.g. there should be enough space to manoeuvre the cleaning equipment, to access areas for cleaning and to store cleaning chemicals, etc.
- quantity and type of garbage and recyclable material produced — e.g. space for appropriate garbage containment and access for garbage removal
- water requirements — e.g. sufficient space for hot water storage (and cold water if there is no mains supply)
- sewage disposal — e.g. adequate space for equipment if on-site storage and/or disposal is necessary.

Appendix 9 contains some information specific to temporary and mobile premises.

Example

Inadequate space for safely storing food

A small café expands its activities to operate a catering service. Sandwiches and salads are made early each morning for delivery later in the day to various local businesses. An increase in business means there may be insufficient space in the coolroom to store potentially hazardous sandwich fillings and ready-to-eat salads. If these foods are not kept under temperature control, foodborne pathogens may grow to dangerous levels.

The business should have adequate space for the activities it conducts. If there is insufficient space for the additional refrigeration required for its catering service, the café should come up with suitable alternative arrangements, which may include limiting the catering service.

(c) permit the food premises to be effectively cleaned and, if necessary, sanitised; and

Premises that are designed and constructed so that they can be effectively cleaned and sanitised are easier to clean and so more likely to be kept clean, providing fewer opportunities for food to become contaminated.

Australian Standard AS4709-2001 *Guide to Cleaning and Sanitizing of Plant and Equipment in the Food Industry* provides guidance.

Cleaning

'Clean' is defined in Standard 3.1.1 clause 1. Under Standard 3.2.2 clause 19 the business must keep the food premises clean, so there is no accumulation of garbage or recycled matter (except in containers), food waste, dirt, grease or other visible matter.

Features that could affect whether food premises can be effectively cleaned include:

- ducts, fans, etc. with access covers — covers can be removed to allow cleaning
- horizontal ledges created by pipe runs, windowsills, picture rails, etc. — can potentially trap dirt
- concealment of, or dust covers provided for pipes, ducts, conduits, wiring and similar fittings in walls, floors or ceilings — allows for easier cleaning of these surfaces
- width of doorways and passages and height of gaps under benches, etc. — should be sufficient to allow the cleaning equipment that is intended to be used (e.g. electric foaming machines) to be used effectively
- texture (e.g. rendered, rough timber, exposed brick) of walls, floors, ceilings and other surfaces in areas where exposed food is handled — should be able to be effectively cleaned with intended cleaning methods
- moveable equipment — moving or dismantling equipment enables the areas behind, around and underneath to be more easily cleaned.

Sanitising

'Sanitise' is defined in clause 1 of this standard. Businesses need to ensure that the surfaces they sanitise are designed and constructed to withstand the effects of sanitising hot water or chemicals. Note that most non-food contact surfaces are required to be clean and not sanitised.

(d) to the extent that is practicable:

(i) exclude dirt, dust, fumes, smoke and other contaminants;

'Contaminant' is defined in Standard 3.1.1 clause 1 and includes any matter carried by people, materials or air that could compromise food safety or suitability.

To prevent contamination of food or food contact surfaces, the design and construction of food premises should exclude contaminants, including dirt, dust, fumes and smoke. The premises' design and construction should be considered bearing in mind likely contaminants, the types of food being handled, handling methods and movement of staff and products. Particular attention should be paid to areas where unpackaged foods and ready-to-eat foods are handled, as these foods are more vulnerable to contamination.

'Practicable' design and construction

The business is only required to exclude contaminants to the extent that is practicable. The clause recognises that there may be situations where dirt and dust are unavoidable. For example, at an open-air market stall it may be impracticable to dust proof the premises itself and more appropriate to protect the food from contamination by directly covering it using plastic wrap, lidded containers, mesh or other covers.

Practicable design and construction aspects that exclude dirt, fumes and other contaminants could include, for example:

- layout that separates areas that may generate airborne contamination from areas where exposed food is handled (e.g. locating loading docks and cooling units away from food preparation and packaging areas) — note that clause 12(2) requires that fixtures, fittings and equipment do not cause food contamination
- close-fitting doors and mesh screens on doors, windows and other openings to prevent dust and dirt blowing through
- double doors or positive air curtains at entrances where contaminants may enter
- air intakes for ventilation systems positioned so that they do not draw in contaminated air
- airlocks or self-closing doors to separate areas handling exposed food from toilet areas, laundries and living areas
- mechanical ventilation to remove possible airborne contamination on the premises to areas not used for food preparation
- secure storage facilities for items that may be sources of contaminants, such as clothing, cleaning chemicals, etc. (see also clause 15).

Open-plan food premises

Food premises constructed with open shopfront designs, outdoor eateries and open-plan kitchen and dining areas are by their nature more exposed to contaminants carried by air, people, or animals. Businesses with these types of premises could minimise opportunities for contaminant entry by, for example:

- facing open sides away from prevailing winds, nearby toilets or garbage areas to prevent entry of airborne contaminants
- ensuring the ground is sealed or covered to prevent contact with dirt and dust
- sheltering or enclosing food preparation areas from draughts
- using barriers to restrict access to food preparation areas by passing customers and animals
- using positive air curtains at openings
- covering holes or gaps (e.g. using filling material around pipes coming through walls)
- providing protective shields and holding units (e.g. display cabinets) for exposed food.

(ii) not permit the entry of pests; and

'Pests' is defined in Standard 3.1.1 clause 1. Pests can transmit spoilage and pathogenic microorganisms, damage food and food packaging and directly contaminate food.

The business is only obliged to exclude pests to the extent that it is practicable. For example, it might not be possible to prevent the occasional fly coming in or to avoid bringing pests onto the premises in prepacked goods.

Design and construction elements a business could use to prevent pest entry could include, for example:

- flyscreen doors, self-closing doors and doors with weather strips
- mesh screens on windows or other openings
- sealed drains, grease traps and ventilation pipes
- sealed openings where pipes pass through external walls
- covered containers for food scraps and other waste.

(iii) not provide harbourage for pests.

The premises should be designed and constructed so as not to create spaces where pests can nest and multiply. Pests are generally attracted to dark cool and undisturbed spaces near a food source. Where practicable, such areas should not be created in the first place, or should be removed for example by sealing them up. If these options are not practicable, the area should be opened up or provided with access for inspection, cleaning and pest control.

Clauses 10, 11 and 12 specifically require that floors, walls, ceilings, fixtures, fittings and equipment are unable to provide pest harbourage.

4 Water supply

The intended outcomes are that potable water is available for activities including washing food, cooking, making ice, cleaning, sanitising and personal hygiene, and that non-potable water is used only where it will not affect food safety.

4(1) Food premises must have an adequate supply of water if water is to be used at the food premises for any of the activities conducted on the food premises.

An 'adequate supply of water' means potable water that is available at a volume, pressure and temperature that sufficiently serves the purposes for which the water is used by the business. Factors to be considered include the food handling operations of the business, cleaning and sanitising operations, hours of operation and requirements during peak periods.

Temperature

Although the standard does not specify water temperatures for particular activities, the following factors should be considered:

- Hand washing facilities are generally required to have warm water (usually considered as 20°C–40°C) — see clause 14.
- For cleaning and sanitising activities:
 - » using hot or warm water for cleaning is likely to be more effective than cold water because the heat helps remove grease and fats. Some cleaning chemicals need to be used with water at certain temperatures (refer to manufacturer's instructions)
 - » dishwashers and similar machines may need water supplied at specified temperatures to operate the wash or rinse cycle, particularly if used for sanitising — the machine's operating instructions should provide details (Appendix 6 has more information on dishwashers).
 - » for manual sanitation using hot water, a minimum temperature of 77°C for at least 30 seconds (as per US Food Code 2013) or equivalent is recommended
 - » some sanitising chemicals need to be used with water at certain temperatures (refer to manufacturer's instructions, e.g. see Appendix 6 on the use of bleach).
- For other activities: The requirement for water at adequate temperatures applies to all activities at the food premises. If the correct operation of cooking, food washing or other food processing equipment is dependent on water being supplied to that equipment at certain temperatures, the business must have a water system capable of supplying that water.

Where warm water is needed, it may be supplied as a mixture of hot and cold water, or water heated by an element or other means.

Example

Sanitising utensils

A café serves hot drinks, sandwiches and cakes using returnable cups, saucers, plates and cutlery. The café currently has a hot water system capable of delivering water at a maximum of 60°C, which is not hot enough for effective manual sanitation.

To be able to sanitise items effectively, the proprietor has the options of:

- using a chemical sanitiser for eating and drinking utensils and other items that require sanitising such as large mixing bowls, chopping boards etc.
- installing a hot water system, sink element or other method to heat and maintain water at 77°C for at least 30 seconds (or equivalent time and temperature) — items can then be sanitised by submerging them in the hot water using a rinsing basket
- installing a dishwasher capable of sanitising
- using disposable cups, plates and other utensils and discarding them after use instead of sanitising and reusing items.

Capacity (volume and pressure)

The hot and cold water systems must have sufficient capacity to enable the business to operate properly, including during its peak hours.

Businesses in areas where supplies are limited will have to ensure that water availability, pressure or volume does not limit the business's ability to carry out food operations and cleaning and sanitising.

Factors that may need to be considered related to water capacity include:

- the number of appliances that have to be supplied with water (including any that are used in conjunction with the premises, such as showers)
- peak hot and cold water usage for different applications (e.g. cleaning, sanitising, washing food, adding as an ingredient and processing food)
- required temperature of water in the tank
- length and size of pipe runs to appliances
- recovery rate of water heaters
- manufacturers' specifications for water requirements for appliances
- pressure requirements of equipment such as dishwashers.

Advice on specific issues regarding water supply may be sought from the local council and/or water authority.

Mobile and temporary premises

The water supply requirements apply to all food business including mobile and temporary food premises.

Mobile premises not connected to reticulated (piped) supplies must be fitted with water storage tanks that provide an adequate water supply for the period of trading between opportunities for refilling. Similarly, temporary premises such as market stalls must have tanks or other containers for clean water storage if there is no piped or hose supply from a reticulated system. See 4(2) below for further information related to water storage tanks.

The volume of water needed will depend on the number of people, the amount of food being handled and the type of activities being conducted on the premises. As an indication, guidance provided by states and territories recommends access to a minimum of 20-25 litres per day for each activity (e.g. for hand washing and for utensil/equipment washing).

Appendix 9 contains collated information for these types of premises.

4(2) Subject to subclause (3), a food business must use potable water for all activities that use water that are conducted on the food premises.

'Potable water' is defined in clause 1. The water must be safe to drink and not introduce contaminants into food (as an ingredient or through washing food or other processing activities.). The water must be safe to use for cleaning and sanitising processes, and hand washing. Ice must only be made with potable water.

The following documents provide useful guidance:

- Australian Drinking Water Guidelines — comprehensive guidance including guideline values for chemicals, microorganisms, turbidity, pH, etc. to be met for water of potable quality (summarised in Tables 10.4 and 10.5), testing procedures and water treatments (e.g. disinfection, filtration) (NHMRC and NRMCC, 2011 and as updated).
- Guidance on the Use of Rainwater Tanks — information on potential hazards in rainwater, preventative measures to minimise contamination, construction materials, etc. (Australian Government Department of Health 2004).
- See Jurisdictional websites (e.g. Water Supply Safety on Victoria's Food business information website, NSW's Private Water Supply Guidelines)
- For ice production, see Packaged Ice Association of Australasia's *Code of Practice*.

Town water (reticulated) supplies

Businesses using a treated town water supply do not usually need to take extra steps to ensure the water is potable unless the supply authority has specifically recommended further treatment.

Other water supplies

Businesses using untreated water or non-reticulated water supplies (e.g. rainwater tanks, bores dams, rivers) may need to have the water tested and treated to ensure it is suitable for use.

Untreated or non-reticulated water could be unsafe for consumption, depending on its source, due to:

- pathogens such as *Giardia*, *Cryptosporidium*, *Legionella*, *Campylobacter*, *Salmonella* and mosquito-borne viruses
- harmful chemicals such as pesticides or heavy metals
- physical parameters such as its acidity and turbidity.

Sources of water contamination include animals and their faeces (e.g. livestock or bird droppings), soil, insects, septic systems, landfills, paints, toxic plants and air pollutants. While taking preventative measures can minimise sources of contamination (see points under *Water storage tanks* below), corrective steps, such as treating the water may be needed.

Treatments to remove contaminants include boiling, chlorination, filtration and ultraviolet light irradiation. The treatment needed may vary depending on the type and level of contaminants present, the water's volume and flow and other factors. Technical expertise may be needed to effectively treat water to make it potable. Advice could be sought from local water authorities and the guidance documents listed above.

Commercially carted water

Businesses using or supplying commercially carted water should ensure that the water supply is potable; for example by providing evidence of authorisation from an appropriate authority, proof that the tankers are suitable for carrying drinking water (e.g. made of food-grade material and not used to carry other materials that would contaminate drinking water), or a record of water chlorination.

Recycled water

As for any water supply, recycled water used on the food premises must be potable unless the business can demonstrate its use will not affect the safety of the food (see subclause 4(3) below). Depending on its source, recycled water is likely to contain hazards such as pathogens and harmful chemicals that need to be removed so that they do not contaminate food or food contact surfaces. Water testing and treatment may be needed to make the water suitable.

Repeatedly using the same water many times, for example for washing food or dirty dishes, is likely to result in decreasing water quality (e.g. from a buildup of food particles or pesticides) and may pose a risk to food safety.

Water storage tanks

To prevent water contamination, water storage tanks must be adequately designed, constructed and maintained. Subclause 12(2)(a) also requires that all fixtures, fittings and equipment have no likelihood of causing food contamination.

Factors to consider on the use of water storage tanks include:

- To prevent chemicals leaching into the water, tanks should be made of material suitable for use with potable water (e.g. standard galvanised steel, fibreglass, food-grade plastic and concrete are generally suitable but uncoated lead flashing and preservative-treated wood are generally not suitable). Where tanks are used to collect and store rainwater, the roofs, gutters or other surfaces that collect the water should be suitable for use with potable water or water may need to be treated.
- To prevent contamination by animals, insects, leaves, dirt, droppings and other debris tanks should be securely covered and inlets, outlets and overflows should be screened or covered with guards. Outlets should face downwards to prevent things dropping in.
- To ensure there is no buildup of contaminants from sludge or the contaminant sources mentioned above, the tank and associated system (e.g. pipes, roofs, gutters, outlets, filters, screens) should be regularly inspected and cleaned. Installing first flush devices or discarding the initial flush of water through downpipes may help reduce the amount of debris accumulation.
- To ensure breakages in the tank and associated system do not introduce contaminants, the whole system should be well maintained including repair of any breakages.
- Where it is known or suspected that the water is not potable (e.g. droppings found in the water, or the tank is made of non-food-grade material), the water should be treated as necessary to remove contaminants and not used until confirmed to be acceptable for human consumption.

4(3) If a food business demonstrates that the use of non-potable water for a purpose will not adversely affect the safety of the food handled by the food business, the food business may use non-potable water for that purpose.

Businesses may use non-potable water provided they can demonstrate to the appropriate enforcement agency that the quality of the water and its intended use will not affect food safety. Evidence may include the reasons why the water is non-potable and the systems in place to ensure that the water will not contaminate food or equipment that comes in contact with food on the premises.

Examples of uses that may be appropriate for non-potable water include refrigeration equipment, fire-fighting and certain cleaning activities (e.g. AS 4674-2004 states that non-potable water may be used for cleaning garbage areas). Use of seawater for specific purposes in seafood production is described in Standard 4.2.1 — Primary Production and Processing Standard for Seafood.

If a food business uses any non-potable water supplies, there must be no cross-connections between potable and non-potable water supplies, to prevent contamination of the potable water. To avoid the wrong water being used for food handling activities, any pipes or taps connected to a non-potable supply should be clearly identified (required by AS 4674-2004). Note that Standard 3.2.3 subclause 12 requires fixtures, fittings and equipment to be designed so that there is no likelihood they will cause food contamination.

5 Sewage and waste water disposal

The intended outcomes are that sewage and waste water are disposed of effectively and there is no contamination of food or the water supply from the disposal system.

The requirement applies to all sewage and waste liquid produced by the business, including waste from cleaning and cooking processes, toilets and stormwater. Solid waste is covered under clause 6.

Liquid waste is likely to contain pathogenic organisms, particularly the waste from toilets, personal washing and water contaminated by blood or soil (e.g. from washing food, cutting boards, etc.).

To prevent contamination of the premises, equipment and food with such waste, the disposal system used by the business must completely remove it without endangering food safety.

5 Food premises must have a sewage and waste water disposal system that

'Disposal system' means a system that removes the waste from buildings, vehicles and stalls, and from the curtilage of the premises (that is, the land where the building, vehicle or stall is situated) that is within the control of the food business. This includes drains and sewers, holding tanks, grease arrestors and on-site treatment plants for sewage, waste water and stormwater.

(a) will effectively dispose of all sewage and waste water; and

For disposal to be effective, all sewage and waste water must be:

- conveyed from all buildings on the site so as not to cause ponding or backflow into the building
- disposed of in a way that does not jeopardise food safety on-site
- both on-site and off-site, disposed of in accordance with statutory requirements (including environmental requirements).

(b) is constructed and located so that there is no likelihood of the sewage and waste water polluting the water supply or contaminating food.

Drainage pipes, grease arrestors, drain inlets and access openings, and on-site sewage treatment plants must be located where there is no risk of them contaminating the water supply or food. For example, grease arrestors located in food preparation areas can result in contamination problems when the arrestors are emptied. It is recommended that grease arrestors are located away from areas where food, equipment or packaging materials are handled or stored and preferably located outside the building.

The standard of workmanship overall must ensure that the disposal system is not likely to leak, block, overflow or allow access by vermin into the food premises.

Temporary and mobile premises

The requirement applies equally to temporary and mobile premises:

- Where there is no connection to a mains system, temporary holding tanks and any associated pipes must be properly constructed so there is no likelihood of waste contaminating the water supply or food (e.g. be leak proof).

- Emptying disposal tanks or containers must be done in a way that ensures there is no risk of food or water supplies becoming contaminated during the emptying process. Waste liquid should never be disposed of by simply pouring it on the ground.
- To prevent contamination problems from overflowing containers placed under sinks or basin outlets, these containers should be emptied regularly.
- Sites set aside for stalls and mobile premises at show grounds, markets or similar events should not be located near sullage pits, soakaways or holding tanks because of the risk of food or water becoming contaminated from these disposal systems.
- Where temporary toilets and hand washing facilities are provided by the food business at an event, the business must ensure that disposal arrangements meet the requirements of the clause. For example, arrangements to empty holding tanks must not result in a food safety problem that could occur if pump-out pipes cross food preparation areas.

Appendix 9 contains collated information for these types of premises.

6 Storage of garbage and recyclable matter

The intended outcomes are that storage facilities for garbage and recyclable matter:

- are suitable for the volume and types of garbage and recyclable material produced by the food business
- do not provide a breeding ground for pests
- are able to be easily and effectively cleaned.

This broad requirement applies to all types of food premises and the garbage and recyclable material produced on site.

Businesses should check whether state/territory or local requirements under building, environmental or other laws apply to their garbage and recyclable material (e.g. for bunding drums of oil).

6 Food premises must have facilities for the storage of garbage and recyclable matter that:

'Facilities' is intended to include all the areas and equipment used in connection with garbage and recyclable material storage. It includes:

- outside storage areas where bins are kept
- garbage rooms
- refrigerated garbage rooms
- garbage chutes
- bins, hoppers and other storage containers, whether used outside the buildings or in food handling areas
- compactor systems and the rooms in which they are housed.

'Garbage and recyclable matter' includes food waste and oil, paper, plastics, cardboard, glass, metal and any other waste material, whether recycled or not, produced by the business that has to be stored before it is removed.

(a) adequately contain the volume and type of garbage and recyclable matter on the food premises;

To prevent the risk of garbage or recyclable material contaminating food, all waste should be contained in bins, hoppers, wire cages, enclosures or other containers that are:

- appropriate for the type of waste — for example, dry paper can be stored in hessian or polythene sacks and wire cages but used oil or food waste, which may leak liquids, must be placed in impervious (e.g. plastic or metal) containers
- large enough or in sufficient numbers to contain all the waste produced until the next waste removal from the premises
- housed in an outside area or room that is adequate for the volume and types of waste — while there is no requirement to use refrigerated garbage rooms, this may be necessary for some businesses to prevent putrefaction and odour problems.

(b) enclose the garbage or recyclable matter, if this is necessary to keep pests and animals away from it; and

Garbage and recyclable matter needs to be enclosed wherever there is a risk of attracting or harbouring pests and animals. For example:

- To keep flies, cockroaches, rodents and other pests away from garbage in open-air storage areas, containers in these areas should have tight-fitting lids.
- In food preparation areas, lids on garbage containers are not necessary. Lids can cause inconvenience to staff handling food and can pose a risk of cross contamination if, for example, food handlers touch dirty lids and then touch food or utensils. However, it would be expected that all garbage would be regularly removed from food preparation areas to appropriate waste storage areas, to prevent attracting pests such as cockroaches.
- Recyclable material such as dry cardboard that could provide a harbourage site for pests, could be baled, kept in an enclosure and removed regularly.

Example

Storing garbage to avoid attracting pests

Garbage from a café is placed in plastic garbage bags, which are left at the back of the premises and collected twice a week. The proprietor observes that cats or dogs are tearing the bags open at night and the spilt garbage is attracting mice and other pests.

As a solution the café proprietor installs bins with tight fitting lids to securely store the garbage while it is awaiting removal.

(c) are designed and constructed so that they may be easily and effectively cleaned.

This requirement applies to internal and external areas where the waste is stored and to garbage chutes, bins or other containers used to hold garbage or recyclable matter.

If the food premises has a garbage room:

- the floors, walls and ceiling must be designed and constructed in a way that enables them to be cleaned (under clauses 10 and 11) — for example:
 - » floors should be made of impervious material
 - » floors should be coved
 - » a hose tap connected to a water supply should be provided
 - » floors should be graded and drained to an appropriate floor waste disposal system
- it must not, as far as practicable, provide harbourage for pests — for example, walls should be smooth and free of cracks and crevices where insects could hide
- it must have sufficient ventilation (under clause 7) and lighting (under clause 8).

Garbage containers or garbage areas are not required to be sanitised. This is because the containers should not be in contact with food for sale, and food handlers should thoroughly wash their hands after touching the containers if their next handling job could transfer contamination from the containers to food. Washing containers thoroughly with detergent and water should remove residues that are likely to attract pests.

7 Ventilation

The intended outcome is that natural or mechanical ventilation minimises the likelihood of airborne contamination of food.

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

In the context of food safety and suitability, ventilation serves the following purposes:

- prevents the build-up of fats, oils, moisture and food particles on walls, ceilings and other surfaces that may otherwise attract pests or enable moulds or microorganisms to grow
- removes fumes and objectionable odours that could taint food
- helps prevent potential hygiene issues, for example, from food handlers sneezing or coughing if smoke is not removed.

'Ventilation' in this clause includes both the system that provides the fresh air and the exhaust system to remove stale air.

'Fumes, smoke, steam and vapours' includes all types of airborne matter that could cause hygiene problems or affect food safety or suitability if allowed to remain in food premises.

Sufficient, effective ventilation

The adequacy and effectiveness of a ventilation system can be affected by various factors including the:

- nature and volume of food operations or other activities (such as cleaning) on the premises — e.g. activities that produce large amounts of fumes, smoke, steam or vapours will require more ventilation
- power capacity of the ventilation system (affected by model specifications)
- cleanliness of the system components (including ductwork) and how well maintained the system is as a whole
- location of air intakes — intakes should be placed so that they provide air that is uncontaminated by outside fumes and smoke
- location of equipment near the ventilation system — the equipment should not obstruct the flow of air through the system
- overall layout of the ventilation system — it should be designed so that it does not draw (or blow) air into 'clean' preparation rooms from other areas that generate dust or other airborne matter that could cause food contamination. Exhaust hoods should be placed where their capacity to capture fumes, etc. is not affected by breezes coming through doors or windows.

Example

Ventilation problems in a bakery

Condensation in a bakery is causing flour to stick on the walls and mould and flaking paint to appear on the ceiling. These could pose a physical or microbiological contamination risk to the food. The problem is caused by the oven not being provided with an effective exhaust system.

The proprietor has an exhaust hood and extraction fans installed to ensure the condensation is effectively removed from the premises.

Appropriateness of the ventilation system

Businesses may choose to ventilate the premises either naturally (e.g. with windows and/or vents), with a mechanical ventilation system or a combination of both, provided the chosen system adequately serves its purpose. When building or altering a premises, the business should consider their particular needs (based on the list above), as it can be costly and inconvenient to install a mechanical extraction system retrospectively.

When determining whether or not a particular ventilation system is appropriate, some general points to consider are:

- The system must remove objectionable odours and prevent the accumulation of grease, fumes, condensation, etc. that could contain harmful microorganisms and toxins.
- Examples of evidence that an existing system is inadequate includes the presence of strong odours, grease on walls, smoke stains on ceilings and flaking paint above cooking and washing areas.

- Natural ventilation will generally only be suitable in premises where there is little or no cooking that generates steam or greasy air.
- If ventilation is needed for other purposes, such as providing a positive pressure to prevent airborne dust and insects entering the premises, the chosen system should be appropriate for that purpose (under clause 3).
- The parts of a mechanical ventilation system, such as fans, kitchen exhaust hoods and ductwork are 'fixtures, fittings and equipment' and must comply with clause 12.
- Other state/ territory or local legislation related to ventilation may also apply.

Mechanical ventilation systems

Guidance on mechanical ventilation systems is provided in the following (see Resources and References):

- AS/NZS 1668.1:2015 *The Use of Ventilation and Air Conditioning in Buildings - Fire and Smoke Control in Buildings*
- AS/NZS 1668.2-2012 (and as updated) *The Use of Mechanical Ventilation and Air-Conditioning in Buildings Part 2 Mechanical Ventilation for Acceptable Indoor-Air Quality* —includes useful guidance on designs and installation, and calculations for airflow rates, etc.
- The Building Code of Australia for Class 2 to 9 buildings (ABCB 2016, which includes commercial buildings) — Part F4 on Light and Ventilation states that a commercial kitchen must be supplied with a kitchen exhaust hood complying with AS/NS 1668.1 and AS 1668.2 -2012 where cooking apparatuses have power inputs above specified levels (e.g. where any cooking apparatus has a total maximum electrical power input exceeding 8kW or a total gas power input exceeding 29MJ/hour).
- AS 4674-2004 — in addition to referring to the Building Code of Australia and standards AS/ NZS 1668.1 and AS/NZS 1668.2, this standard covers provision of an extraction system where a dishwasher or similar equipment vents steam and causes condensation on walls and ceilings.

Example

Change in ventilation system needed when a food premises changes hands

A business purchases a pre-existing food premises and begins operating in it using the existing fit out, including ventilation equipment. Over a few weeks, the proprietor notices that a greasy film is appearing on the walls and ceiling around the cooking equipment. This shows that the mechanical ventilation that was suitable for the previous business is no longer adequate. It needs to be upgraded or replaced with a system that will effectively remove all the new business's cooking vapours.

Domestic premises

The clause applies equally to home-based food businesses. As above, the extent of ventilation required will depend on the type and scale of the business's food handling activities. Unless there is considerable frying or other activities that generate fumes, smoke, steam and vapours, domestic exhaust hoods are generally likely to be suitable. (Appendix 10 contains collated information on home-based businesses.)

8 Lighting

The intended outcome is that the food premises has sufficient natural and/or artificial light for staff to carry out food handling operations, cleaning and sanitising and other activities.

8 Food premises must have a lighting system that provides sufficient natural or artificial light for the activities conducted on the food premises.

Lighting must be sufficient to enable food handlers to readily check whether areas and equipment are clean, to detect signs of pests and to clearly see the food and equipment they are handling. Specific tasks, such as inspecting food, taking measurements or monitoring equipment, may require higher levels of lighting than general food operations. Natural or artificial light may be provided as long as it meets the intended outcome.

While subdued lighting may be provided for customers in dining and drinking areas, extra lighting must be made available in these areas to permit cleaning and inspection activities.

The standards AS 1680.1-2006 *Interior and Workplace Lighting: General Principles and Recommendations* and AS/NZ 1680.2.4 1997 *Interior Lighting- Industrial Tasks and Processes* provide comprehensive information on interior lighting, including recommendations for specific tasks and processes (see Resources and References).

Light fixtures and fittings should pose no likelihood of causing food contamination and be able to be easily and effectively cleaned (as per clause 12).

Division 3 — Floors, walls and ceilings

9 Application

9 The requirements for floors, walls and ceilings specified in this Division apply to the floors, walls and ceilings of all areas used for food handling, cleaning, sanitising and personal hygiene except the following areas:

- (a) dining areas;
- (b) drinking areas; and
- (c) other areas to which members of the public usually have access.

Dining areas include seating areas of restaurants, outdoor dining areas of restaurants and customer areas of takeaways.

Drinking areas include the customer side of bars and outdoor drinking areas of premises.

Other areas to which the public has access include customer areas of supermarkets and other retail shops, customer areas of warehouses and public toilets.

The requirements of other Divisions in this standard will also apply to these areas.

10 Floors

The intended outcomes are that floors are appropriate for the area, able to be effectively cleaned, impervious to grease, food particles and water and do not provide harbourage for pests.

The requirement applies to floors of interior (e.g. kitchens, coolrooms) and exterior (e.g. loading docks) food handling areas. It also applies to areas used for washing and cleaning equipment and utensils, and to toilet and other personal hygiene areas (provided there is no public access).

The clause applies equally to permanent, mobile and home-based food businesses: to kitchens, storerooms and personal hygiene areas used for business purposes. Temporary premises may be granted certain exemptions (see 10(3) below).

It does not apply to dining and drinking areas and areas where the public have access.

10(1) Floors must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.

'Appropriate' in this context means fit for purpose considering factors such as:

- the activities conducted in the area — requirements for floors in areas where exposed food is handled (e.g. kitchen) may be more stringent than other areas (e.g. areas used to store packaged dry goods) because the food safety risk is greater
- whether the floor material, or the ground surface if it is being used, could produce dust, splinters or other material that could contaminate food

- the type of materials (e.g. food scraps, hot oil, water, chemicals) that could be spilt on the floor and the cleaning methods used to remove them
- whether the floor is durable enough to withstand the cleaning operations used (wet or dry) and other activities in the area that cause wear and tear.

The business may also consider factors such as cost, occupational health and safety issues and appearance.

10(2) Subject to subclause (3), floors must:

This subclause contains specific requirements for floors that apply to most food businesses, but certain exemptions may be granted (see subclause (3)).

(a) be able to be effectively cleaned;

Floors must be able to be effectively cleaned to remove accumulations of food waste, dirt, grease etc. that could otherwise contaminate food, attract pests and enable microbial growth. Food spills, food handlers' shoes and goods brought into the premises all contribute to making the floor dirty.

To be able to be effectively cleaned, floors should generally be non-absorbent, smooth (within occupational health and safety guidelines), free from cracks and crevices, and where required resistant to hot water, steam and/or chemicals used for cleaning. Floors may need to be graded so that water falls to a drainage system, depending on the cleaning method used (e.g. hosing with water). If a floor is able to be effectively cleaned, it is more likely that it actually will be kept clean.

Floor finishes

The suitability of the floor finish depends on the activities being carried out in the area, how much dirt, food residue, etc. is brought into the area, and how the floor is cleaned (e.g. mopped or hosed).

Examples of finishes suitable for floors in food preparation and wash up areas (e.g. smooth, free from cracks and crevices and resistant to hot water, steam and/or chemicals) include:

- ceramic tiles with flush epoxy grouting
- sealed quarry tiles
- polyvinyl sheeting
- laminated thermosetting plastic sheeting
- epoxy resins
- non-slip stainless steel.

A broader range of floor finishes may be suitable for other areas including storerooms, garbage rooms and eating areas. AS 4674-2004 provides additional information on the suitability of floor finishes.

Coving

Coving installed at floor–wall junctions and floor-plinth junctions helps with effectively cleaning floors by providing a continuous surface that prevents accumulation of dirt, grease, etc. Coving should ideally be provided for floors that are cleaned by flushing or hosing with water. It may also help with cleaning where the floor has to be frequently swept.

Sanitising floors

While there is no specific requirement under this clause that floors are capable of being sanitised, floor sanitation may be required under subclause 3(c) in order to minimise food safety risks associated with certain food handling activities (e.g. to prevent environmental contamination by *Listeria* in areas where chilled ready-to-eat foods are processed). Where sanitation of floors is required, the floors must be able to withstand the sanitising treatment to be ‘appropriate’ under subclause (1).

(b) be unable to absorb grease, food particles or water;

The floor surface must be impervious to grease, food particles and water to enable effective cleaning and so minimise the likelihood of food contamination. Carpet, unsealed timber and other absorbent flooring material would generally be considered unsuitable.

Mats (including dust control mats) and duckboards are ‘equipment’ and must comply with clause 12.

(c) be laid so that there is no ponding of water; and

Water remaining on floors could provide a water source for pests and so encourage their presence in the premises. It could also be a source of food contamination because it could contain pathogens, dirt, etc. that could transfer into food.

To avoid ponding issues, the floor surface should be either even (with no dips) and horizontal, or even and graded to allow water to fall to a drainage point.

(d) to the extent that is practicable, be unable to provide harbourage for pests.

The floor must contain no places where pests such as cockroaches could harbour and breed. For example, vinyl sheeting must be firmly attached to the surface beneath to prevent pests harbouring under the sheeting. Floors in poor condition (e.g. broken tiling with crevices or torn and lifted vinyl sheeting) might provide harbourage for pests.

The term ‘to the extent that it is practicable’ recognises that it could be difficult to exclude every crack or crevice in a floor. As with other clauses in this standard, the general intent is to protect food safety and suitability. Note that floors must be maintained in a good condition under Standard 3.2.2 subclause 21(1).

10(3) The following floors do not have to comply with subclause (2):

(a) floors of temporary food premises, including ground surfaces, that are unlikely to pose any risk of contamination of food handled at the food premises; and

This exemption to the requirements for floors in 10(2) allows businesses using a temporary food premises to use the existing ground surface, such as grass, concrete, paving or dirt, if the surface does not present a food safety hazard (e.g. the selling of packaged foods or food directly from a barbecue at temporary events such as fetes and markets).

If the ground surface is unsuitable, floors that do not comply with subclause 10(2) may be installed in temporary premises, provided they do not pose a food safety hazard. Examples of floors that may be suitable are groundsheets and sealed timber boards.

(b) floors of food premises that are unlikely to pose any risk of contamination of food handled at the food premises provided the food business has obtained the approval in writing of the appropriate enforcement agency for their use.

Food premises other than temporary may be exempt from the requirements for floors in 10(2) if the floor is unlikely to pose a risk to food safety based on the food handling activities of the business or history of use (e.g. dirt floors used traditionally in wineries). A written exemption must be obtained from the enforcement agency.

Example**Exemption for floor for storage purposes**

A grocery store has a storeroom with an unsealed timber floor. Since the unsealed material could absorb grease, food particles and water, the floor could pose a risk of contaminating exposed food. The proprietor is granted written approval to store only packaged, non-perishable food in that storeroom, provided the floor is kept clean, free of pests and maintained in good order.

11 Walls and ceilings

The intended outcomes are that all walls and ceilings:

- are appropriate for the area and are provided where they are necessary to protect food
- do not provide places for pests to hide
- are able to be effectively cleaned
- where provided to protect food, are:
 - » sealed to prevent dirt, dust and pests getting into the area and
 - » impervious to grease, food particles and water
 - » easy to clean effectively.

The requirement applies to walls and ceilings in all food premises. However, it recognises that some food premises do not have walls and ceilings (e.g. some temporary stalls) and that walls and ceilings may be used for purposes other than protecting food, such as weather protection and security.

The requirement does not apply to walls and ceilings in dining and drinking areas or areas where the public usually have access (e.g. the retail area of a shop or living areas of a bed and breakfast).

11(1) Walls and ceilings must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.

Where premises have walls and ceilings, their design and construction must be appropriate considering factors such as:

- the food handling activities in the area — whether the surfaces are subject to heat from cooking processes, or splashing or soiling
- the likelihood of material, such as paint flakes, contaminating food
- whether food will come into contact with wall surfaces
- a need to withstand impact from equipment (e.g. trolleys)
- cleaning methods — whether they are wet or dry, properties of cleaning chemicals used
- the likelihood of pest infestation and the types of pests
- ease of maintenance and replacement of worn or damaged areas
- ease of cleaning, particularly if the surface is broken by window sills, pipes, access panels, etc.

For example, areas where wet processes are carried out will need walls that are waterproof and may need to withstand high-pressure hosing. Processes that generate dust will need walls and ceilings with smooth hard surfaces that cannot trap and hold dust.

11(2) Walls and ceilings must be provided where they are necessary to protect food from contamination.

To protect the safety and/or suitability of the food, walls and ceilings must be provided where food is vulnerable to contamination; for example, where:

- unprotected (unpacked) food is handled or stored and could be contaminated by insects, dust, dirt or other airborne material
- packaged food could be damaged by the weather, dust, dirt or pests.

Walls and ceilings may not be needed at temporary premises such as barbecues where raw food is kept in containers and cooked food is sold directly off the hotplate.

11(3) Walls and ceilings provided in accordance with subclause (2) must be:

The requirements for walls and ceilings that are needed to protect food that is vulnerable to contamination (as per subclause (2)) are more stringent to ensure the food is kept safe and suitable. The requirements are in addition to subclause 11(4).

(a) sealed to prevent the entry of dirt, dust and pests;

To prevent dust, dirt and pests such as cockroaches accessing the area where unprotected food is being handled:

- junctions between walls, between walls and plinths, and between walls and the ceiling must be tightly joined
- ceilings should be of continuous construction so that there are no spaces or joints — drop-in, removable panel ceilings are generally not suitable in areas where open food is prepared, displayed or served because the panels are difficult to seal

- if access is needed to the ceiling space then access panels should be located outside the area where open food is handled— if this is not possible, the access panel should fit very tightly in its surround.

(b) unable to absorb grease, food particles or water; and

Wall surfaces in kitchens and other food processing areas must be finished with impervious materials such as ceramic tiling, vinyl sheeting or stainless steel. Other materials coated or sealed to be impervious may be appropriate. AS 4674-2004 provides additional information on the suitability of wall and floor finishes for food premise areas.

Plasterboard and similar absorbent wall surfaces are generally not suitable unless protected by ceramic tiles or other impervious material in areas that are likely to be splashed by water or be in contact with food. This is particularly important for walls that have to withstand frequent cleaning.

Plasterboard ceilings painted with washable paint should generally provide a surface that is impervious enough to prevent the ceiling absorbing any steam, etc. that is not removed by ventilation systems.

(c) able to be easily and effectively cleaned.

Walls and ceilings that are able to be easily and effectively cleaned are more likely to be kept clean by staff, and so minimise risks of food contamination from dirty surfaces. Cleaning is made easier when surfaces are smooth and clear of fittings such as pipes, pictures or shelves.

Walls and ceilings with rough textures (e.g. stippled, rendered, exposed brick, rough wooden beams) may be unsuitable for food preparation areas because they are difficult to clean.

Sanitising walls and ceilings

Wall and ceilings are not generally required to withstand sanitising, since they should not generally come into contact with food and it should be sufficient to ensure they are clean. However, if it is deemed necessary to sanitise walls and ceilings to maintain food safety, the business should ensure the surface can withstand the method used for sanitising (under subclause 3(c)).

Example

Suitability of wall finishes in food premises

1. The wall above a food preparation bench in a restaurant is made of exposed brick. This area is frequently soiled by food particles and despite being scrubbed cannot be kept clean. The dirty wall surface could attract pests or result in food becoming contaminated. The business is advised that the wall should be re-surfaced using a suitable finish that can be effectively cleaned, such as glazed tiles, a glass splashback or stainless steel sheeting.
2. The proprietor of a grocery store wishes to store wine bottles in a storage area separated from the rest of the store by a metal mesh wall. The business is advised that the metal mesh wall is suitable provided it can be effectively cleaned (and is kept clean).

Requirements for all walls and ceilings

11(4) Walls and ceilings must:

(a) be able to be effectively cleaned; and

The desired standard of cleaning will depend on what the area is used for, how dirty it is likely to get and how this might affect food safety and suitability. Some examples to consider related to the effectiveness of cleaning are listed below:

- In staff hygiene areas (e.g. toilets and hand wash areas) and in cleaning areas (e.g. pot wash and dish wash areas) the standard of cleanliness will need to be high and so surfaces should be smooth, free of cracks and ridges, and impervious to grease and moisture (e.g. glazed tiling, stainless sheeting).
- In a dry goods store where all food is packaged, the walls and ceiling are unlikely to get greasy or contaminated by food. However, they may still get dusty and need cleaning, so a smooth finish (e.g. sealed wood panelling, painted plaster or smooth concrete) will help with effective cleaning.
- In areas of heavy wear (e.g. where trolleys may hit and chip finishes), hard wall surfaces such as stainless steel panels and corner protectors may be needed to ensure that the surfaces remain smooth and easy to clean.
- The colour of the wall is not relevant as long as the surface material is able to be effectively cleaned.
- Kitchens and other food preparation areas are likely to have walls and ceilings that are necessary to protect food from contamination and so must comply with subclause 11(3).

(b) to the extent that is practicable, be unable to provide harbourage for pests.

The requirement applies to the extent that is practicable and the use of the area and the total approach to pest control for that business should be considered. Some examples of practicable measures that could be taken to minimise harbourage sites for pests include:

- adhering tiles and sheeting (e.g. vinyl or stainless steel) directly to the wall so that there are no gaps
- avoiding pathways that pests could run along (e.g. ensuring there are no ledges where wall surfaces join and concealing piping and wiring)
- filling gaps and crevices around pipe entry points, open joints, etc.

Where the premises has false or suspended ceilings, access should be provided to spaces above these ceilings so that they can be inspected for signs of pests.

Appendix 7 contains further information on pest management.

Division 4 — Fixtures, fittings and equipment

12 General requirements

The intended outcomes are that:

- all fixtures, fittings and equipment are:
 - » adequate to produce safe and suitable food and are fit for use
 - » designed, constructed, located and installed so that they will not contaminate food, can be easily and effectively cleaned, and do not provide harbourage sites for pests
- adjacent surfaces can be easily and effectively cleaned
- food contact surfaces are made of material that will not contaminate food and are impervious to grease, food particles or water
- can be easily and effectively cleaned and, where necessary, sanitised.

The scope of this requirement is very broad and covers all fixtures, fittings and equipment in the premises and on food transport vehicles.

12(1) Fixtures, fittings and equipment must be:

(a) adequate for the production of safe and suitable food; and

This subclause intends to ensure that food premises are adequately equipped to keep food safe and suitable during all food handling operations, that the premises are kept clean and free of pests, and that staff can comply with the requirements for personal hygiene. 'Equipment' is defined in Standard 3.1.1.

Examples of general operations and the equipment or facilities likely to be needed are listed in the following table.

Type of operation	Equipment/facilities likely to be needed
Cooking/processing	Equipment that can ensure the process reaches the temperature or other parameter required to destroy pathogens or otherwise achieve the microbiological safety of the food.
Cooling and refrigerated storage	Equipment that can keep potentially hazardous food at 5°C or below (or other appropriate temperature control), and where appropriate, cool food quickly as per Standard 3.2.2 clause 7. Adequate refrigerated space for the volume of food that needs to be refrigerated or cooled.
Displaying potentially hazardous foods	Refrigerated or hot-display units that can hold all displayed food under temperature control (as per 3.2.2 clause 8) and protect it from contamination.
Storing food — see 3.2.3 clause 15	Shelving, cupboards, storerooms, etc. so that food is protected from contamination.

Type of operation	Equipment/facilities likely to be needed
Transporting chilled potentially hazardous foods	Refrigeration equipment, insulated containers or other appropriate equipment that can ensure transported food is kept under temperature control and is protected from contamination.
Washing food — see 'Sinks' below	A food preparation sink(s) should be installed if frequently washing food such as fruit and vegetables.
Utensil and equipment washing and sanitising	Double bowl sink, triple bowl sink, or single bowl sink plus dishwasher — see 'Sinks' below.
Personal washing	Equipment that ensures all staff have easy access to hand washing facilities as per clause 14.
Floor and general cleaning requirements	Single bowl sink, cleaner's sink, hose connections, curbed drain connected to the sewer or other waste-collection facility for cleaning the equipment used for cleaning the premises and for disposing of dirty water.

Sinks

The number and size of sinks that the food premises needs depends on factors such as:

- the type of operations on the premises that need a sink (e.g. washing food, washing/ sanitising equipment, waste disposal, personal hygiene)
- the scale of operations, including the:
 - » volume of food or equipment that needs to be washed
 - » number of staff on site that need to wash hands
 - » frequency of various washing tasks (e.g. multiple times a day, at end of day only)
 - » amount of adjacent space needed to hold equipment or food for washing or draining
- the size of objects to be washed (e.g. large pots and pans)
- whether objects need to be immersed in water (e.g. sanitising utensils in hot water) or held under running water (e.g. washing foods)
- whether sanitation processes require a rinsing step
- whether the premises has a dishwasher and whether it can sanitise.

The intention is that the number and size of sinks are sufficient to allow the business to easily conduct all of its washing and cleaning activities without interference or obstruction, and without posing a food safety risk. For example, it is good practice to separate the following activities:

- food washing and equipment washing
- hand washing and food or equipment washing
- liquid waste disposal (e.g. mop buckets, fish tank waste) and any of the above.

These activities could be separated by using different sinks, or by conducting the activities at different times and ensuring the sink is cleaned and sanitised between uses.

Examples

Sink arrangements

1. A café has a single bowl sink, which is used for washing fruit and salad as well as for disposing of leftover milk in jugs and for rinsing wash cloths. Using the one sink for all these operations poses a risk of the food becoming contaminated from waste milk and dirt, grease etc. from cloths unless the sink is cleaned and sanitised between uses as appropriate. A better arrangement would be to have a dedicated food preparation sink.
2. A kitchen in a restaurant has a washing up sink but it is often obstructed with pots and pans and so cannot always be used when it is needed. The business should ensure there is an area with sufficient space to hold the dirty equipment so the sink is available.

Further examples are provided under clause 14 Hand washing facilities.

(b) fit for their intended use.

General design and construction

The design, construction and mode of operation of all fixtures, fittings and equipment must be fit for the intended use. The intention is that there are no flaws that could cause a food safety or suitability issue. Some examples are provided below:

- A refrigerator used to hold potentially hazardous food at 5°C or below should be designed and constructed to maintain an airflow and temperature that keeps the food this cold.
- A dishwasher used to sanitise utensils should be designed and constructed to operate on wash, rinse and dry cycles that leave the utensils clean and sanitary — this applies to washers that sanitise using heat or sanitising chemicals (see also subclause 13(3))
- A sous vide cooker should be designed and constructed to heat the water to the cooking temperature and hold it at that temperature, and to mix the water so the temperature is even throughout the water bath.

Avoiding food safety issues with equipment unfit for its intended use

1. In a takeaway, chilled ready-to-eat meat dishes are placed in the bain marie when the business opens at 8.30 a.m., to reheat for the lunch-time trade. The bain marie is designed to hold heated food hot but is **not** intended by the manufacturer to reheat chilled food. Cold food placed in a bain marie is likely to heat very slowly and so provide opportunity for foodborne pathogens to multiply to dangerous levels. The business is advised to install a microwave oven or similar equipment to reheat the food rapidly before transferring it to the bain marie for hot holding (see Standard 3.2.2 subclause 7(4)).
2. A food business moves into an existing premises that has a chilled display unit. On testing the equipment they find the unit is not able to maintain a constant temperature of 5°C or below to safely display potentially hazardous food. The equipment is therefore not suitable to use for cold display. The business chooses to disconnect the unit and use it simply as a cabinet to display packaged chips and confectionery instead. Since these displayed foods are not potentially hazardous and do not need to be kept under temperature control, the unit is fit for its new intended use.

Materials

The materials used to construct fixtures, fittings and equipment must be suitable for their intended use. The intention is that there are no flaws that could cause a food safety or suitability issue. Some considerations are listed below:

- Metal used for surfaces that will be in direct contact with food should be able to withstand contact with that food as well as cleaning and sanitising (if applicable) processes. For example, certain grades of stainless steel and aluminium are generally likely to be suitable, but uncoated copper is not generally suitable.
- Unsealed timber is not generally recommended for use in fixtures, fittings or equipment that are frequently cleaned with water. The use of hard, close-grained wood can be suitable for equipment such as chopping boards, butcher's blocks, rolling pins etc. providing they are maintained in good condition and can be effectively cleaned and sanitised as appropriate.
- Plastics are generally suitable for a wide range of purposes but plastics vary with their resistance to heat, suitability for food contact, etc.

12(2) Fixtures and fittings must be designed, constructed, located and installed, and equipment must be designed, constructed, located and, if necessary, installed, so that:

The following requirements are intended to prevent food contamination resulting from fixtures, fittings and equipment that are poorly designed, constructed, located or installed. The phrase 'if necessary, installed' recognises that some equipment used on the premises is moveable and not actually installed.

(a) there is no likelihood that they will cause food contamination;

Fixtures, fittings and equipment could potentially contaminate food from dripping/spraying liquids, falling components, failure to cover food or transfer of built-up dirt or pathogens. The business must ensure all sources of likely contamination have been controlled. Some general examples are provided below.

- Equipment containing bearings and gears should be designed so that bearings cannot fall out and lubricant does not drip from the equipment. If some dripping is inevitable and could contaminate food, the equipment should be located so that there is no likelihood that the lubricant will be in contact with the food. Similarly, oils, solvents, release sprays (used to free equipment or stop squeaking) and other materials used in equipment or for maintenance should not leak from the equipment.
- Lines carrying liquid waste from equipment, lines carrying detergent to dishwashers or drains carrying waste from appliances should not be located directly above food handling areas or across food and food containers.
- Glass light fittings should be designed and located so that, should a globe break, glass will not fall onto food.
- Fans should be located so that they do not blow dirt, dust, etc. over exposed food.
- Electronic insect killing devices should be designed and constructed so that the dead insects are caught by the device and do not fall on food or equipment. Alternatively, insect control devices should be located away from exposed food.
- Clean-in-place equipment should be designed and constructed so that it is either self-draining or can be effectively drained to prevent cleaning and sanitising solutions remaining in the system and contaminating food. The design should ensure that there are no parts that cleaning and sanitising solutions cannot reach.
- Equipment openings, covers and lids should be designed to protect stored or prepared food from contaminants and other foreign matter that could fall into the food.
- The drip gutter on kitchen exhaust hoods should catch the grease and condensation to prevent drips on food or equipment.
- Condensation from refrigeration motors and air conditioning equipment should be collected and discharged to a drain so it does not contact food.
- Parts in machinery should be designed to avoid trapping and holding food particles or moisture, especially in inaccessible parts of the machine.

(b) they are able to be easily and effectively cleaned;

Fixtures, fittings and equipment need to be kept clean to prevent the build-up of food residues and other waste that could attract pests and enable pathogenic microorganisms to grow. Equipment, etc. that is able to be easily and effectively cleaned is more likely to be kept clean.

This requirement covers all of the surfaces of fixtures, fittings and equipment, including architraves, doors and curtains (e.g. plastic strip curtains). Note that food contact surfaces are specifically covered by subclause (3).

All the surfaces must be able to be readily reached and cleaned to ensure cleaning can be done easily and often enough to maintain the premises' cleanliness.

Factors that make fixtures, fittings and equipment easy to clean include:

- smooth impervious surfaces with rounded edges and no open joints or tube ends, and no rough surfaces or joints that can trap dirt
- nozzles or taps that are easy to dismantle
- if dismantling is necessary for cleaning, it can be done by hand or with readily available tools
- readily accessible access panels in ducts
- readily removable grease filters in kitchen extraction hoods
- shelves mounted so there is a slight gap from the wall or other surface they are fixed to so that food and dirt cannot lodge at the wall–shelf junction
- equipment either butted together with joints sealed so that debris cannot fall between, or located with enough space around the equipment to reach and clean the sides
- removable safety shields
- door knobs, plates and panels made of smooth impervious material
- wheels or castors on equipment so it to be easily moved, preferably by one person
- service wires, pipes or hoses (gas, electricity, water) that can be disconnected (or are flexible and long enough to enable the equipment to be moved)
- legs that raise equipment high enough to enable access to the surfaces underneath
- cleanable dust control mats (as used in customer areas of supermarkets).

(c) adjacent floors, walls, ceilings and other surfaces are able to be easily and effectively cleaned; and

Following on from clause 12(b), this subclause intends that the surfaces adjacent to the fixtures, fittings and equipment are able to be easily and effectively cleaned.

Features that enable these surfaces to be easily and effectively cleaned include:

- equipment and walls spaced far enough apart to allow access for cleaning
- equipment and walls butted together with joints sealed
- castors, rollers or legs on unfixed equipment to enable it to be moved
- plinths or legs on fixed equipment to raise it high enough for floors to be cleaned underside.

(d) to the extent that is practicable, they do not provide harbourage for pests.

Cavities and crevices in fixtures, fittings and equipment can provide nesting sites for pests such as cockroaches and mice and so pose a risk to food safety and suitability. Cracks, crevices and cavities should be avoided through appropriate installation and maintenance. Boxed-in compartments such as bases to bench units, boxed-in water heaters and other inaccessible spaces generally should not be used unless they are vermin proofed (e.g. by filling cavities using expandable foam).

The requirement must be complied with only to the extent that it is practicable, appropriate to the type of premises and risks posed to food safety. For example, it would be impracticable and probably unnecessary for a stall set up for a short event to fill all cavities and crevices.

Appendix 7 contains further information on pest management.

12(3) The food contact surfaces of fixtures, fittings and equipment must be:

This requirement includes any surface that comes into direct contact with unprotected food and is related to Standard 3.2.2 clause 20(1). Examples are processing equipment, chopping boards and other preparation surfaces, eating and drinking utensils and storage containers.

(a) able to be easily and effectively cleaned and, if necessary, sanitised if there is a likelihood that they will cause food contamination;

Where possible, food contact surfaces should be impervious, smooth and free of cracks, chips, ridges or grooves that could impair cleaning (and so pose a risk of harbouring pathogenic microorganisms and transferring them to food). Some factors to consider are listed below.

- It is recognised that some surfaces will not be able to be completely smooth, free from ridges and grooves because of their required function (e.g. graters, shredders, non-slip conveyor belts).
- Unsealed surfaces of timber, earthenware and stone may not be able to be easily and effectively cleaned and sanitised, and so generally are not recommended for purposes such as preparing or serving food. However, food contact surfaces made of hard, close-grained wood that is well maintained is generally suitable. Any surfaces could be used for display purposes if the food on display is not for consumption (in this case there is no likelihood of the surface causing food contamination).
- Food packaging and storage containers should not be reused unless they have surfaces that are designed for, and capable of, being cleaned and (if necessary) sanitised to prevent cross-contamination between uses. See also Standard 3.2.2 clause 9.

Further information on cleaning and sanitising, including procedures, is provided in Appendix 6.

(b) unable to absorb grease, food particles and water if there is a likelihood that they will cause food contamination; and

The surfaces must be impervious to grease, food particles and water if there is a likelihood that they will absorb material that could contaminate food they are in contact with. For example, unglazed earthenware and unsealed timber generally should not be used for preparing or serving food (see paragraph (a) above).

The subclause does not apply if the surface will not contaminate the food it is in contact with. For example, porous paper used for filtering coffee and hard timber tables in sound condition used for rolling bread dough would generally be considered unlikely to cause food contamination.

(c) made of material that will not contaminate food.

Materials used for food contact surfaces must not contaminate food. Potential sources of contamination include chemicals migrating into the food from glazes, plastics or metals, or fragments of material transferring to food. Some examples include:

- lead in ceramic, china and crystal utensils, solders, flux and pewter
- copper and galvanised metal in contact with acidic foods
- plastics that are not sufficiently heat resistant to withstand the cooking process (e.g. frying in hot oil)
- plastic packaging that is not food-grade material
- wood splinters from unsealed timber serving baskets
- glass shards from chipped glassware.

See also Standard 3.2.2 clause 9.

12(4) Eating and drinking utensils must be able to be easily and effectively cleaned and sanitised.

Eating and drinking utensils may transfer pathogens directly into people's mouths and so cause illness to people using them. To ensure that the business uses eating and drinking utensils that will withstand cleaning and sanitising processes, this specific requirement has been included. See also Standard 3.2.2 clause 20, which requires eating and drinking utensils to be in a clean and sanitary condition before each use. Appendix 6 contains further information on cleaning and sanitising.

13 Connections for specific fixtures, fittings and equipment

The intended outcomes are that:

- fittings, fixtures and equipment are connected to an appropriate water supply and drainage system if they are designed to do so
- dishwashers, glasswashers and similar equipment used to sanitise are only used to sanitise when the water has reached the sanitising temperature.

13(1) Fixtures, fittings and equipment that use water for food handling or other activities and are designed to be connected to a water supply must be connected to an adequate supply of water.

'Adequate supply of water' is defined in clause 1. All fixtures, fittings and equipment that are designed to be connected to a continuous water supply must be plumbed in (e.g. to a mains supply or tank water). General examples include sinks, basins, dishwashers, glasswashers, hose connections and ice-making machines. However, it does not include equipment that is not designed to be connected to a water supply (e.g. bowls used for washing utensils). Portable/ stand-alone equipment that uses water (e.g. portable hand washing stations) is designed to be connected to its own water supply.

This requirement is intended to:

- ensure a supply of water at appropriate volume, temperature and pressure for water-using activities (see also clause 4)
- prevent food contamination from the use of unsuitable (non-potable) water supplies.

Example**Inadequate water connections for a sink**

A small café has a kitchen sink that is connected to the mains cold water supply but there is no hot water connected. Food handlers need to boil the jug whenever warm water is needed to wash utensils and pour the water into the sink.

The business is advised to connect the sink to piped hot water because:

- the sink is used for washing utensils throughout the day and so needs a constant warm water supply (cold water will not effectively wash utensils)
- the sink is designed to be connected to a hot water supply.

This requirement applies to all food premises. See Appendix 9 for collated information on temporary and mobile premises.

13(2) Fixtures, fittings and equipment that are designed to be connected to a sewage and waste water disposal system and discharge sewage or waste water must be connected to a sewage and waste water disposal system.

All fixtures, fittings and equipment that are both designed to be connected to a drainage system and discharge sewage or waste water, must be connected to the food premises' drainage system. This system will be the business's disposal system as per clause 5 and may or may not be mains sewerage. Note that other legislation may require that waste water does not run into storm water drains.

It is recognised that some equipment that discharges waste water is not intended to be connected to the drainage system. For example, some food processing equipment discharges cooking water to waste channels in the floor rather than having a direct connection to a drain.

Mobile and temporary premises

For mobile premises fixtures, fittings and equipment that produce waste water must be directly connected to a sewer or a tank of adequate size as per clause 5. The subclause does not apply to mobile premises that do not produce waste water (e.g. vehicles selling pre-packaged foods such as canned drinks).

Stalls and other temporary premises are unlikely to use equipment that is designed to be connected to the drain (they are likely to use bowls or other portable equipment for washing).

See also Appendix 9 for collated information.

13(3) Automatic equipment that uses water to sanitise utensils or other equipment must only operate for the purposes of sanitation when the water is at a temperature that will sanitise the utensils or equipment.

Standard 3.2.2 requires eating and drinking utensils, and food contact surfaces that could contaminate the food they are in contact with, to be sanitised. This subclause requires that automatic equipment (such as glasswashers and dishwashers) used to sanitise with hot water only operates for that purpose when the water is at the sanitising temperature.

It is not possible to tell whether clean utensils and surfaces have been effectively sanitised by automatic equipment by simply looking at them (as pathogens are not visible to the naked eye). So, it is important that equipment that is designed and used for sanitation actually does sanitise.

For further discussion on sanitising see Standard 3.2.2 (clause 20) and Appendix 6 (including some discussion on domestic and commercial dishwashers).

Businesses should contact the manufacturers of machines they intend to use for sanitising, if they need to establish that the machine's time and temperature cycles will in fact sanitise.

Sanitising correctly with a dishwasher

Example

A continuous dishwasher is used by a food business to sanitise eating and drinking utensils. The dishwasher manufacturer's instructions specify that the machine sanitises by using a program that washes at 60°C and rinses at 82°C for set times.

The dishwasher is fitted with a temperature-indicator light that turns on when the optimum temperature is reached. The machine can still be operated when this light is off, although using it this way could mean that the utensils do not get hot enough to be properly sanitised. The machine should be adjusted so that it cannot operate with the light off, or to otherwise ensure that staff do not use the machine for sanitising utensils unless the temperature light is on.

14 Hand washing facilities

The intended outcome is that designated, appropriate hand washing facilities are available and accessible for food handlers.

Thorough washing and drying of hands is a critical factor in preventing foodborne illness. Standard 3.2.2 specifies when food handlers must wash and dry their hands and requires them to use only the facilities provided and maintained by the business for hand washing. Clause 14 below sets out requirements on the design and location of hand washing facilities.

14(1) Subject to subclause (4), food premises must have hand washing facilities that are located where they can be easily accessed by food handlers:

‘Easily accessed’

The requirement for accessibility is to enable and encourage food handlers to frequently use hand washing facilities. Factors to consider when determining whether facilities can be easily accessed include:

- The location of hand washing facilities in any particular area should have regard to the layout of the area and the needs of the people working there (e.g. for washing, cleaning and sanitising activities). Paragraphs (a) and (b) specify areas that must have hand washing facilities.
- Basins or other hand washing facilities located behind or obstructed by other equipment, walls, partitions or doorways are not likely to be accessible.
- Facilities located above or under benches may be too low or too high to be accessible.

(a) within areas where food handlers work if their hands are likely to be a source of contamination of food; and

This requirement is to ensure that there are hand washing facilities wherever unprotected food or food contact surfaces are handled, such as in food preparation areas.

Example

Relocating a basin to avoid food contamination issues

A café proprietor is refurbishing the kitchen of a café. The kitchen currently has a hand basin behind a door so it is difficult to access, especially when the door is open. Because of this, staff prefer to use the food preparation sink to wash their hands. This presents cross-contamination risks, because pathogens and other contaminants from the food handlers’ hands could contaminate the sink area and transfer to food being washed.

The proprietor is able to relocate the basin so it is nearer to the food preparation benches and easier to access. This will encourage staff to frequently use the hand basin and leave the food preparation sink for its proper use, preventing cross-contamination issues.

Within areas where food handlers work

The facilities must be close enough to food handlers so that they are not discouraged from washing their hands by having to walk outside the food handling area. A specific distance is not prescribed, as it may vary depending on the size of the area and the food handlers’ activities. For example, the distance to the nearest hand basin in a restaurant kitchen is likely to be less than in a large food production factory or in a dry food packaging area where water use is restricted.

Hands likely to contaminate food

‘Contamination’ is defined in Standard 3.1.1. The likelihood of a food handler’s hands contaminating food depends on the food handler’s activities. For example, if they are handling unprotected food or clean and sanitised food contact surfaces, they are likely to be a source of food contamination and so hand wash facilities are required. If only handling fully packaged food, the risk of contaminating food is minimal, so hand wash facilities may not be required.

Examples

Hand washing facilities*In multiple areas*

A supermarket has a delicatessen, butchery, seafood area and bakery where unprotected food is handled. The food handlers in each of these areas could be a source of food contamination, so hand washing facilities should be available in each area.

Not needed in certain situations

In a warehouse cartons of packaged foods are stored and moved from one area to another by hand and machine. The hands of staff working here are not a source of contamination of food since they will never touch the food and so no hand washing facilities are necessary in the warehouse.

Number of hand wash basins

The number of basins is not prescribed, but the intention is that food handlers should not be discouraged from washing hands because they have to wait or travel too far to wash their hands.

At least one hand basin must be provided in areas where unprotected food is handled, as outlined above. Whether additional basins are needed will depend on the size, layout and use of the area and the number of food handlers.

Example

Placement of hand wash basins to prevent cross contamination

A kitchen is used to prepare meals and sandwiches for catering. Although there are no dividing walls there are three distinct food handling operations taking place. In one area sandwiches are made and meals portioned into containers, in another area raw ingredients are prepared and cooked, and in the third area returned utensils are washed.

The business installs three wash basins that are each visible from, and convenient to, one of the work areas. This is to limit cross-contamination between raw foods in the preparation area and ready-to-eat foods in the portioning area. It also limits cross-contamination from soiled eating and drinking utensils to the hands of staff handling ready-to-eat foods.

(b) if there are toilets on the food premises — immediately adjacent to the toilet or toilet cubicles.

To prevent the transfer of pathogens from toilet areas to food, food handlers are required to wash their hands immediately after using the toilet (under Standard 3.2.2 clause 15). To enable this, hand washing facilities must be immediately adjacent to any toilets (or cubicles) that are part of the food premises. A basin in the toilet cubicle or immediately outside the cubicle would generally be suitable.

Businesses using shared public or staff toilets (e.g. in shopping malls, at fairs) are not specifically required under these standards to ensure hand basins are available at these public facilities. However, note that businesses must ensure 'adequate' toilets are available for food handlers, under clause 16. Other legislation (e.g. building laws) may also apply.

It is good practice to provide a hand basin at the staff entrance to the food preparation area, because it will encourage and enable staff to thoroughly wash their hands before resuming work and before there are opportunities to contaminate food or surfaces.

14(2) Subject to the following subclauses, hand washing facilities must be:

(a) permanent fixtures;

The facilities have to be permanent fixtures, unless the premises are temporary or a specific exemption has been granted (under subclause (4) and (5)).

(b) connected to, or otherwise provided with, a supply of warm running potable water;

The hand wash facilities must have warm potable water that runs from a single outlet. This could be achieved by, for example:

- an instantaneous water heater preset to provide warm water
- a thermostat-controlled water heater
- separate hot and cold water supplies delivered through a single mixer tap
- water from a single outlet at a temperature controlled by a thermostatic mixing valve.

Note that hand washing equipment designed to be connected to a water supply must be connected to an adequate supply of water under clause 13.

Hands-free taps and automatically timed taps

Hands-free taps or single-lever mixer taps are increasingly being used and help prevent contamination transferring from one person's hands to another's, because the tap is less likely to be touched with dirty hands.

The duration of water flow is not prescribed, but running water should be available for long enough to thoroughly wash hands. This may mean that automatic taps need to be activated more than once to complete hand wetting, lathering and rinsing steps.

Examples

Sinks not set up adequately for hand washing

1. A hand basin at a café is connected to the cold water supply only. As is, this set-up does not provide warm running water for food handlers to effectively wash their hands.

The basin should be connected to a hot water supply and a single mixer tap installed (if not already fitted), or another set-up provided for warm running potable water.

2. The hand wash sink in a mobile food business has separate hot and cold spouts, connected to a hot and cold water supply. The sink is filled with hot and cold water to provide warm water for hand washing. This set-up does not provide warm **running** water required for hand washing. The business could for instance replace the separate taps with a single mixer tap or (if appropriate) adjust the hot water temperature to provide warm running water.

(c) of a size that allows easy and effective hand washing; and

A size is not prescribed, but hand washing facilities must be large enough (including the distance under the tap) for food handlers to easily move their hands and arms about under the running water to effectively wash them. If sinks are too small, there is a risk that hands and arms will not be washed properly or that dirt and pathogens from hands will splash and contaminate surrounding areas.

If automatic units are used for heating water, or dispensing water and soap, they should be installed in a way that provides room for food handlers to effectively wash their hands and arms under the running water.

(d) clearly designated for the sole purpose of washing hands, arms and face.

The facilities must be identified in a way that shows they are only to be used for washing hands, arms and face.

The business might identify a sink, for example, by:

- installing a conventional hand basin (easily recognised as a hand wash basin) and providing soap and drying facilities only at that basin (or basins)
- putting up a sign that states 'For hand washing only'
- putting up a picture of hands being washed
- using signage that says the sink is not to be used for food and utensil washing.

Double bowl sinks

If one compartment of a double bowl sink is designated for hand washing, the sign must clearly indicate which compartment. This use of one compartment would generally only be suitable if the business did not need both compartments for its food handling activities or if other sinks are available for food preparation, cleaning and sanitising (see example below).

Using one half of a double sink for hand washing**Example**

A café serving only pre-prepared ready-to-eat food (cakes, pies, wraps) and drinks uses a dishwasher to wash and sanitise all eating and drinking utensils and other small pieces of equipment. The business has a double bowl sink, with one compartment designated as the hand basin. A sign above this half of the sink states 'Hand washing only — no other uses' and soap and paper towels are located on a shelf above the sink. The other half of the sink is used for general purposes such as washing bench tops and pre-rinsing items for the dishwasher.

14(3) Paragraph (2)(a) does not apply to temporary food premises.

Hand washing facilities at temporary premises do not have to be permanently fixed in place. Because temporary premises are generally dismantled after an event, having permanent fixtures would be impractical. Examples of alternative facilities that could be used include water containers with taps and commercially available portable hand wash stands.

Mobile food premises must have permanent hand washing facilities fitted.

14(4) With the approval in writing of the appropriate enforcement agency, food premises that are specified in the approval do not have to comply with any requirement of this clause that is also specified in the approval.

14(5) Only food premises that are used principally as a private dwelling or are temporary food premises may be specified in an approval for the purposes of subsection (4).

Temporary premises and premises used mainly as private dwellings may be exempted from the requirements of clause 14 if the food business has written approval from the enforcement agency. The approval must specify which of the requirements do not have to be met.

Exemptions for domestic premises

When considering whether to approve an exemption to a requirement for hand washing facilities, enforcement agencies should consider risks to food safety, taking into account the type and scale of the business's activities (all food handling, and cleaning and sanitising operations).

For example, if only one or two people are involved with food handling activities at one time or only food that is not potentially hazardous is handled, the food safety risks may be relatively low. Arrangements for hand washing that may be suitable in this case could include:

- a hand basin adjacent to the kitchen or easily accessible from the kitchen (e.g. in a laundry or bathroom nearby) is available for hand washing
- the kitchen has a double bowl sink with one compartment designated for hand washing only
- the sink can be effectively used for different activities at different times (and sanitised between uses as necessary) to enable hand washing when it is needed.

However, if for example multiple people are engaged in food handling activities within the kitchen and they are handling both raw and ready-to-eat food, the food safety risks resulting from cross-contamination from hands may be considered higher. In this case a designated hand wash basin in the kitchen may be appropriate.

An exemption from having a basin immediately adjacent to the toilet or toilet cubicles may be sought by home-based businesses. The enforcement authority may grant an exemption if they are satisfied that food handlers can use other hand washing facilities without compromising food safety.

Temporary premises

Enforcement agencies considering approval for an exemption to a requirement for hand washing facilities should consider the risks to food safety and the business's temporary operations. For example, for temporary premises handling only low-risk packaged food (e.g. market stalls selling packaged drinks and snacks), or operating where water is limited or unavailable (e.g. outback camping tours) it may be considered adequate to use hand washing alternatives such as sanitising gels or wipes.

Other legislation

Other legislation (e.g. in building codes) related to hand basins may apply to food businesses.

Division 5 — Miscellaneous

15 Storage facilities

The intended outcome is that adequate storage is available for items likely to be a source of food contamination and that stored items are unlikely to contaminate food or food contact surfaces.

15(1) Food premises must have adequate storage facilities for the storage of items that are likely to be the source of contamination of food, including chemicals, clothing and personal belongings.

The requirement applies to the storage of any items that could contaminate food.

Clothing and personal belongings

Outdoor clothing, soiled uniforms, handbags and other personal belongings are likely to contain foreign material such as hair, dirt and microorganisms that could contaminate food, surfaces and equipment.

The business must provide staff with space to store their belongings, so they are not put on bench tops or other places where they could contaminate food.

What is 'adequate' storage will depend on the operations of the business and how many staff need storage. For example, in a small business a designated cupboard for personal items may be suitable, but if staff have to change clothes or uniforms to work, a dedicated change room with lockers or cupboards may be necessary.

Chemicals and equipment for non-food use

Chemicals used for cleaning and pest control are usually toxic if ingested and so contamination of food and food contact surfaces must be avoided. Similarly, equipment used for cleaning or pest control is likely to have chemicals, microorganisms, dirt, etc. on it that could make food unsafe or unsuitable.

The business must provide facilities for storing these chemicals and equipment to prevent them contaminating food. Ideally, the facilities would be a separate and secure designated area such as a storeroom or cupboard. However, in some circumstances separate enclosed storage may not be needed. For example, if chemicals are in unopened, sealed containers and do not emit odours, then a part of a storage area for packaged dry goods or unused equipment may be adequate.

Other items

The business must provide adequate storage (e.g. a dedicated room, cupboard or drawer) for the following items, if they are kept on the premises:

- office equipment (laptops, pens, paperclips, calculators, etc.) and paperwork
- maintenance equipment (tools, screws, paint, etc.)
- dirty linen, tablecloths, tea towels, aprons, etc.

15(2) Storage facilities must be located where there is no likelihood of stored items contaminating food or food contact surfaces.

To reduce the risk that contaminants from stored items will contaminate food, it is recommended that storage facilities are located:

- away from areas where food or utensils are stored, prepared or displayed — if this is not possible, the storage should be provided in a cupboard, locker or other designated area (preferably enclosed)
- in a place where small items (e.g. paperclips) are unlikely to fall into food or food packaging/ containers — for example, shelving above food preparation and food packaging benches is unlikely to be suitable.

Other legislation

Other legislation (e.g. in building codes) related to storage facilities may also apply to food businesses.

16 Toilet facilities

The intended outcome is that toilet facilities for food handlers are available either on the premises or nearby.

16 A food business must ensure that adequate toilets are available for the use of food handlers working for the food business**‘Adequate toilets’**

Toilets should be located, designed and maintained to enable and encourage food handlers to use them whenever they need to. The term ‘adequate toilets’ in this context includes the following considerations, whether or not the toilets are on the food premises or elsewhere:

- accessible at all times that food handlers are working
- clean and operating properly
- with suitable hand washing and hand drying facilities (as per clause 14(b))
- adequately lit and ventilated
- in enough numbers to be used without unreasonable waiting
- located to prevent contamination of food, for example:
 - » so there is no likelihood that droplet-borne contamination will compromise food safety
 - » separated from areas where open food is handled, displayed or stored, for example by an intervening ventilated space with self-closing doors, or by self-closing doors and a mechanical exhaust system
 - » access to customer or public toilets should not be through areas where open food is handled, displayed or stored (other than customer areas such as dining areas)
- located within a reasonable distance from the food handlers’ work area, so that food handlers can readily get to the toilet in the time available for breaks, etc.

Toilets that are not part of the food premises

If a food business is using toilets that are not part of the food premises, they must still ensure these facilities are adequate. For example, if the toilets are in a shopping mall under the control of the mall's management and are not kept clean, the food business should ensure action is taken so the toilets are clean, or provide access to other toilets. Otherwise there is a risk that the business's food handlers will transfer contamination from the unclean toilets to food.

Mobile premises

The clause applies to mobile premises. The proprietor of the mobile business should ensure that toilet facilities are available to the business during its operating hours. Facilities could include, for example, toilets at a service station, another business, a residential property or a portaloos on site.

See Appendix 9 for collated information on mobile premises.

Example

Mobile businesses using nearby toilets

A mobile seafood vendor parks his vehicle in a service station driveway to sell seafood on weekends. He obtains permission from the service station proprietor to use the toilets at the service station, checking the facilities will be open for the hours he will be operating.

17 Food transport vehicles

The intended outcomes are that:

- vehicles used to transport food are designed and constructed to protect the food
- the parts of the vehicle used to transport food can be effectively cleaned
- the surfaces in contact with food can be sanitised if necessary.

This clause applies to vehicles used to transport food whether they are self-propelled or not and whether they are used on land, sea or air. Vehicles used to transport food include shopping trolleys (under Standard 3.1.1).

The clause does not apply to vehicles used for preparing or selling food; they are mobile food premises and must comply with the requirements for food premises.

17(1) Vehicles used to transport food must be designed and constructed to protect food if there is a likelihood of food being contaminated during transport.

The intent is that the design and construction of food transport vehicles protects food from contamination. Note that Standard 3.2.2 clause 10 requires food to be protected during transport.

Possible sources of contamination in vehicles transporting food that need to be considered by the business include:

- the vehicle itself, such as flaking paint, dripping water from fan units and grease from overhead rails — note that Standard 3.2.2 clause 21 requires food transport vehicles to be maintained in a good state of repair
- environmental contaminants such as airborne dust, dirt, vehicle fumes and rain — food should ideally be enclosed either in suitable packaging, containers or within the vehicle itself
- drivers and passengers — the food compartment should generally be separate from the driver's or passengers' areas to prevent food being in contact with people's body parts, droplets from coughs or sneezes, or personal items
- chemicals or other products (including food) that may make the food unsafe or unsuitable by giving off odours or mixing directly with the food — for example, cooked and raw foods transported together, or cleaning chemicals and food transported together should be adequately separated or packaged so there is no risk of spillage, direct contact or contamination by fumes.

Designing and constructing the vehicle to include partitions, separate compartments, shelves, etc. will assist in segregating loads and preventing cross-contamination. Completely enclosing food in suitable containers during transport may be sufficient to protect the food from contamination (e.g. home-delivered pizzas enclosed in new takeaway boxes and inside insulated bags would be suitable to transport this food in personal vehicles).

17(2) Parts of vehicles used to transport food must be designed and constructed so that they are able to be effectively cleaned.

This requirement only applies to the area in the vehicle where the food is placed. For example, it would not generally apply to the driver's compartment, passenger areas or, if the food is placed in a specific compartment of the vehicle, to the rest of the holding area of the vehicle.

The surfaces in the vehicle parts need to be able to be cleaned to a level appropriate to the food being transported (see example below).

17(3) Food contact surfaces in parts of vehicles used to transport food must be designed and constructed to be effectively cleaned and, if necessary, sanitised.

If the food being transported is unpackaged and in direct contact with the interior surfaces of the vehicle (see example 3 below), the surfaces must be capable of withstanding sanitising by heat or chemicals.

Examples

Examples of vehicle surfaces for effective cleaning

1. A truck used to transport raw unwashed fruit and vegetables is likely to need basic cleaning that removes soil and pests. So, a metal floor and metal or canvas sides would likely be suitable surfaces that enable effective cleaning.
2. A truck carrying unpackaged foods such as meat carcasses would need to be cleaned to a higher standard to remove dirt as well as microbiological contamination. Because of this, it should have metal or other impervious interior surfaces that withstand repeated contact with hot water and cleaning detergents.
3. A tanker transporting milk has direct contact between the tanker lining and the milk so the surface will need the highest standard of cleaning as well as sanitising to prevent any contamination. The food contact surface of this vehicle should be stainless steel or equivalent material that can withstand any heat or chemical treatments used to clean and sanitise (requirements for dairy transport businesses are specified under Standard 4.2.4 — Primary Production and Processing Standard for Dairy Products).

Other legislation related to food transport vehicles may also apply; for example, laws applicable to meat transport may refer to AS 4696:2007 *Australian Standard for the Hygienic Production and Transportation of Meat for Human Consumption*.