

Standard 3.2.3

Food Premises and Equipment

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(Australia only)

Purpose

This Standard sets out requirements for food premises and equipment that, if complied with, will facilitate compliance by food businesses with the food safety requirements of Standard 3.2.2 (Food Safety Practices and General Requirements).

The objective of this Standard is to ensure that, where possible, the layout of the premises minimises opportunities for food contamination. Food businesses are required to ensure that their food premises, fixtures, fittings, equipment and transport vehicles are designed and constructed to be cleaned and, where necessary, sanitised. Businesses must ensure that the premises are provided with the necessary services of water, waste disposal, light, ventilation, cleaning and personal hygiene facilities, storage space and access to toilets.

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Division 1 — Interpretation and application

1 Interpretation

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;

potable water means water that is acceptable for human consumption;

Editorial note:

The Australian Drinking Water Guidelines 1996, as amended, of the National Health and Medical Research Council and the Agriculture and Resource Management Council of Australia and of New Zealand (ARMCANZ) may be used by food businesses and authorised officers for guidance concerning what constitutes acceptable water.

sanitise means to apply heat or chemicals, heat and chemicals, or other processes, to a surface so that the number of micro-organisms 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.

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

2 Application of this Standard

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

Editorial note:

Food businesses that operate from a farm, vineyard, orchard or aquaculture facility should refer to the definition of 'food business' in Standard 3.1.1 to determine if they must comply with this Standard. If they are involved in the substantial transformation of food or the sale or service of food directly to the public then they must comply with this Standard.

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

Editorial note:

An Australian Standard for the design, construction and fitout of Food Premises is being developed by Standards Australia. The Australian Standard will provide guidance to food businesses and authorised officers relating to the design, construction and fit-out of food premises. The Australian Building Codes Board is considering including specific requirements for food premises in the Building Code of Australia.

Division 2 — Design and construction of food premises

3 General requirements

The design and construction of food premises must:

- (a) be appropriate for the activities for which the premises are used;
- (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;
- (c) permit the food premises to be effectively cleaned and, if necessary, sanitised; and
- (d) to the extent that is practicable:
 - (i) exclude dirt, dust, fumes, smoke and other contaminants;
 - (ii) not permit the entry of pests; and
 - (iii) not provide harbourage for pests.

4 Water supply

- (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.

Editorial note: 'adequate supply of water' is defined in Clause 1.

- (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.
- (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.

5 Sewage and waste water disposal

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

- (a) will effectively dispose of all sewage and waste water; and
- (b) is constructed and located so that there is no likelihood of the sewage and waste water polluting the water supply or contaminating food.

6 Storage of garbage and recyclable matter

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

- (a) adequately contain the volume and type of garbage and recyclable matter on the food premises;
- (b) enclose the garbage or recyclable matter, if this is necessary to keep pests and animals away from it; and
- (c) are designed and constructed so that they may be easily and effectively cleaned.

7 Ventilation

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

8 Lighting

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

Division 3 — Floors, walls and ceilings

9 Application

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.

10 Floors

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

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

- (a) be able to be effectively cleaned;
- (b) be unable to absorb grease, food particles or water;

- (c) be laid so that there is no ponding of water; and
 - (d) to the extent that is practicable, be unable to provide harbourage for pests.
- (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
 - (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.

11 Walls and ceilings

- (1) Walls and ceilings must be designed and constructed in a way that is appropriate for the activities conducted on the food premises.
- (2) Walls and ceilings must be provided where they are necessary to protect food from contamination.
- (3) Walls and ceilings provided in accordance with subclause (2) must be:
- (a) sealed to prevent the entry of dirt, dust and pests;
 - (b) unable to absorb grease, food particles or water; and
 - (c) able to be easily and effectively cleaned.
- (4) Walls and ceilings must:
- (a) be able to be effectively cleaned; and
 - (b) to the extent that is practicable, be unable to provide harbourage for pests.

Division 4 — Fixtures, fittings and equipment

12 General requirements

- (1) Fixtures, fittings and equipment must be:
- (a) adequate for the production of safe and suitable food; and
 - (b) fit for their intended use.
- (2) Fixtures and fittings must be designed, constructed, located and installed, and equipment must be designed, constructed, located and, if necessary, installed, so that:
- (a) there is no likelihood that they will cause food contamination;
 - (b) they are able to be easily and effectively cleaned;
 - (c) adjacent floors, walls, ceilings and other surfaces are able to be easily and effectively cleaned; and

- (d) to the extent that is practicable, they do not provide harbourage for pests.
- (3) The food contact surfaces of fixtures, fittings and equipment must be:
- (a) able to be easily and effectively cleaned and, if necessary, sanitised if there is a likelihood that they will cause food contamination;
 - (b) unable to absorb grease, food particles and water if there is a likelihood that they will cause food contamination; and
 - (c) made of material that will not contaminate food.
- (4) Eating and drinking utensils must be able to be easily and effectively cleaned and sanitised.

13 Connections for specific fixtures, fittings and equipment

- (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.

Editorial note: 'adequate supply of water' is defined in Clause 1.

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

14 Hand washing facilities

- (1) Subject to subclause (4), food premises must have hand washing facilities that are located where they can be easily accessed by food handlers:
- (a) within areas where food handlers work if their hands are likely to be a source of contamination of food; and
 - (b) if there are toilets on the food premises — immediately adjacent to the toilets or toilet cubicles.
- (2) Subject to the following subclauses, hand washing facilities must be:
- (a) permanent fixtures;
 - (b) connected to, or otherwise provided with, a supply of warm running potable water;
 - (c) of a size that allows easy and effective hand washing; and
 - (d) clearly designated for the sole purpose of washing hands, arms and face.
- (3) Paragraph (2)(a) does not apply to temporary food premises.

(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.

(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).

Division 5 — Miscellaneous

15 Storage facilities

(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.

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

16 Toilet facilities

A food business must ensure that adequate toilets are available for the use of food handlers working for the food business.

17 Food transport vehicles

(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.

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

(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.

Purpose

Standard 3.2.3 sets out requirements for food premises, fixtures, fittings, equipment and food transport vehicles. If food businesses comply with these requirements they will find it easier to meet the food safety requirements of Standard 3.2.2 *Food Safety Practices and General Requirements*.

Application of the standard to different types of food premises

The standard applies to the premises, equipment and food transport vehicles used by food businesses. The definition of food premises is broad and includes existing premises, new premises, domestic premises used for commercial purposes, temporary premises, mobile premises, vehicles and equipment. The obligations on food businesses are the same irrespective of the type of premises they use except where there are specific exemptions for specified premises.

There is no list of specifications that could be applied to the design and construction of food premises that will produce the 'ideal' premises to meet these standards. Food operations vary and the requirements for adequate and appropriate fixtures, fittings and equipment for those operations will differ. The 'ideal' fitout is also greatly affected by cost, suitability of the structure and other factors. Therefore, it is important that the evaluation of any premises takes into account the nature of the food operations and the food safety outcomes that are intended by the standard. Where the standard is not complied with, it may be possible to change the food operation to overcome defects in the premises rather than change the premises. Meeting the outcomes of the standard for food safety practices is the main priority.

This is briefly explained for the different types of premises below.

1 Existing premises

The design and construction of existing premises should be assessed for compliance with the outcomes of each requirement of this standard.

Existing food premises have been designed, constructed and/or altered under previous hygiene regulations, building laws and possibly local design and construction requirements. In many cases these requirements were prescriptive and required food businesses to design and build the premises and to install fittings and equipment to meet specified requirements. It may not be possible, due to space restrictions, costs, etc. to alter premises to meet modern concepts of ideal design and fitout. For example, it is generally recommended that coving is installed at the wall and floor junction of food processing areas to aid effective cleaning. If a food preparation area that does not have coving is being

kept clean and meets the requirements of the standard, there may be no advantage, only costs to the business, to legally require that coving.

2 New premises

There are greater opportunities to design, construct and fit out food premises to facilitate food safety practices if the requirements of this standard can be incorporated at the design stage.

Business should be encouraged, or may be required under enforcement agency registration systems, to comply with design and fitout requirements before opening the premises. It may not be easy to be specific on the fitout of new buildings when the exact nature of the food business that will operate in the premises is not known. However, the fitout should include as many features as possible that will enable premises, vehicles and equipment to be easily and effectively cleaned and meet other food safety objectives.

There are cost advantages to the business in installing features to assist food safety practices at the time of construction. Using the example of coving: coving integral to the junction of floor and wall, and installed as part of the fitout, is likely to be durable if installed correctly, and to cost no more than floor and walls installed without coving.

However, the design and fitout must take into account the food operations proposed for the premises. Businesses should not incur unnecessary expense for features that are not necessary. For example, if the food operations do not include wet cleaning of floors and the business does not propose to install floor wastes, then floor wastes should not be legally required by the enforcement agency. The authority could advise that installing floor wastes would allow the business to later change its cleaning procedures. However, if the business chooses not to act on the advice and later changes its cleaning operations, the business may then have to alter the premises.

3 Temporary premises

Temporary premises are structures set up for a specific, occasional event such as a fete or fair where the cost of providing premises to a permanent standard is unnecessary for food safety. There are specific exemptions from some of the requirements of this standard for temporary food premises based on practicalities. The most important part of temporary food operations is that the food safety practices in Standard 3.2.2 are met for the duration of the business's operation. Each type of event will have to be assessed separately.

4 Mobile premises

Mobile premises are not temporary premises. The term is used in this guide to mean permanent food premises that can be moved to new locations and might return to a base overnight. Their design, construction and fitout are usually restricted by space, weight and having to be self-sufficient in water supplies and waste disposal. A practical approach to applying this standard is appropriate.

5 Domestic premises used for commercial food handling

Domestic premises are used for commercial food operations such as bed and breakfast, farm home-stay, preparation of food for sales at markets and child care.

There are specific exemptions from some of the requirements of this standard for domestic premises based on practicalities.

Kitchens in domestic premises are usually not expected to have to withstand the same amount of use and cleaning as commercial premises and are generally not designed to commercial-standard specifications. Features such as kick plates and false bases to benches, and domestic model dishwashers are usual in domestic kitchens.

It is suggested that, if an enforcement authority seeks any changes in domestic premises, the changes relate to fixing food safety problems in the premises rather than non-compliance with design and fitout standards.

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. If a term has not been defined within this clause or Standard 3.1.1, reference should be made to the most recent edition of *The Macquarie Dictionary*, published by The Macquarie Library Pty Ltd.

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 clause 4 **Water supply** and clause 13 **Connections** for specific fixtures, fittings and equipment.

potable water means water that is acceptable for human consumption;

In cases where there is doubt as to the acceptability of a particular water supply, reference should be made to the *Australian Drinking Water Guidelines 1996* as updated. These guidelines replace the National Health and Medical Research Council Standard for Drinking Water 1987. For further information on these Guidelines see the Bibliography.

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 micro-organisms 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.

It is an offence for food businesses to use food premises and food transport vehicles, and equipment, fixtures and fittings in or on those premises and vehicles, that do not comply with this standard.

An editorial note has been included in the standard to advise that Standards Australia is developing an Australian Standard to provide the food industry, the construction industry and governments across Australia with uniform criteria for the hygienic design, construction and fitout of food premises. Contact Standards Australia for further information.

The editorial note also advises that the Australian Building Codes Board is considering including specific requirements for food premises in the Building Code of Australia. These would apply to new food premises and alterations to premises that fall within the scope of the Building Code. Contact the Australian Building Codes Board for information.

Division 2 — Design and construction of food premises

3 General requirements

This clause intends food premises to be 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; and
- 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;

Appropriate for use

Described below are some of the factors that help make premises suitable for handling food. The list is not exhaustive and it is important that assessment takes into account the particular food operations taking place on the premises.

Layout

Food contamination can be minimised by physically separating the areas where raw products are handled from the areas where the final product is ready for dispatch or service. Similarly, wash up areas and staff amenity areas should be separated from areas where food is prepared.

Layout of the premises can also affect the ease of keeping premises clean. For example, it helps cleaners if storage rooms for cleaning equipment are close to the areas where the equipment is used.

Staff and visitors may bring contamination into food handling areas if access doors are badly placed. Where possible, and where important to prevent food contamination, access to staff entrances, amenity rooms, change rooms and personal hygiene facilities should be located so that staff do not have to cross food preparation areas.

Location of equipment and facilities

Equipment and facilities are usually located where staff can readily use them. However, there may be cases where equipment cannot be located conveniently, particularly in premises set up for temporary events. For example, mobile coolrooms may have to be located some distance from stalls at a fair. Whether this type of situation is acceptable will depend on its likely impact on food safety. In the example on page 134, the question is whether food would be left at room temperature because staff do not have time to walk to the coolroom. Staff may make the effort to cope with unsatisfactory arrangements in the short term but problems may arise over longer term use of the premises.

Materials

Materials used to construct premises must be appropriate for food operations. They must not allow the migration of deleterious substances or impart colours, fumes or tastes to food. The materials should be durable under the conditions they are being used for and able to withstand cleaning chemicals.

Whether the premises are permanent or temporary is likely to affect the type of materials used in construction. For example, canvas would be appropriate for a stall for a one-day event but is inappropriate for a permanent structure.

Standard of workmanship

The standard of construction of the premises must match the use of the premises. For example, a stall used once a week at a market may be built to a lower standard of workmanship than permanent premises.

Standards of workmanship must be high in food preparation premises. For example, rough grouting between tiles, tiles laid unevenly or roughly finished rendering are not acceptable.

Location of air intakes and exhaust outlets

Clause 7 **Ventilation** requires businesses to ensure that premises have sufficient natural or mechanical ventilation. Although the clause does not include obligations for siting air intakes and exhaust outlets, the business should consider, under the general requirements, whether the intake air or the exhaust air will affect food safety or the suitability of another part of the premises.

Availability of power and other services

There is no specific requirement in the standard for premises to have power supplies. This is because businesses are unlikely to neglect to provide adequate power if they cannot operate without it. However, if there are circumstances where power is unavailable or intermittent and this impacts on food operations the premises would not comply with the subclause.

Adequate water supplies and waste disposal are covered by specific requirements in the standard because of their importance to food safety.

Other issues

Siting of garbage areas, access roads, sewage treatment plants and use of adjoining buildings are examples of other issues that could affect the suitability of the premises as food premises.

Example

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 handbasin, and refrigeration are provided in the basement.

(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;

The word 'activities' includes all aspects of handling and preparing food for sale, displaying food for sale, serving food and associated activities, for example, storing packaging materials and chemicals, providing access for delivery and garbage vehicles, and storing garbage and recyclable material.

'Equipment' includes machinery and appliances used in connection with handling food and equipment used for cleaning the premises, cleaning the equipment and personal hygiene purposes. It includes sinks, hand washbasins, stoves, food-processing equipment, refrigerators, freezers, garbage containers and hot water services.

Space is also needed for food storage, ingredients, finished product storage, packing materials, cutlery, crockery and cooking utensils.

It is difficult to determine space requirements at the design stage unless the business can estimate the volume of trade accurately. However, factors that could be considered in establishing whether there is sufficient space are listed below — these factors could also be useful in evaluating existing premises:

- adequate space to permit a work flow that will separate food handling areas to prevent cross-contamination between food handled in one area and food in another;
- chilled, hot and dry goods storage space for ingredients, raw materials and final products (such as plated meals, prepared sandwiches or packaged products awaiting dispatch);
- storage space for recalled product and other product kept separate from product for sale;
- need for any additional equipment such as food preparation sinks to be installed to meet the requirements of the standards — this is particularly important if a dedicated sink is to be used for thawing foods, such as raw chickens, under cold running water. To prevent cross-contamination, separate sinks for washing ready-to-eat salads and vegetables should be available;
- staff numbers and protective clothing requirements — to assess changing room space;
- cleaning methods — to ensure that there is adequate space to manoeuvre cleaning equipment, to access areas for cleaning and to store chemicals;
- quantity and type of garbage and recyclable material produced — to assess garbage storage area requirements;
- water requirements — to assess any requirements for hot water storage (and cold if there is no mains or town supply); and
- sewage disposal — whether on-site storage and/or disposal is necessary.

The above list is not exhaustive but indicates the scope of the requirement.

Example

A small coffee shop business expands to operate an outside catering service. Sandwiches and salads are made for delivery later in the day to local businesses. There is insufficient space in the coolroom to store potentially hazardous sandwich fillings and ready-to-eat salads.

If the business does not have sufficient space to install another refrigerator, it will have to limit or cease 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, are more likely to be kept clean and therefore provide fewer opportunities for contaminating food.

Cleaning

‘Clean’ is defined in Standard 3.1.1 to mean ‘clean to touch and free of extraneous visible matter and objectionable odour’. Under Standard 3.2.2 clause 19 the business must maintain the premises to a standard of cleanliness where there is no accumulation of garbage or recycled matter (except in containers), food waste, dirt, grease or other visible matter.

Some factors that should be considered when evaluating whether new premises can be effectively cleaned are given below. Existing premises may have to be evaluated on the basis of performance against the food safety practices standard.

- Do ducts have access covers that can be removed to allow cleaning?
- Are there horizontal ledges created by pipe runs, windowsills, architraves, picture rails, etc. that could be avoided because they act as dirt traps?
- Could pipes, ducts, conduits, wiring and similar fittings be concealed in walls, floors or ceilings to allow easier cleaning of these surfaces?
- Are doorways and passages wide enough to allow cleaning equipment such as electric foaming machines to be used if that is the intended method of cleaning?

Sanitising

‘Sanitise’ is defined in the standard. In general terms it means to reduce the levels of micro-organisms on a surface so that the safety of food that comes into contact with the surface will not be affected and infectious disease will not be transmitted. Businesses will have to ensure that the surfaces they sanitise are designed and constructed to withstand the effects of sanitising hot water or chemicals. Note that for most food businesses it is necessary to only clean non-food contact surfaces and not sanitise them.

(d) to the extent that is practicable:

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

Dirt, dust, fumes, smoke and other contaminants must be excluded from the premises because they may contaminate food and food contact surfaces. Smoke and fumes may taint food.

The requirement also refers to 'other contaminants'. Contaminants include any biological, chemical or foreign matter that may compromise the safety or the suitability of the food. This includes microbiological contamination carried by people, materials or air.

The requirement includes contaminants that arise in one part of the premises and could cause a problem in another area. For example, dirt brought into a loading dock may not be a hazard to food in the dock but could cause a food contamination problem if carried into food preparation areas.

Sensitive food processing-operations, such as raw ingredient handling that may generate airborne contamination, should be separated from finished product areas and from areas for storing food packaging and food contact equipment that could contaminate finished product.

The business is only required to exclude contaminants to the extent that is practicable. This recognises that there may be situations where dirt and dust are unavoidable. For example, at an open air stall at a show where it would be impracticable to prevent dust and dirt entering the stall, it would be more appropriate to protect the food from contamination than dust proof the stall.

However, avoidable environmental contaminants including dirt and dust should be excluded so that the premises are easier to keep clean and food is less likely to be contaminated.

Some examples that illustrate the requirement are listed.

- If dust and dirt are likely to be blown through doorways, for example doorways opening to the exterior of buildings, then doors in doorways should be close fitting. (This will also help to deter pests.)
- Air intakes for ventilation systems must not draw in contaminated air.
- Toilet areas, laundries and living areas must be separated by airlocks or self-closing doors from areas handling exposed food. Alternatively, possible contamination should be removed by mechanical ventilation to areas not used for food preparation.

The design and construction of the premises should be assessed taking into account likely contaminants, ingredients used, the types of foods prepared and handling methods, movement of staff and products, and any controls in a food safety program that this business may implement.

(ii) not permit the entry of pests; and

Food businesses are required to proof premises against access by pests. 'Pests' is defined to include, but is not limited to, birds, rodents, insects and arachnids (spiders).

Excluding pests reduces the opportunities for contamination of food. Pests transmit spoilage and food poisoning micro-organisms, damage food and food packaging and might contaminate food with their bodies, faeces, urine and hair. In addition to contaminating food, rats and mice might nest in roof spaces and damage cables and pipework by gnawing.

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 being carried into retail premises with customers or to avoid importing pests into premises in prepacked foods or cartons.

The type of pest-proofing measures that are required might vary across Australia. However, there are many well-known measures that will limit access by pests and some examples of these are listed below.

- Pest-proof doors and entrances into the building by installing flyscreen doors or self-closing doors.
- Install mesh screens at opening windows or other ventilation openings.
- Ensure drains, grease traps and ventilation pipes are sealed.
- Seal openings where pipes pass through external walls to prevent pests such as rats and mice entering food handling areas.
- Install appropriate flashing to the base of wooden doors if there is a problem with mice gaining access through doorways.

It is not intended that premises be pest-proofed when there is no likelihood of pests gaining access. In some instances the exclusion measures may be more appropriate to the whole complex, as in the case of a shopping mall containing a food hall.

(iii) not provide harbourage for pests.

Places in the premises that may provide harbourage should be eliminated. For example, where practicable, boxed-in areas that are difficult to completely seal should be opened up or provided with access for inspection and cleaning.

Due to the nocturnal habits of most pests, contamination of food may go unnoticed for some time until the infestation is large enough for pests to be spotted. In addition, it is difficult to eliminate large infestations.

Example

The architect seeks advice from the enforcement agency about whether to box in hot water pipes during renovations of a commercial kitchen or leave them exposed.

The advice is either leave exposed, encase solidly into the wall or (only if these options are not practicable) box in and seal so as not to harbour vermin.

4 Water supply

The outcome of this requirement is that potable water is available for washing food ingredients, cooking, adding to food and drinks, making ice, cleaning, sanitising and personal hygiene. 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 is defined to mean potable water that is available at a volume, pressure and temperature that is adequate for the purposes for which the water is used by the individual food 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, volume and pressure (capacity) and potability (and the exemption from providing potable water) are discussed separately below.

Temperature

The subclause requires the business to have water at temperatures that are appropriate for the uses being made of the water in the food handling operations. The standard does not specify actual temperatures for water except to require water at hand washing facilities to be warm.

Businesses must also provide warm water for washing equipment. Warm water may be a mixture of hot and cold water or can be water heated to the required warm temperature.

Warm water for personal washing

Warm water must be provided for hand washing unless the business has a specific exemption under clause 14.

Warm water for personal washing is usually within the range 20°C–40°C. The temperature is not critical provided it is not so hot that it scalds and not so cold that people are reluctant to use it.

In most situations the only practical way to provide warm water is through a hot water system.

Equipment washing and sanitising

For guidance on temperature requirements for cleaning and sanitising, refer to Appendix 4.

A hot water system will be needed to achieve these temperatures.

Businesses may choose to sanitise using chemical (or other) sanitising methods, in which case they do not have to provide hot water for sanitising.

Some types of dishwashers, glasswashers and similar cleaning machines may need water at specified temperatures to operate the wash or rinse cycle. The machines' operating instructions should provide details.

Some cleaning and sanitising chemicals need water at certain temperatures. Refer to the chemical manufacturers for appropriate temperatures.

Other operations

The requirement for water at adequate temperatures applies to all activities at the food premises. Therefore, if the correct operation of cooking, food washing or other food processing equipment is dependent on water supplied to that equipment being at certain temperatures, the business must have a water system capable of supplying that water.

The temperature of water required to clean the premises will depend on the operations taking place and will have to be determined in each case.

Example

A café serves hot drinks, sandwiches and cakes using returnable cups, saucers, plates and cutlery. The enforcement officer visits the café and finds that the utensils and cutlery are not being sanitised.

The premises currently has a hot water system capable of delivering water at a maximum of 60°C.

The proprietor has the options of:

- sanitising by submerging the utensils in hot water (77°C for at least 30 seconds or equivalent time and temperature). A hot water system that will deliver water at a minimum of 77°C at the sink, a water heater in the sink if this is necessary to maintain the temperature to at least 77°C and a rinsing basket to submerge the utensils in the water will be needed;
- installing a dishwasher capable of sanitising;
- using disposable cups, plates and other utensils; and/or
- using a chemical sanitiser for eating and drinking utensils and for other utensils that require sanitising such as large mixing bowls, chopping boards etc. that will not fit in the dishwasher.

Capacity (volume and pressure)

The hot and cold water systems must have sufficient capacity to enable the business to carry out its operations even during peak operating times.

Business 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 need to be considered in calculating water capacity include:

- the number of appliances that have to be served (including any that are used in conjunction with the premises, such as showers);
- peak hot and cold water usage for different applications: 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; and
- 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

Potable water

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 as water that is acceptable for human consumption. The water must be safe to drink and must not introduce contaminants into food or beverages either as an ingredient or during cooking and cooling processes. The water must also be safe to use for cleaning and sanitising processes, and hand washing. Potable water must be used for making ice.

When assessing the potability of water supplies, the *Australian Drinking Water Guidelines 1996* may provide guidance.

The guidelines describe drinking water as ideally 'clear, colourless, and well-aerated with no palatable taste or odour, and it should contain no suspended matter, harmful chemical substances or pathogenic micro-organisms'.

The guidelines describe physical characteristics and microbiological and chemical quality, and include guidance on testing and sampling frequency. They also contain advice on disinfecting water supplies, and other barriers to the transmission of pathogenic organisms.

Further information on the *Australian Drinking Water Guidelines 1996* and where to obtain copies is in the Bibliography.

Businesses supplied with treated town water can usually assume that the supply is potable and need not take any additional precautions unless the supply authority has issued recommendations to treat the water or a higher standard is needed to produce the food, for example soft drinks.

Businesses with raw water supplies such as untreated town water or with non-reticulated water supplies may need to treat the water before use.

Storage tanks for potable water must be adequately designed and constructed to prevent contamination. The materials used in constructing tanks, and the roofs or other surfaces that collect the water, may contaminate the water. Animals and birds may gain access if the tank is not covered and inlets, outlets and overflows are not screened. Measures should also be taken to keep out leaves, dust, animal and bird droppings, and insects.

Exemption from using potable water

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 are permitted under subclause 4(3) to use non-potable water provided they can demonstrate to the appropriate enforcement agency that the water will not affect the safety of food produced by the business. It is the responsibility of businesses to provide evidence to an enforcement officer that the quality of the water and the use to which it is put 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 applications.

Use of clean seawater and clean estuarine water for ice making, chilling and cleaning purposes in the seafood/fish sector will be included in ANZFA's work in addressing the application of food safety standards to this industry.

If a food business uses potable and non-potable water supplies there must be no cross-connections between the two because of contamination risks. It is advisable to ensure that the systems are separate and to identify any pipes or taps that are connected to the non-potable supply. Note that failure to ensure that the water system is designed to prevent food contamination would be an offence under subclause 12 (fixtures, fittings and equipment must be designed so that there is no likelihood they will cause food contamination).

Example

Within the enforcement authority's jurisdiction is a small community of 500 people with one food premises, a combined grocery store and takeaway. The community has an untreated town water supply.

To ensure there is no contamination from water, the takeaway proprietor is advised to use boiled water for drinking and food preparation. The proprietor has a piped supply of town water to the sinks and handbasins. Eating and drinking utensils and food contact surfaces are sanitised with a chemical sanitiser after washing.

Mobile and temporary premises

The requirements apply to mobile and temporary food premises.

Businesses using vehicles that do not connect to reticulated supplies will have to ensure that the vehicles are fitted with water storage tanks with a capacity adequate for the period of trading between opportunities for refilling. For example, the Australian Institute of Environmental Health Code for Food Vending Vehicles recommends a minimum of 25 litres be stored for cleaning purposes. It does not provide guidance on capacity for other uses (drinking, handwashing and cooking).

Stalls at markets and similar places will have to be provided with tanks or other containers for clean water storage if there is no piped (hose) supply from a reticulated system. Guidance on water supply is available in the *Industry Guide to Good Hygiene Practice — Markets and Fairs Guide* published on behalf of the UK Institute of Environmental Health by Chadwick House Group Ltd. For example, the Guide states that water containers should hold a minimum of 9 litres per person working within the stall, stating that this should be adequate for hand, equipment, food washing and other potable water uses during the day. However, this is a guide and each business will have to be assessed according to its operations.

5 Sewage and waste water disposal

This outcome of this requirement is that sewage and waste water are disposed of effectively.

There must be 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, and toilets. Stormwater is also included. 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. Such waste is a potential source of contamination of the premises, equipment and food. The intent of the requirement is to ensure that, whatever disposal system is in place, it completely removes sewage and waste water without endangering food safety.

The term 'disposal system' means the 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.

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

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

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. Sewage and waste water disposed of on-site must be disposed of so as not to jeopardise food safety. Disposal both on-site and off-site must be in accordance with statutory requirements including statutory environmental requirements.

Example

The proprietor of a food business is converting a vehicle to use to prepare and sell sandwiches and hot food. He approaches the Council for advice on waste water storage and disposal.

The proprietor is advised to refer to the Code for Food Vending Vehicles produced by the Australian Institute of Environmental Health. This Code recommends that vehicles be fitted with a waste water tank of at least 50 litre capacity external to the vehicle with an outlet of sufficient diameter to facilitate easy flushing and cleaning. The proprietor is required to empty the tank in accordance with local authority 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.

The intent of this requirement is that drainage pipes, grease arrestors, drain inlets and on-site sewage treatment plants are located where there is no risk of contamination. For

example, locating grease arrestors in food preparation areas can result in contamination problems when the arrestors are emptied. If contamination problems are likely to arise, the grease arrestor must be located outside the food preparation area and preferably outside the building.

The disposal system must also be constructed so that there is no likelihood of the liquid waste polluting the water supply or contaminating food. This is intended to ensure that the standard of workmanship is such that the system is not likely to leak, block, overflow or allow access by vermin into the food premises.

Temporary and mobile premises

The provisions apply to temporary and mobile premises.

Where there is no connection to a mains system businesses will have to ensure that temporary holding tanks and any associated pipes are properly constructed, do not leak and do not allow pests to have access to the vehicle or stall.

Arrangements for emptying will have to ensure that there is no risk of contamination during the emptying process.

As buckets or open containers placed under sink or basin outlets may cause contamination problems if they overflow, they must be emptied regularly.

Sites set aside for stalls and mobile premises at fairs, agricultural shows or similar events should not be located near sullage pits, soakaways or holding tanks because of possible contamination problems.

Toilets and handwashing facilities at fetes and markets

If a food business provides temporary toilets and hand washing facilities for staff and/or customers at a fete, market or similar event the business will have to 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 which could occur if pump-out pipes cross food preparation areas.

6 Storage of garbage and recyclable matter

The clause intends 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.

They must not provide a breeding ground for pests and must be capable of being easily and effectively cleaned.

The broad nature of the requirement ensures that it is applicable to all types of food premises and the different types of garbage and recyclable material that are produced.

The word '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; and
- compactor systems and the rooms in which they are housed.

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

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

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

The standard requires all the garbage and recyclable material to be contained. This means that the waste should be in bins, hoppers, wire cages or other containers that are appropriate for the type of waste. For example, paper can be stored in hessian-like material sacks and wire cages but food waste, which may leak liquids, must be placed in impervious containers.

The containers must be large enough or in sufficient numbers to contain all the waste produced by the business while awaiting the next waste removal from the premises.

The outside area or room that houses the containers must also be adequate for the volume and types of waste. There is no requirement to use refrigerated garbage rooms although 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

The garbage and recyclable matter must be enclosed if this is necessary to keep pests and animals away from it. The subclause is not intended or designed to prevent nuisances from litter or to prevent scavenging by people.

The intention is that containers that are in open air storage areas must have tight fitting lids in order to keep flies and other pests away. However, lids on containers used in food preparation areas are not specifically required. Lids inconvenience kitchen staff and handling the lids could pose a risk of food contamination. Lids may also not be necessary on containers in sealed garbage rooms because pests should not be able to access the garbage.

Recyclable material that does not attract pests but will afford harbourage, such as dry cardboard, can be baled, kept in an enclosure and removed regularly.

Example

Garbage from a café is placed in plastic garbage bags, which are left at the rear of the premises and collected twice weekly. Cats often tear the bags and the shopping centre has repeated infestations of mice attracted to the spilt garbage.

The enforcement officer advises the café proprietor to provide bins with tight fitting lids or a properly constructed garbage skip to 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 the area where the waste is stored and to garbage chutes, bins or other containers used to hold garbage or recyclable matter.

Businesses should not have to go to the expense of providing external garbage areas (with associated drainage, reticulated water, etc.) if the current arrangements are not posing a food safety risk. However, if there are other issues, such as environmental problems or the type of waste necessitates it, businesses may need an external garbage area under other legislation.

If premises have a garbage room, the floors, walls and ceiling must comply with the requirements of clauses 10 and 11. They must be designed and constructed in a way that enables them to be cleaned. For example, floors may need to be graded and fall to a floor waste if the room is hosed to clean it.

They 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.

Garbage rooms are part of the premises and therefore have to comply with the requirements for sufficient ventilation and lighting under clauses 7 and 8.

Garbage chutes are a fitting within the premises and must comply with clause 12.

There is no requirement that garbage containers or garbage areas must be sanitised. There is no food safety justification for sanitising because food should not be in contact with the containers and hands should be washed after handling the containers if the 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.

Local legislation

Businesses should ensure that they are aware of any State/Territory or local requirements under building or other laws that apply to garbage and recyclable material. For example, in Tasmania and the Northern Territory there are requirements for garbage storage in the Building Code of Australia.

7 Ventilation

The clause is intended to ensure that natural or mechanical ventilation will minimise 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.

Ventilation provides fresh air in place of air containing unwanted fumes, smoke, steam or vapours. 'Ventilation' includes both the exhaust system to remove stale air and the system that provides the fresh air.

Air conditioning to provide cool working conditions for staff is not a requirement under the food safety standards. Staff discomfort from high ambient temperatures is an occupational health and safety matter.

Fumes, smoke, steam and vapours

The clause requires a business to remove air that is contaminated with 'fumes, smoke, steam and vapours'. Fumes, smoke, steam and vapours include all types of airborne matter that could cause hygiene, food safety or suitability problems if allowed to remain in food premises.

Sufficient, effective ventilation

The business must ensure that premises have ventilation systems that are sufficient and effective.

In judging whether or not a ventilation system is sufficient and effective, regard should be paid to the types of operations being carried out. Some suggested criteria follow:

- do the food operations or other activities (such as cleaning) produce fumes, smoke, steam or any vapours?
- does the ventilation system in place (or proposed) remove all steam and fumes?
- are air intakes and intakes for 'make-up air' located so that they provide 'fresh' air uncontaminated by fumes, smoke, etc.? and
- does the system draw air into 'clean' preparation rooms from areas of the premises where operations generate dust or airborne microbiological contamination that could cause contamination problems?

In assessing ventilation systems it is also relevant to consider compliance with other clauses in the standards. For example, the system should provide a positive pressure to prevent airborne dust, dirt and insects gaining access to the premises, thus meeting obligations under clause 3 General requirements, if this is appropriate to the activities in the premises.

Example

Common ventilation problems

Condensation in a bakery is causing mould growth on the walls and ceiling. The problem is that the oven is not provided with an effective exhaust system.

Grease is accumulating on the walls and ceiling above a deep fryer on a bench in a takeaway. The problem is caused by failure to install an exhaust hood over the deep fryer.

In both cases, local exhaust hoods and extraction fans are installed to remove condensation and grease-laden air produced by the equipment.

Natural or mechanical systems

The business may choose to ventilate the premises either naturally, by having openings such as windows and/or vents, by installing a mechanical ventilation system or by a combination of the two.

Natural ventilation will only be suitable in premises where there is little or no cooking that generates steam or greasy air. Businesses should always consider mechanical extraction systems when building or altering premises and should note it is usually more expensive and inconvenient to install extraction hoods and ductwork over cooking equipment once the business is operating.

Guidance on design and installation of mechanical systems

All parts of a mechanical ventilation system, such as fans, kitchen exhaust hoods and ductwork are 'fixtures, fittings and equipment' under clause 12 and must comply with the requirements of that clause.

Guidance on the design and installation of mechanical ventilation systems may be found in Australian Standard 1668.2 *The use of mechanical ventilation and air-conditioning in buildings Part 2 Mechanical ventilation for acceptable indoor-air quality*. This sets out requirements for air handling systems that ventilate enclosures by mechanical means.

Ventilation systems in existing premises

The enforcement agency will have to judge whether existing ventilation in operating premises meets the intent of the standard. Existing businesses that do not have any of the problems normally caused by poor ventilation should not be required to upgrade or alter their existing systems. Evidence of a problem includes grease on walls and ceilings and flaking paint in cooking and wash up areas.

Example

The walls of the pot wash area of a large hotel kitchen are badly affected by condensation. During washing, steam from hot water condenses on the walls causing flaking paint and mould growth despite efforts by the business to maintain them.

The enforcement officer notifies the business that it is an offence not to provide sufficient ventilation. The officer refers the business to Australian Standard 1668.2 for guidance on exhaust ventilation.

Ventilation in new premises

Premises that are undergoing fitout or are recently completed have to meet natural and/or mechanical ventilation requirements in the Building Code of Australia (BCA). Under the BCA, premises must be provided with means of ventilation with outdoor air which will maintain adequate air quality. If the air is provided through a mechanical air handling system, the system must control the circulation of objectionable odours and the accumulation of harmful contamination by micro-organisms, pathogens and toxins.

In a commercial kitchen, an exhaust hood that complies with Australian Standard 1668 Parts 1 and 2 will satisfy the BCA requirements. The provisions have regard to room sizes and apply to hoods over cooking apparatuses which have power inputs above specified levels. Where the equipment is outside the specifications, mechanical ventilation systems meeting the general requirements of the Australian Standard are deemed to comply with the BCA.

Example

A group of retail shops are built to lock-up stage. The builder receives the compliance certificate from the building authority.

One shop is purchased and fitted out as a restaurant. The proprietor installs a cooking range but does not install any mechanical ventilation. Natural ventilation is very limited.

The enforcement officer, noting that a fitout is under way, advises the proprietor that he will have to comply with the food safety standard requirements regarding ventilation.

The proprietor ignores the advice and opens for business. The enforcement officer visits the premises and notes condensation on the kitchen ceiling. The enforcement officer requires the proprietor to provide mechanical ventilation on the grounds that the existing ventilation is not effectively removing steam.

Mobile premises

The requirement applies to mobile premises such as takeaway caravans and cruise boats.

Advice on requirements is contained in the Australian Institute of Environmental Health *National Code for Food Vending Vehicles and Temporary Premises Part A*.

Domestic premises

The clause applies to domestic premises used for commercial operations such as bed and breakfast. However, the size and type of cooking appliances is usually not within the scope of Australian Standard 1668. Domestic mechanical systems are likely to meet the objectives of the clause unless there is considerable frying or other cooking that generates greasy air and/or steam.

Preventing nuisances

Food businesses should note that inappropriate siting of flues and vents may result in odour or other problems from extracted air that may cause a nuisance to adjoining

premises or to public areas. However, the clause is not intended to address these problems as they are not food safety issues. Businesses should comply with the relevant State and Territory legislation.

8 Lighting

This clause requires natural and/or artificial light that is sufficient to enable staff to carry out food handling operations, cleaning and sanitising and other activities on the premises.

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

Sufficient lighting

Lighting must be sufficient to enable food handlers to readily see 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, require higher levels of lighting than general food operations.

Australian Standard 1680 Part 1-1990 *Interior lighting: General principles and recommendations* and AS/NZ 1680.2.4 1997: *Industrial tasks and processes* provide comprehensive information on interior lighting. These standards set out recommendations for 'good seeing conditions' in buildings by means of appropriate lighting and interior colour treatment.

One of the main elements in lighting is a sufficient level of illuminance. Levels of illumination are measured in lux (lumens/square metre). Australian Standard 1680 contains recommended maintenance illuminances for various types of tasks. Part 2.4 gives recommendations for industrial tasks and processes including food processing.

Examples of minimum maintenance levels

Activity	Level of illuminance (lux)
Food and equipment storage areas	110–150
Retail, dishwashing, handwashing, toilet areas	200–300
At food preparation surfaces	500
For reading inspection and monitoring equipment (by provision of local lighting)	600–1200

Low levels are acceptable in dining areas, the customer side of counters and bars, etc. when the areas are open to the public but the business must provide supplementary lighting to permit cleaning and inspection for pests.

The BCA has requirements for natural and artificial lighting. For example, for new work or alteration subject to BCA requirements, artificial lighting systems must comply with the relevant parts of Australian Standard 1680.

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 customers have 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 apply to these areas.

10 Floors

The intention is 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 in parts of the premises used for food handling such as kitchens, storerooms, coolrooms and to external areas where food is handled, for example, loading docks. 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.

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’ is defined in the dictionary to mean ‘suitable or fitting for a particular purpose’ and this is the meaning intended here. In deciding whether or not the floor is appropriate, consideration should be given to food safety factors such as:

- whether the materials of which the floor is made, or the ground surface if it is being used, could produce dust or other material that could contaminate food;
- the type of materials (food scraps, oil and grease, water, chemicals) that could be spilt on the floor and need to be removed through cleaning, cleaning methods and materials available to the business; and

- whether the floor is of sufficient durability to withstand the type of cleaning operations used and degree of wear and tear occurring during food handling or other activities in the area.

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

Specific requirements

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

Subclause (2) contains specific requirements for floors. The majority of businesses would have to provide floors that meet these requirements, but note the exemptions in subclause (3).

(a) be able to be effectively cleaned;

Floors must be capable of being effectively cleaned to remove accumulations of food waste, dirt, grease or other visible matter. Such accumulations provide food for pests, enable microbial growth and could directly contaminate food. The food waste, dirt, grease or other visible matter on the floor may be from a variety of sources including food spills, food handlers' shoes and food packaging brought into the premises.

Generally, to be effectively cleaned, floors in kitchens and other areas where food is prepared or cooked should be smooth (within occupational health and safety guidelines), free from cracks and crevices, and resistant to hot water, steam and/or chemicals. It is also important in permanent premises that the floor is durable otherwise the business will be faced with replacement costs and associated disruption. Examples of floors that meet the criteria include glazed tiles with flush epoxy grouting, sheet vinyl and epoxy resin.

The same criteria would apply to floors in wash up areas.

The type of floors that are suitable for staff amenity areas, including wash rooms, will depend on the extent to which food residues are carried into these areas and the method of cleaning necessary to keep the floors clean. Glazed tiles, sheet vinyl and epoxy resin would be suitable, as would flooring for storage areas (referred to opposite).

There is no requirement that the floor be capable of being sanitised, that is, withstanding chemical sanitisers or the high temperatures of hot water or steam sanitising. Such a requirement is not considered necessary because food should not be in direct contact with the floor and walking on the floor negates the sanitiser's effect. Cleaning methods should be adequate to remove soil as well as reduce micro-organisms to a safe level. However, if a business sanitises floors, the floor must be able to withstand the effects of sanitising to be appropriate under subclause (1).

If an enforcement agency considers that the type of food operation necessitates that the floor must be capable of being sanitised to ensure very low levels of contaminants (for example, very low levels of listeria) in the environment, this could be required under clause 3 **General requirements**. Clause (3)(c) of this standard states that the design and construction of food premises must permit the premises to be effectively cleaned and, if necessary, sanitised.

Coving

There is no specific requirement for coving at the junction of the floor and wall. However, coving should be provided in new premises in areas where floors are intended to be or likely to be cleaned by flushing with water. It may also help cleaning where the floor has to be frequently swept. Installing coving at floor–wall junctions behind stoves and food preparation benches may make these difficult-to-access areas easier to keep clean.

In existing premises it should not be necessary to install coving unless there are problems with cleanliness. Installing coving on existing floors is not always successful as it is likely to create ridges or ledges that can trap dirt and it may be difficult to ensure that the coving adheres strongly to the surface beneath. If a business has difficulty keeping an existing wall–floor junction clean it is preferable to improve the cleaning rather than install coving over existing surfaces.

Storage areas

Requirements for floors in food and equipment storage areas, for example dry goods stores, do not have to be as stringent as in food preparation areas because the cleaning regime may not need to be as rigorous.

Floors in these areas should be smooth and free of cracks and crevices in order to be capable of effective cleaning but they may not need to be made of materials that will withstand frequent contact with cleaning chemicals. In addition to the floor finishes above, concrete trowelled to a smooth finish is suitable, provided dense mixes are used and it is properly cured and has a steel- or machine-float finish.

An exception to the above would be coolrooms if they are frequently entered from food preparation areas and grease from floors is walked in.

Use of carpet, mats and duckboards

Carpet and other absorbent matting are not capable of being effectively cleaned and are therefore unsuitable in any food preparation, storage or wet area.

Mats (including dust control mats) and duckboards are equipment and must comply with the requirements for equipment in clause 12 **General requirements**.

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

The floor surface must be impervious to grease, food particles and water to enable these substances to be removed by cleaning.

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

Water remaining on floors could provide a water source for pests and encourage their presence in the premises. It could also be a source of microbial contamination.

This means that the floor surface should be either even and horizontal or even and graded to a floor waste (or other drainage point). There must be no dips or hollows where water can collect and, if the floor is graded, it must be sufficiently graded towards the floor waste (or other point) to allow water to drain away.

Floors flushed with water or hosed down must be graded and a floor waste (drain or gully) installed so that the water drains to a drainage system. However, if the floor is dry cleaned,

a wet vacuum cleaner is used or the floor is wet mopped and the mop removes remaining water, there is no need for a fall or a floor waste provided the floor is even.

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

The floor must be installed so that there are no places where pests such as cockroaches could harbour and breed. For example, tiles and vinyl sheeting must be firmly attached to the surface beneath to prevent pests harbouring under the tiles or vinyl sheeting. Floors in poor condition (that is, with cracked tiles or torn vinyl) also provide a place for pests to harbour.

The requirement is only applicable to the extent that it is practicable. It would be difficult to exclude every crack or crevice in a floor. Note that failure to maintain floors in a good condition is an offence under Standard 3.2.2, subclause 21(1).

Exemptions for floors in temporary premises and in other premises with the approval of the appropriate enforcement agency

The following exemptions provide flexibility to businesses that either use food premises infrequently, for example, a stall setting up at a market or a sporting group operating a barbecue outside at a sporting event. They also allow the use of floors that traditionally have presented no food safety problems such as dirt floors in wineries and unsealed timber floors in some older premises.

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**

Businesses using a temporary food premises may use the existing ground surface, such as grass, concrete, paving or dirt, provided the surface would not pose a food safety hazard. This will permit businesses to sell packaged foods and food directly from the barbecue at fetes, markets, sporting events and similar functions.

If the ground surface is unsuitable, floors that do not comply with clause 10(2) may be installed, provided their use does 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.**

For premises other than temporary premises the business will have to obtain a written exemption from the enforcement authority for floors that do not meet the criteria in clause 10(2). The exemption is only available if the floor does not present a food safety hazard. However, there are likely to be very few types of premises that could justify floors that do not meet the requirements of clause 10(2).

Example

A grocery store has an unsealed timber floor in a storeroom. During an inspection of the premises the enforcement officer advises the business that the timber floor in the storeroom does not meet the requirements of subclause 10(2) in that it could absorb grease, food particles and water. The grocery store proprietor agrees to store only packaged, non-perishable food in that storeroom, to sweep it out regularly and to check regularly for pests. The enforcement officer notes the proprietor's agreed action and approval to use the floor on the inspection report and provides a copy to the store proprietor.

Domestic premises

The clause applies to kitchens, storerooms and personal hygiene areas of domestic premises used for food business purposes, for example bed and breakfast, home-stay and commercial child care.

11 Walls and ceilings

The intention is that all walls and ceilings are appropriate for the area and are provided where they are necessary to protect food. They must not provide places for pests to hide and must be capable of being kept clean.

Walls and ceilings that protect food must be sealed to prevent dirt, dust and pests getting into the area and must be impervious to grease, food particles and water. They must be easy to clean.

The requirement applies to walls and ceilings in permanent buildings, in mobile food premises and in temporary premises such as tents and stalls. It does not apply to walls and ceilings in dining and drinking areas or areas where the public have access, for example, the retail area of a shop or the living areas of a bed and breakfast. However, clause 3 **General requirements** does apply to these areas. Also note the comment regarding adequate toilet facilities under clause 16.

Drafting of the requirements recognises that some food premises do not have walls and ceilings. For example, a stall selling canned drinks and prepacked snacks at a market may not have walls or a roof. It also recognises that walls and ceilings are designed and constructed for a variety of purposes such as weather protection and security, not necessarily to protect food.

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 for the types of activities that are taking place in the premises.

Criteria for judging whether or not the wall and ceiling design and construction are appropriate include:

- the food handling activities taking place in the area — whether the surfaces are subject to splash 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 heat from cooking processes and impact from equipment;
- cleaning methods — whether they are wet or dry and the 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; and
- ease of cleaning, particularly if the surface is broken by access panels, window sills, etc.

For example, areas where wet processes are carried out will need walls that are impervious to moisture and able to withstand the harsh action of cleaning compounds. Processes that generate dust will need smooth hard surfaces that cannot trap and hold dust.

Example

The proprietor of a grocery shop wishes to store bottles of wine in a section of the dry goods store separated from the remainder of the store by a metal mesh wall. The proprietor seeks advice from the enforcement authority as to whether the metal mesh wall would satisfy the requirements and is informed that, provided the mesh can be cleaned (and is kept clean), it would be appropriate.

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

Walls and ceilings are likely to be needed to protect the safety and/or suitability of the food where:

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

Walls and ceilings may not be necessary where processing or storage equipment adequately protects the food being processed or stored, nor at temporary premises such as barbecues where raw food is kept in containers and cooked food is sold directly off the hotplate.

Walls and ceilings in areas where food must be protected

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

The requirements for walls and ceilings needed to protect food in accordance with subclause 11(2), that is, walls and ceilings in areas where open food is handled and/or stored such as kitchens and processing areas, are more stringent. They are in addition to the requirements in subclause 11(4).

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

The junction between walls, and between walls and the ceiling must be tightly joined to provide a seal to prevent dust, dirt and pests such as cockroaches accessing the food area.

Ceilings should be of continuous construction so that there are no spaces or joints. If access is needed to the space above the ceiling then access panels should be located outside the processing area. If this is impossible the access panel should fit very tightly in its surround.

As a general rule, drop-in panel ceilings should not be installed in food preparation areas in new premises because they are very difficult to seal. In existing premises, if the panels are well-fitting and the business keeps the ceiling clean, they should be permitted to remain.

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

The walls must be impervious to grease, food particles and water. Wall surfaces in kitchens and other processing areas must be finished with materials such as ceramic tiling, vinyl sheeting or stainless steel. Other materials such as steel-trowelled concrete or cement render, coated or sealed to be impervious, may be appropriate.

Plasterboard and similar absorbent wall surfaces are 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 which have to withstand frequent cleaning.

Although the requirement applies to ceilings, in many instances plasterboard ceilings painted with washable paint will provide a surface that is impervious enough to prevent it absorbing any steam, etc., that is not removed by ventilation exhaust systems.

(c) able to be easily and effectively cleaned.

Walls must be capable of being easily and effectively cleaned. This is to ensure that the business provides surfaces that staff can clean quickly because they may need to clean them frequently, often daily or more often. The time involved in cleaning is a major cost for most businesses. Cleaning is made easier when surfaces are smooth and clear of unnecessary fittings such as posters, pictures or shelves.

Ceilings are likely to need less frequent cleaning but the surfaces should still permit ease of cleaning. In new premises, stippled ceilings, rough plaster ceilings, acoustic tiles, etc., are unsuitable for food preparation areas because they are difficult to clean. Existing premises will need to be assessed on their compliance with food safety outcomes.

Surfaces are not required to withstand sanitising. Walls and ceilings should not generally come into contact with food and it should be sufficient to ensure they are clean. However, if it is necessary to sanitise walls and ceilings to maintain food safety and the business installs a surface that breaks down as a result of the sanitising process, action could be taken under subclause 3(c) **General requirements**.

Example

The painted wall above a preparation bench in the restaurant is frequently soiled by food waste and is scrubbed each evening. The surface needs frequent repainting and the enforcement officer advises the proprietor that the wall finish is not suitable. The proprietor is required to install stainless steel, tiles or other materials that will withstand heavy wear.

Requirements for all walls and ceilings

11(4) Walls and ceilings must:

(a) be able to be effectively cleaned; and

'Effective' is not defined because the dictionary definition of 'achieving the desired or required result' is appropriate. The desired (or required) standard of cleaning is in relation to the use of the area that the surfaces enclose.

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 get dusty and need cleaning on a regular basis, although not necessarily frequently. The types of materials selected by businesses for these areas are likely to be based on cost. Block work and faced brickwork, painted with unraked joints, are examples of materials that could be suitable, even though they have rough finishes and are not particularly easy to clean.

In staff areas (toilets, change rooms and hand wash areas) and in cleaning areas (for example pot wash and dish wash areas) the standard of cleanliness will need to be higher. Therefore, surfaces that are smooth, free of cracks and ridges, and impervious to grease and moisture would be more appropriate. In these areas ceramic tiles or another smooth, impervious, durable material will be necessary, to withstand frequent cleaning with water and detergents.

Ceilings should be smooth and finished in washable paint. For walls in areas of heavy wear, for example where there may be damage from trolleys, it may be necessary to provide stainless steel panels and corner protectors to ensure that the surfaces remain capable of being cleaned 'effectively'.

Kitchens and other food preparation areas are likely to have walls and ceilings that are necessary to protect food from contamination and therefore must comply with subclause 11(4).

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

The requirement applies to the extent that is practicable and should be interpreted taking into account the use of the area and the total approach to pest control for that business.

In food processing areas, for example, wall tiles and sheet finishes (for example vinyl or stainless steel) should adhere directly to the wall so that there are no gaps where cockroaches or other pests could hide. Ledges where wall surfaces join, and other pathways for mice and rats, should be avoided. Any holes or gaps that would allow pests into wall and ceiling cavities should also be avoided.

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

Division 4 — Fixtures, fittings and equipment

12 General requirements

The clause requires fixtures, fittings and equipment to be adequate for the production of safe and suitable foods and fit for their intended use.

They must be designed, constructed, located and installed so that they will not contaminate food, can be easily and effectively cleaned and do not provide harbourage for pests.

Adjacent surfaces must be able to be easily and effectively cleaned.

Food contact surfaces must be made of material that will not contaminate food, can be easily and effectively cleaned and, where necessary, sanitised, and are impervious to grease, food particles or water.

The scope of this requirement is very broad and covers all fixtures, fittings and equipment in the premises and on food transport vehicles. Food businesses may only use fixtures, fittings and equipment that comply with the standard in food premises or on vehicles.

The terms 'fixtures' and 'fittings' are not defined because the dictionary definitions⁴ are appropriate and ensure that all types of fixtures and fittings in food premises are included. Examples of inclusions are benches, shelves, sinks, washbasins and cupboards, light fittings, garbage chutes, conveyors and ventilation ducts.

'Equipment' is defined in Standard 3.1.1 and includes all equipment used in handling food and in cleaning such equipment. It includes refrigeration motors and associated equipment and monitoring equipment.

Food vending machines are equipment (they are specifically exempted from the definition of food premises in Standard 3.1.1). Mobile insulated handcarts used for selling packaged ice cream and bain-marie units on the pavement outside premises (used by that restaurant business to serve food to passers-by) are also equipment.

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

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

The intent of the requirement is to ensure that food premises are adequately equipped to receive, store, process, package and sell safe and suitable food, the premises are kept clean and free of pests, and staff can comply with the requirements for personal hygiene.

Some examples of operations and criteria for judging whether or not adequate provision has been made are given on the next page.

4 Fixture — something securely fixed in position; a permanently attached part or appendage of a house etc., for example an electric light fixture. Fitting — anything provided as equipment, parts, accessories etc. The term 'fixtures, fittings and equipment' is used to ensure that all such items on the food premises (or on a food transport vehicle) fall within the scope of the standard.

Type of operation carried out by business	Criteria for judging adequacy
Cooking/processing	Adequate equipment to ensure that the process reaches the temperature or other parameter required to destroy pathogens.
Cooling and refrigerated storage of potentially hazardous foods	Adequate equipment to cool food in accordance with the requirements of Standard 3.2.2 and hold food under temperature control. Adequate refrigerated space to cater for large functions (if appropriate).
Displaying potentially hazardous foods	Adequate refrigerated or hot display counters to ensure that all displayed food is displayed in accordance with temperature requirements of Standard 3.2.2 and is protected from contamination.
Transporting chilled potentially hazardous food	Refrigeration equipment, insulated containers or other containers if this equipment is appropriate on the vehicle to ensure food is capable of being maintained at 5°C or below.
Washing fruit and vegetables	Where food handling involves frequent washing of fruit and vegetables a food preparation sink should be installed.
Utensil and equipment washing and sanitising	Double bowl or triple bowl sinks for sanitising and/or dishwashers that sanitise.
Personal washing	All staff have easy access to hand washing facilities in accordance with clause 14.
Floor and general cleaning requirements	Single bowl sink, cleaners sink, hose connections, curbed drain connected to the sewer or other facility for cleaning the equipment used for cleaning the premises and for disposing of dirty water.

Note that temperature displays, alarms and data loggers fitted to equipment will assist with monitoring the temperature of potentially hazardous food.

Also note that the number of sinks for equipment washing and sanitising and for food preparation will depend on the food operations carried out by the business. In new premises it is advisable to separate food washing operations from equipment washing. This may not be possible in existing premises, and food handling, cleaning and sanitising operations will have to suit the situation.

Example

A kitchen at a restaurant has a single bowl sink. During an inspection of the food business the enforcement officer observes the sink being used for washing equipment and rinsing poultry before cooking.

The enforcement officer requires the proprietor to install a food preparation sink. The officer advises that the food preparation sink should be sanitised before washing ready-to-eat food.

(b) fit for their intended use.

'Fit for their intended use' covers the design features, construction materials, method of construction and mode of operation.

Design

A refrigerator that is used by a business to cool potentially hazardous food to 5°C within the time prescribed in Standard 3.2.2 must maintain an airflow and temperature that enables that to be achieved.

A glasswasher that is used by a business to sanitise glasses by means of temperature must operate on wash, rinse and dry cycles that leave the glasses clean and sanitary. The same applies to glasswashers that use sanitising chemicals.

The requirement does not prevent equipment designed for one purpose from being used for another. For example, a chilled display cabinet with the chilling unit disconnected may be used to display dry goods. Also, a business may designate a sink for hand washing provided it does not use the sink for other purposes.

Example

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 and is not intended by the manufacturer to reheat food from cold.

The proprietor of the business is advised that if the business wishes to reheat food it must install an oven to reheat the food rapidly and then transfer the food to the bain-marie.

Materials

The type of materials used in the construction must be fit for the intended use. For example, timber is not usually suitable for contact with ready-to-eat food because of the difficulty in maintaining it to a sufficiently high standard of cleanliness. Instead, synthetic surfaces made specifically for food contact use are recommended because they are easier to clean and sanitise effectively.

In some circumstances timber is suitable, for example blocks manufactured specifically for and used for raw meat by butchers. The timber surfaces must be made of hard, close-grained wood and must not be scored, split, cracked or softened.

Another example is the use of a grade of stainless steel that is insufficiently resistant to the corrosive properties of the food being processed. A wide range of stainless steels is available and it is important to select the grade appropriate for the use.

Specific requirements for design, construction, location and installation

The following requirements are intended to make cleaning food premises and equipment easier and less time consuming, thereby increasing the likelihood that cleaning will be effective. The requirements are particularly relevant to equipment that is fixed in place or too heavy to move.

The subclause addresses:

- design of the fixtures, fittings and equipment;
- standard of construction;
- location in the area; and
- method of installation.

The subclause states that the requirement for installing equipment applies only 'if necessary'. This is because some equipment is freestanding, that is, it can be moved for cleaning.

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:

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

The following examples illustrate situations where likely contamination has been controlled.

- Equipment containing bearings and gears is designed so that lubricant does not drip from the equipment. If some dripping is inevitable and could contaminate food, the equipment is 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 cannot leak from the equipment.
- Lines carrying liquid waste from equipment, lines carrying detergent to dishwashers or drains carrying waste from appliances are not located directly above food handling areas or across food and food containers.
- Glass thermometers are used only where other types are inappropriate and if they are fitted with shatterproof guards. Similarly, light fittings are designed so that, should a globe break, glass will not fall onto food.
- Electronic insect killing devices are designed and constructed so that the dead insects are caught by the device and do not fall on food or equipment.
- Clean-in-place equipment is 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 ensures that there are no parts that cleaning and sanitising solution cannot reach.
- Equipment openings, covers and lids are 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 catches the grease and condensation to prevent drips on food or equipment.
- Condensate from refrigeration motors and air conditioning equipment is collected and discharged to a drain to prevent food contamination.
- Parts in machinery are designed to avoid trapping and holding food particles, especially in inaccessible parts of the machine.

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

This requirement covers all of the surfaces of fixtures, fittings and equipment whether or not they actually come into contact with food. Food contact surfaces are specifically covered by subclause (3). It is important that equipment etc. can be kept clean, otherwise food residues provide food for pests and a growth medium for micro-organisms.

Equipment etc. must be designed, constructed, located and (if it is fixed) installed so that cleaning can take place effectively using normal cleaning methods. All surfaces of the equipment must be able to be reached with cleaning equipment with sufficient ease to ensure cleaning is possible and able to be carried out at sufficient frequency to maintain cleanliness.

Factors that make equipment easy to clean include:

- smooth surfaces with rounded edges and no open joints, embossing or other rough surfaces or joints which can trap dirt;
- nozzles or taps that are easy to dismantle;
- if dismantling is necessary for cleaning, it can be done without special tools, or if tools such as screwdrivers or allen keys are necessary they are readily available to maintenance and cleaning personnel;
- readily accessible access panels in ducts;
- readily removable grease filters in kitchen extraction hoods;
- mounting shelves 25 mm or more from the wall or other surface they are fixed to so that food cannot lodge at the wall-shelf junction;
- either butting equipment so close together that debris cannot fall between or leaving enough space to reach to clean the sides;
- ensuring safety shields are removable;
- fitting wheels or castors to equipment to enable it to be easily moved, preferably by one person;
- ensuring service wires, pipes or hoses (gas, electricity, water) can be disconnected (or are flexible and long enough to enable the equipment to be moved); and
- designing dust control mats (as used in customer areas of supermarkets) to be cleanable.

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

Paragraph 12(2)(b) requires the fixtures, fittings and equipment to be easily and effectively cleaned. Paragraph 12(2)(c) requires the surfaces that are adjacent to the fixtures, fittings

and equipment also to be easily and effectively cleaned. These surfaces are the walls and floors adjacent to where the fixtures, fittings and equipment are installed, and also the surfaces of adjoining equipment.

Space should be allowed between equipment and walls to allow access, or equipment should be butted so close together that food debris etc. cannot get in between. There is guidance on spacing equipment in the Australian Standard for food premises (when available).

Installing equipment on castors, rollers or legs enables it to be moved. Installing fixed equipment on plinths or legs raised above the floor enables floors to be hosed without soaking the underside of equipment.

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

Fixtures, fittings and equipment can provide suitable harbourage for pests such as cockroaches and mice if there are cavities where they can hide. Boxed-in compartments such as bases to bench units, boxed-in water heaters and other inaccessible spaces should not be used.

The requirement must be complied with only to the extent that it is practicable.

Specific requirements for food contact surfaces

There are specific requirements for food contact surfaces. The term 'food contact surface' is not defined but is intended to mean any surface which comes into direct contact with unprotected food. Examples are processing equipment, chopping boards, eating and drinking utensils, and containers in which food is processed or stored. Bench tops are food contact surfaces if unprotected food is placed directly on the surface.

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

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

Food contact surfaces should be smooth, free of cracks, chips, crevices, ridges or grooves that could harbour bacteria and impair the surfaces' ability to be easily and effectively cleaned. However, not all surfaces will be able to meet these specifications because of the function of the surface. Therefore the requirement has been drafted in broad terms to allow the function of the surface to be taken into account when assessing compliance. For example, surfaces used for sawing, shredding or grating food and some types of conveyor belts could not be considered smooth yet the surface is necessary for their use.

Containers that have been used as packaging for one food must not be reused unless they are made of materials capable of being cleaned and, if necessary, sanitised to prevent cross-contamination. For example, plastic containers for mayonnaise and ice cream may be used for storing stock or other foods.

Cardboard or wood containers used as fruit and vegetable packaging should not be used for unpackaged ready-to-eat foods because they cannot be cleaned and sanitised to ensure that there is no likelihood they could contaminate the food.

(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 should not be used for eating and drinking utensils.

The subclause does not apply if the surface will not contaminate the food it is in contact with. For example, pervious surfaces such as paper coffee filters and timber tables in sound condition used for rolling bread dough would comply.

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

Materials used for food contact surfaces must not contaminate food. Potential sources of contamination are chemicals migrating into the food from glazes on crockery or metals used to manufacture cooking equipment. Examples include:

- lead in ceramic, china and crystal utensils, solders, flux and pewter;
- galvanised metal in contact with acidic foods; and
- copper and copper alloys in contact with acidic foods.

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

Eating and drinking utensils may transfer pathogens that cause infectious disease to people using them. Therefore, to ensure that the business uses eating and drinking utensils that will withstand cleaning and sanitising processes, a specific requirement has been included.

Eating and drinking utensils must be able to be sanitised; by chemicals or using hot water.

Other issues

Windows, doorways and other openings in walls and ceilings

Architraves around doorways and windows, window frames, window sills and other surrounds to openings in walls and ceilings are fittings attached to the wall or ceiling and are covered by the requirements of clause 12. Doors and curtains (such as plastic strip curtains) are also considered to be fittings.

Doors should be able to be easily and effectively cleaned, especially any handles, knobs or plates that come into contact with food handlers' hands, and they must be constructed so that they do not allow insect infestation.

13 Connections for specific fixtures, fittings and equipment

The clause requires fittings, fixtures and equipment to be connected to the water supply and the drainage system of the premises.

Dishwashers, glasswashers and other automatic washing equipment must only sanitise when the water has reached 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.

The subclause applies to fixtures, fittings and equipment that are designed to be connected to the water supply and are being used for a purpose that needs water (that is, they are not being used for some other purpose). This means that sinks, basins, dishwashers, glass washers, hose connections, ice making machines and any other water-using equipment that is designed to be connected to the water supply must be so connected, that is, plumbed in.

This is to prevent contamination from using non-potable water and to ensure a constant supply at appropriate temperature and pressure.

The requirement does not apply to equipment that is used with water but is not designed to be connected to the supply. Examples are bowls used for washing utensils and containers of water for handwashing at temporary food premises.

Example

A small café has a sink in the kitchen. The sink is connected to the mains cold water supply but there is no hot water. The proprietor boils the jug whenever warm water is needed to wash utensils and pours the water into the sink.

The enforcement officer requires the proprietor of the business to provide piped hot water to the sink to comply with subclause 13(1) on the grounds that the sink is used for washing utensils, cold water is not adequate for effective washing and the sink is designed to be connected to the water supply.

Application to mobile food premises

Subclause 13(1) requires sinks and basins in mobile food premises to be connected to the water supply.

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.

The subclause requires all fixtures, fittings and equipment designed to be connected to the drainage system and which discharge sewage or waste water to be connected to the drainage system of the premises. The system is the disposal system installed under clause 5 and may or may not be mains sewerage.

The fixtures, fittings and equipment must both discharge waste water and be designed to be connected to drainage for the requirement to apply. Some equipment may discharge waste water but not be 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. Also, a piece of equipment designed to be connected to drainage may be used for another purpose, for example a refrigerated cabinet can be switched off and used to display shelf-stable foods and therefore will not discharge condensate from the refrigeration motor.

Example

Sinks in an extension to a restaurant kitchen are connected to a new sewer serving the premises. However, the proprietor of the restaurant proposes to connect a new sink in an existing part of the kitchen to an absorption trench to save costs.

The proprietor is required to connect the sink to the sewer in accordance with local drainage requirements.

Temporary and mobile premises

Stalls and other temporary premises are unlikely to use equipment that is designed to be connected to the drain. They are more likely to use bowls, buckets or tubs for washing.

However, on mobile premises which may have sinks and basins, these sinks and basins must be directly connected to a waste water tank or sewer. The tank or sewer would be the 'disposal system' under clause 5.

The subclause will not apply if mobile premises do not have any waste water. This could be the case in vehicles selling pre-packaged foods such as canned drinks.

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.

The subclause requires that automatic sanitising equipment that uses hot water to sanitise must only operate when the water is at the sanitising temperature.

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 applies to businesses that use their automatic equipment to sanitise using hot water.

The reason for the requirement is that, although it is possible to assess visually whether a utensil has been machine-cleaned thoroughly, it is not possible to visually assess the effectiveness of the sanitising process. Therefore, it is important that equipment that is to sanitise actually does so. The requirement prevents the practice of operating machines shortly after they are switched on and either before the water has had the time to heat up or when the water supplied to the machine is not at sanitising temperature.

For further discussion on sanitising see Standard 3.2.2 and Appendix 4.

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

Domestic-type dishwashers

In the past, businesses using automatic equipment for washing have been required to install a commercial dishwasher that met the time and temperature specifications of the regulations. Factors such as the cost of commercial equipment may have deterred some businesses from installing automatic equipment. Instead, these businesses manually wash eating and drinking utensils and equipment.

The intent of the subclause is to ensure that any machine that is capable of sanitising can be used by businesses. This includes machines designed for the domestic market. However, machines designed for the domestic market are likely to have disadvantages compared with commercial machines, as they tend to be smaller, slower and less robust and are unlikely to be suitable for other than very low volume washing and sanitising operations.

Note that there is discussion of manual and machine dishwashing and the effectiveness of commercial and domestic types of machine in Appendix 4.

Example

A continuous dishwasher used by a large catering company is used to sanitise eating and drinking utensils. The manufacturer of the machine specifies that the machine is designed to sanitise when the temperature indicator reads 80°C. Although staff are aware that the dishwasher must not be used until a temperature-indicator light turns on, the machine can be operated when the light is off.

The proprietor of the business is in breach of the requirement and must rewire the machine so that the temperature indicator light and the operating switch of the machine are linked to prevent use when the light is off.

14 Hand washing facilities

The intention of this requirement is that designated, appropriate hand washing facilities are available and accessible.

Clause 14 specifies where the washing facilities are to be located, describes them and provides for some exemptions for temporary food premises and domestic premises used by food businesses.

Thorough washing and drying of hands is an important factor in the prevention of food-borne illness. Standard 3.2.2 specifies the occasions when food handlers are obliged to wash and dry their hands and requires them to use only the facilities provided and maintained by the business for hand washing.

The standard uses the term 'facilities' rather than specifying that businesses must provide 'handbasins'. This is to provide for circumstances where it is not possible to provide a handbasin. For example, in temporary food premises, such as a tent or stall, a container filled with warm water and fitted with a tap could be used.

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:

Accessible hand washing facilities enable and encourage food handlers to use them.

Basins (or other facilities) that are located behind or obstructed by other equipment, walls, partitions or doorways are likely to be inaccessible. Basins that are located above or under benches may be too low or too high to be accessible. In these situations access may be awkward. These locations would not comply with the standard.

The actual location of the basins (or other facilities) in any particular area of the premises should be decided having regard to the layout of the food handling areas and the needs of the people working there.

Example

A café proprietor is refurbishing the kitchen of the café. The kitchen has a basin behind a door that is difficult to access particularly when the door is open. Staff prefer to use the wash up sink to wash their hands.

The proprietor must relocate the basin so it is nearer to the preparation benches and easier to access. This will encourage staff to use the basin and prevent any cross-contamination between the sink and hands.

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

Food businesses must provide hand washing facilities within areas where food handlers work and where the hands of the food handlers are likely to be a source of contamination of food. The requirement ensures that there are facilities in areas where unprotected food is handled, for example in food preparation areas.

Within areas where food handlers work

'Within' is intended to ensure that the facilities are in close proximity to food handlers. This ensures that food handlers are not discouraged from washing their hands by having to walk outside the food handling area. In the kitchen of a typical food service establishment a food handler should not have to travel more than 5 metres to the nearest basin. In large food production factories or where there are special circumstances and facilities that use water are restricted (such as in packing hygroscopic food) longer distances may be appropriate.

Hands likely to contaminate food

A judgment will have to be made in each food business about whether the food is likely to be contaminated by hands and therefore whether hand washing facilities will be required.

'Contamination' and 'contaminant' are defined in Standard 3.1.1. They refer to biological or chemical agents, foreign matter or other substances that may compromise food safety or suitability. Therefore, hand washing facilities must be provided for food handlers if their hands are likely to transfer micro-organisms including bacteria, viruses and parasites, chemicals or foreign material into the food that could make the food unsafe or unsuitable.

Guidance on providing hand washing facilities under subclause 14(1) is given overleaf.

Each situation must be assessed individually because foods handled within businesses vary.

Type of food business	Hand washing facilities
<p>Handling unprotected foods</p> <p>For example, commercial kitchens in restaurants, hotels, hospital and other health care facilities, takeaways, coffee shops, bars.</p> <p>Catering kitchens, airline meals assembly.</p> <p>Manufacturing ready-to-eat foods including baked goods, dairy products, meat products, ready-to-eat fruit and vegetable products.</p> <p>Preparing ready-to-eat raw meat and fish.</p> <p>Butchers.</p> <p>Raw fruit and vegetables.</p> <p>Handling clean equipment and eating and drinking utensils.</p>	<p>There must be hand washing facilities where the food handlers work.</p>
<p>Handling packaged food</p> <p>Warehouses, cash and carry premises, chemists, newsagents, display areas of supermarkets.</p> <p>Storage areas, stock receival areas and loading areas of food premises.</p>	<p>Hand washing facilities are not required under this clause.</p>

In a takeaway, if food is handled in a servery area of a takeaway, for example where staff prepare sandwiches, in addition to the kitchen, the intention is that a basin be installed in both.

If food premises are divided into separate food handling areas as may occur in a supermarket with a delicatessen, butchery, seafood area and bakery, hand washing facilities must be available in each area.

Example A food business employs a forklift driver to move packaged food from one section of a warehouse to another area. The driver is classified as a food handler under the standards. However, his hands are not a source of contamination of food and no hand washing facilities are necessary in the warehouse.

Numbers of basins

The subclause does not specify how many basins have to be installed. However, it is not efficient for a business if staff have to wait to wash their hands or travel too far to wash their hands.

Kitchens and other areas where food for food service is prepared (restaurants, cafés, takeaways) must have at least one handbasin in the area.

Additional numbers will depend on the size, layout and use of the area, and staff numbers.

Example

A production 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, sandwiches are made and meals portioned into containers, in another raw ingredients are prepared and cooked and in the third returned utensils are washed.

Management installs three washbasins each visible from, and convenient to, one of the work areas. This is to limit cross-contamination between contaminated raw foods in the preparation kitchen and ready-to-eat foods in the portioning area. It also limits contamination from soiled eating and drinking utensils contaminating hands of staff handling ready-to-eat foods.

Example

A hospital kitchen is divided into separate work areas. Salads are prepared in one area, meat in another and desserts in a third area. There is one handbasin. It is located on the wall immediately outside the desserts area and is visible to food handlers within the dessert area. Other food handlers have to leave their areas to use the basin.

The hospital is required to install a basin within the area preparing salads on the grounds that hand hygiene is extremely important when preparing ready-to-eat food. A basin is also required in the meat area. This is on the grounds that the hands of the meat workers are likely to be a source of contamination for foods prepared in other areas if a basin is shared.

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

Standard 3.2.2 requires food handlers to wash their hands immediately after using the toilet to minimise the transfer of pathogens on hands to surfaces in the premises. Standard 3.2.3 requires a basin immediately adjacent to any toilets (or toilet cubicles) that are part of the food premises.

A basin in the toilet cubicle or in the area immediately outside the cubicle would comply with the requirement.

Not all existing or new premises have toilets provided as part of the premises. Shared public and staff toilets are often provided in shopping malls and for fetes, fairs and similar events. There are no specific obligations under these standards on businesses to ensure that handbasins are available at these public facilities, but note the comments about the adequacy of toilet facilities under clause 16 on page 177. Also, other laws such as building laws may require them to be provided.

The business should be aware that staff might not have had an opportunity to wash their hands adequately in public facilities. It is good practice to provide a basin at the staff entrance to the food preparation area because it will enable staff to thoroughly wash their hands before resuming work and before there are opportunities to contaminate surfaces in this area.

Specific requirements for hand washing facilities

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

(a) permanent fixtures;

The facilities have to be a permanent fixture unless the premises are temporary.

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

The subclause requires that the facilities be connected to, or otherwise provided with, a supply of warm running water. In permanent premises the basin must be connected to a piped supply of warm running potable water. If a separate hot and cold water supply is provided a mixer tap (preferably the single-level type) or common outlet is required.

Example

When testing the handbasin at a café the enforcement officer considers the water to be cold. The officer checks the supply and the basin is connected to the cold water supply only.

The café proprietor is required to either provide a supply of hot water to the basin and install a single outlet for hot and cold water or otherwise provide warm running water.

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

Hand washing facilities must be of sufficient size to enable them to be used by food handlers. There must be sufficient distance under the water spout (or water outlet) for food handlers to have room under running water to move their hands about to be able to effectively wash them.

In regard to basin size, for guidance purposes only, a basin of 11 litres capacity with minimum dimensions of 500 mm by 400 mm 'off the wall' will be adequate for most food handlers.

Automatic units which are installed above handbasins are available. These heat the water, automatically dispense water and soap and automatically turn off. These should be installed in such a way as to provide room for the food handler to wash under the water running from the unit.

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

'Designated' means that the facilities must be identifiable in some way that indicates that they are for the sole purpose of washing hands, arms and face.

The business might do this by one of the following methods:

- installing a conventional handbasin of a design that is easily recognisable as such and providing soap and drying facilities only at that basin (or basins);
- putting up a sign that states 'For hand washing only';
- an illustration of hands being washed; or
- indicating that the facility is not to be used for food and utensil washing.

If one compartment of a double bowl sink is designated for hand washing the sign must clearly indicate which part. The use of one compartment of a double bowl sink would only be acceptable if the business did not need two compartments for the food handling activities of the business or had other sinks available for food preparation, cleaning and sanitising.

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

Hand washing facilities at temporary premises are not required to be permanently fixed in place as this would be impractical.

Temporary premises are stalls at fetes and shows, after which they are dismantled. Temporary premises do not include mobile food vehicles that are permanently equipped to prepare and sell food and which may move from site to site. Mobile food premises must have permanent hand washing facilities fitted.

Exemptions for domestic premises and temporary premises

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).

In addition to the specific exemption in 14(3), premises that are used principally as private dwellings and temporary premises are exempt from the requirements of the clause if the food business has approval from the enforcement agency. The approval must specify which of the requirements do not have to be met.

Domestic premises

Bed and breakfast and family day care organisations are examples of businesses that may seek approval to continue to operate in premises that are designed for domestic use and may not have handbasins in the kitchen.

The enforcement authority would have to be satisfied that there is a washbasin that is adjacent to the kitchen or is easily accessible from the kitchen. Alternatively, if the kitchen has a double bowl sink, one compartment could be designated for hand washing if this does not pose a food safety hazard.

Hand washing at a single bowl sink may also be acceptable depending on the food handling operations taking place in the kitchen and how much use is made of the sink. Where there is only one food handler in the kitchen (as could be the case with bed and breakfast and family day care) only one job of either washing dishes or preparing food can (usually) occur at once, making cross-contamination less likely.

However, in a bed and breakfast that had sufficient guests to warrant the kitchen operating at a 'commercial' level with several staff working there at one time, approval should not be given to operate without a designated hand washbasin in the kitchen.

Businesses operating in domestic premises may also seek approval for exemption from having a basin immediately adjacent to the toilet or toilet cubicles. This recognises that private homes may not have handbasins located in the same cubicle as the toilet. If the enforcement authority is satisfied that the business can safely use other hand washing facilities, an exemption may be granted.

Temporary premises

Businesses such as market stalls and caterers on outback tours may obtain prior approval from the enforcement agency to use gels and other hand washing agents. This may be appropriate where water is either not available or supplies of water are limited.

Other issues relating to hand washing

Hands-free taps

Businesses are not specifically required in the standard to install hands-free taps. On the basis of the very limited information available, it is unlikely that food safety would benefit from replacing the conventional taps currently installed at most kitchen and toilet handbasins with hands-free taps.

However, new work in existing premises, renovation of existing premises and building of new food premises provide an opportunity to include hands-free taps (or single-lever mixer taps) at basins in food preparation areas and at toilet handbasins.

Designating one bowl of a double compartment sink or a single bowl sink for hand washing

Some existing premises might not have a handbasin in food handling areas. The standard does not prohibit designating one bowl of a two-compartment sink or a spare single bowl sink as the hand wash facility. It is important that all food handling, and cleaning and sanitising operations are taken into account when assessing the use of a sink compartment. Using one compartment of the sink for hand washing and also for other uses would not comply with the standard.

Example

A proprietor of a café serving only cakes and drinks uses a dishwasher to wash and sanitise all eating and drinking utensils, chopping boards and other small pieces of equipment. One half of the double bowl sink is designated as the handbasin. A sign above this compartment 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 cleaning such as washing bench tops.

Requirements in the Building Code of Australia (BCA)

The BCA contains requirements for the number of handbasins that must be installed as part of the provision of sanitary fittings. This applies to all premises that fall under the scope of the BCA. There are specific requirements for handbasins in food preparation and storage premises in Tasmania and the Northern Territory. There are requirements for meat premises and delicatessens in Queensland.

Division 5 — Miscellaneous

15 Storage facilities

The intention of the requirement is that adequate storage facilities are available for items that are likely to be a source of food contamination. Storage must be located where there is no likelihood of stored items contaminating 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.

Although the subclause specifically refers to storage for chemicals, clothing and personal belongings, the requirement applies to any items that are to be stored and which are likely to contaminate food, for example, chemicals to maintain equipment (such as lubricants) and storage for oil and fuel for vehicles.

Adequate storage for clothing and personal belongings

The aim of the requirement is to provide staff with space to store their belongings and avoid the storage of clothing, bags, etc. on bench tops or other places where food is stored or prepared.

Outdoor clothing, soiled uniforms, handbags and other personal belongings are likely to contain foreign material such as hair, dust and dirt particles, and micro-organisms, all of which could contaminate food and equipment.

Compliance with 'adequate' will depend on the nature of the business. In a small business a designated cupboard for personal items may be sufficient but a change room with lockers or cupboards may be necessary if staff have to change clothes.

Adequate space for cleaning and other non-food-use equipment and chemicals

Equipment used for cleaning is often contaminated with micro-organisms. Cleaning chemicals are dangerous if ingested and contamination of food and food contact surfaces must be avoided. Similarly, equipment used to control pests may be contaminated with pesticides and in turn could contaminate food, utensils, etc. Pesticides could cause a serious health hazard if they were ingested.

The business will have to provide an area for storing chemicals and cleaning equipment. Ideally, this should be a separate storage area designated for that purpose or, if small amounts of chemicals are stored, a cupboard. 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 could be used. Opened containers should be stored separately from food and food equipment.

Storage areas for hazardous chemicals are not specifically required to be lockable. This would usually be a security or occupational health and safety issue.

Adequate space for other items

Office equipment

Office equipment (paperclips, pins, staples, pens, etc.), paperwork, files, invoices and maintenance equipment (tools, nails, paint, etc.) will also require sufficient room for storage if kept at the premises.

Dirty linen

The business must provide adequate storage for dirty linen, tablecloths, tea towels, aprons, etc. where these are used by the business.

Note that storage for items that need to be protected from contamination, for example food packaging materials, is mentioned under clause 3(b).

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

Storage outside food preparation areas is preferable. This reduces the risk that contamination from the stored items will contaminate food. However, if this is not possible the storage should be provided in a cupboard, locker or other designated area.

The storage should not be in a place where small items such as paperclips are likely to fall into food or food containers, for example, shelving above preparation benches is unlikely to be suitable.

Storage may be required for equipment that is likely to be contaminated by materials that could contaminate food.

Example

A hotel has a storeroom for dry goods and eating and drinking utensils. The ground maintenance staff want to use the storeroom for garden equipment. The ground maintenance staff are asked to find other storage separate from food areas because of the likely presence of soil on the garden equipment that could contaminate the food and utensils.

Requirements under the Building Code of Australia (BCA)

New work may have to comply with requirements in the BCA that apply in some States, for example in Queensland and Tasmania.

16 Toilet facilities

The outcome of the requirement is that toilet facilities for the use of food handlers are available either on the premises or available elsewhere.

16 A food business must ensure that adequate toilets are available for the use of food handlers working for the food business.

Adequate

The following factors are suggested as a guide to the interpretation of 'adequate'.

Factor in deciding whether facilities are adequate	Comment
Numbers of toilets	The BCA provides guidance on what would be considered to be adequate numbers of toilets. Reference can also be made to industry guides. Segregating toilets for male and female use is not a food safety issue.
Shared toilets with customers	Separate toilets for food handlers and customers are not required and 'combined' toilets should be considered adequate. A designated 'staff only' toilet may assist a proprietor with his responsibilities to keep the toilet available at all times and clean.
Always accessible	Toilets must be accessible at all times that the business is operating. Toilets that are not on the premises must be accessible at all times when staff are working.
Clean toilets	The toilets must be clean and operating properly whether on or off the premises.
Suitably located	Toilets should not be entered directly off a food preparation area but through a ventilated lobby. There must be no likelihood that droplet-borne contamination will affect the safety of food. The toilets should also be located within a reasonable distance from the food handlers' work area. A 'reasonable distance' is the maximum distance that an ordinary person would be expected to walk in the time available for breaks etc. and takes into account the time needed to negotiate doors, stairs and corridors to reach the toilets. To prevent customers from contaminating food, access to customer toilets should not be through food preparation areas.
Suitable design and construction	Toilets on the premises are part of the premises and must meet this standard. Toilets off-site must also meet the requirements to be considered adequate, for example they should be designed and constructed to be able to be kept clean and should be adequately lit and ventilated.
Adequately equipped	The facilities should be provided with handbasins with a supply of warm potable running water for hand washing, and suitable drying facilities.

Toilets that are not part of the food premises

It is not possible to take action to remedy the defects in regard to the toilet facilities off the premises under these standards, as they are not part of the food premises.

However, as the business has not complied with the requirement, there is a contravention of the standard. The responsibility is that of the food business proprietor to ensure that adequate toilets are available. Proprietors should make arrangements with the management of offsite toilets to ensure compliance.

For example, if the toilets in a shopping mall are under the control of the shopping mall management and are not kept clean then the food business has committed an offence under this standard for failure to provide adequate toilets. The person responsible for the toilets has not committed any offence under these standards although he or she may have failed to comply with other legal obligations.

New premises

New buildings (and altered buildings) will have to meet the requirements of the BCA.

Mobile premises

The clause applies to mobile premises. The proprietor of the business operating from the vehicle should nominate the toilet facilities that are available to the business during operating hours. Facilities could include toilets at a service station, another business, a residential property or a porta-loo on site. Whether the toilets were close enough to the site used by the mobile premises or otherwise appropriate would have to be evaluated in each case.

Example

A mobile fish vendor parks his vehicle in a service station driveway to sell fish every Tuesday. He obtains permission from the service station proprietor to use the toilets at the service station.

17 Food transport vehicles

The outcome of this requirement is that vehicles used to transport food are designed and constructed to protect the food being transported.

The parts of the vehicle used to transport food are capable of being effectively cleaned and surfaces in contact with food are capable of being sanitised if necessary.

The requirement only applies to vehicles used to transport food. Food transport vehicles do not have to comply with the other requirements of this standard because they are excluded from the definition of food premises in Standard 3.1.1. 'Vehicles' includes any mode of transport whether self-propelled or not and whether used on land or sea or in the air.

Vehicles used for preparing or selling food are not covered by this clause. They are defined as food premises and have to 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.

Vehicles used to transport food must protect the food from contamination if there is a risk that the food will be contaminated.

Vehicles used to transport food that is unpackaged, for example, raw meat, bread and cakes must be designed and constructed to protect the food from airborne dust, dirt, vehicle fumes and rain. It may not necessary to completely enclose loads such as whole fruit and vegetables. However, produce intended for consumption without peeling or any other process that could remove contamination should be protected.

The food compartment should be separate from the driver's compartment or any passenger areas. This will prevent personal items that could get into the food (pens, paperclips, cigarette butts) being in the food compartment. It will also prevent contamination from any micro-organisms carried by the driver or passengers that could be transmitted by coughs and sneezes.

The food must be protected from contamination from the vehicle such as flaking paint, dripping water from fan units and grease from overhead rails. If the problem does not arise from a design and construction problem with the vehicle it may be covered by clause 10 in Standard 3.2.2, which requires food to be protected during transport. If it is a maintenance problem clause 21 in Standard 3.2.2, which requires food transport vehicles to be maintained in a good state of repair, may apply.

Food must be separated from contaminants while on the vehicle. Contaminants include chemicals, which taint or are toxic, or other foods which may impart odours or may mix with the food and contaminate it.

Cooked and raw foods may be carried on the same vehicle provided they are adequately separated and or packaged and there is no risk of spillage or contact. For example, packs of raw meat may be carried with cooked meats or other foods provided there are no opportunities for contamination of the cooked meat. Raw, unwashed vegetables should be kept separate from cooked and ready-to-eat foods. Designing the vehicle to include partitions, separate compartments, shelves etc. will assist in segregating loads and preventing cross-contamination.

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

The requirement only applies to the area 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.

Interpretation of 'effective' should have regard to the degree to which the food being transported would be affected by the ability of the interior surfaces to be cleaned. The types of surfaces that are provided in vehicles need to be appropriate for the type of food being transported. For example, a truck used to transport raw potatoes could have a timber floor and metal or canvas sides. In this example, the main purpose of cleaning will be to remove soil and pests that could have been carried with the load.

A truck carrying unpackaged foods such as meat carcasses should have metal or other impervious interior surfaces to withstand repeated contact with hot water and cleaning detergents. Cleaning will have to be of a higher standard to remove any microbiological contamination.

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 is unpackaged and in direct contact with the interior surfaces of the vehicle as in the case of a milk tanker, the surfaces will have to be capable of withstanding sanitising by steam, hot water or chemicals.

There may be specific requirements in other legislation for food transport vehicles; for example, laws applicable to meat transport may refer to the *Australian Standard for Transportation of Meat for Human Consumption*.

Example

A take-away pizza business delivering takeaway pizzas uses the cars owned by the delivery drivers. These cars are therefore food transport vehicles and this clause applies.

The proprietor of the business is assured by the enforcement agency that, provided the pizzas are completely enclosed in new pizza boxes and then enclosed in outer bags that are removed before giving the pizza to the customer, they can be transported in the passenger area of the car. There is minimal likelihood of any contamination on the passenger seat coming in contact with the pizza carton or pizza.