

Approved Document for Maldives
Building Code food Preparation and
Prevention of Contamination
Clause G3

Prepared by the Construction Industry
Development Section of the Ministry of
Construction and Public Infrastructure based on
the Approved Document prepared by the
Building Industry Authority of New Zealand .

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Maldives Building Code

Clause G3 Food Preparation and Prevention of Contamination

This Clause is extracted from the Maldives Building Code.

Clause G3—FOOD PREPARATION AND PREVENTION OF CONTAMINATION	
Provisions	Limits on application
<p>OBJECTIVE</p> <p>G3.1 The objective of this provision is to:</p> <ul style="list-style-type: none"> (a) Safeguard people from illness due to contamination, (b) Enable hygienic food preparation without loss of <i>amenity</i>, and (c) Ensure that <i>people with disabilities</i> are able to carry out normal activities and processes within <i>buildings</i>. <p>FUNCTIONAL REQUIREMENT</p> <p>G3.2.1 <i>Buildings</i> shall be provided with space and facilities for the hygienic storage, preparation and cooking of food, that are <i>adequate</i> for the <i>intended use</i> of the <i>building</i>.</p> <p>G3.2.2 <i>Buildings</i> used for the storage, manufacture or processing of food, including animal products, shall be constructed to safeguard the contents from contamination.</p> <p>G3.2.2 <i>Buildings</i> used for the medical treatment of humans or animals, or the reception of dead bodies, shall be constructed to avoid the spread of contamination from the <i>building</i> contents.</p> <p>PERFORMANCE</p> <p>G3.3.1 Food preparation facilities shall be hygienic and include:</p> <ul style="list-style-type: none"> (a) Space and facilities for food storage, as required by the authority for public health, 	<p>Objective G3.1 (c) shall apply only to those <i>buildings</i> to which serve the public, <i>buildings</i> designated for Disabled Persons’ use and to <i>buildings</i> where accessibility is required by any other Act.</p> <p>Requirement G3.2.1 shall apply to <i>Housing</i>, and where appropriate shall also apply to <i>Commercial</i> and <i>Industrial buildings</i> whose <i>intended uses</i> include the manufacture, preparation, packaging or storage of food.</p> <p>Performance G3.3.1 (a) and (b) shall apply to <i>Housing</i> and <i>Commercial</i> or <i>Industrial buildings</i> whose <i>intended uses</i> include the handling of perishable food.</p>

(b) Means for food rinsing, utensil washing and waste water disposal,

(c) Means for cooking food, and

(d) Space and a surface for food preparation.

G3.3.2 Spaces for food preparation and utensil washing shall have:

(a) All *building elements* constructed with materials which are free from *hazardous substances* which could cause contamination to the *building contents*.

G3.3.3 An *adequate* energy supply shall be provided, appropriately located for use by cooking and refrigeration appliances.

G3.3.4 Space and facilities shall be provided within each *household unit*, or grouped elsewhere in a convenient location.

G3.3.5 Where facilities are provided for *people with disabilities* they shall be *accessible*.

G3.3.6 Spaces in *buildings* shall be protected from the likelihood of contamination or vermin entering areas used for the storage, processing or preparation of food, and shall have a means of preventing contamination spreading from these areas to other spaces.

Performance G3.3.1 (c) shall apply to *Housing*.

Performance G3.3.1 (d) shall apply to *Housing*.

Performance G3.3.6 shall apply to *Commercial or Industrial buildings* whose *intended uses* include the handling of perishable food, the medical treatment of humans or animals, the slaughter of animals or the reception of dead bodies.

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References

For the purposes of Maldives Building Code compliance, acceptable reference documents include only the quoted edition and specific amendments as listed below.

	Where quoted
Building Research Association of New Zealand	
BRANZ Technical Paper P36: 1983 Food processing floors, a guide to design, materials and construction. W.R. Sharman	AS1 2.1.5
New Zealand Government Departments	
Ministry of Agriculture and Fisheries	
MQ1: 1988 Qual approvals manual	AS1 2.1.5

Definitions

This is an abbreviated list of definitions for words or terms particularly relevant to this Approved Document.

Accessible Having features to permit use by *people with disabilities*.

Adequate *Adequate* to achieve the objectives of the *building code*.

Building has the meaning ascribed to it by the Maldives Building Code.

Contaminant has the meaning ascribed to it by the Resource Management Act 1991.

Hazardous Creating an unreasonable risk to people of bodily injury or deterioration of health.

Household unit means any *building* or group of *buildings*, or part of any *building* or group of *buildings*, used or intended to be used solely or principally for residential purposes and occupied or intended to be occupied exclusively as the home or residence of not more than one household;

but does not include a hostel or boardinghouse or other specialised accommodation.

Impervious That which does not allow the passage of moisture.

Intended use of a *building* includes:

- a) Any reasonably foreseeable occasional other use that is not incompatible with the *intended use*; and
- b) Normal maintenance; and
- c) Activities taken in response to *fire* or any other reasonably foreseeable emergency – but does not include any other maintenance and repairs or rebuilding.

People with disabilities means any *person* who suffers from physical or mental disability to such a degree that he or she is seriously limited in the extent to which he or she can engage in the activities, pursuits, and the processes of everyday life.

Verification Method G3/VM1

No specific test methods have been adopted for verifying compliance with the Performance of MBC G3.

Acceptable Solution G3/AS1

1.0 Domestic Appliances and Facilities

1.0.1 This part of the acceptable solution applies only to *Housing*, work camps, old people's homes, and early childhood centres.

1.1 Sink and preparation surface

1.1.1 Utensil washing and food rinsing facilities shall have a sink with free draining surfaces with continuous falls to the outlet. The sink shall be capable of fully containing a solid cylinder of 300 mm diameter and 125 mm depth.

1.1.2 The food preparation surface shall have the minimum dimensions shown in Figure 1. A drainer integral with and draining to the sink is acceptable.

1.1.3 Food preparation surfaces shall be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminate, and tiles are examples of suitable materials for these surfaces.

1.1.4 Portable supply shall be provided to the sink as required by MBC G12 "Water Supplies".

1.1.5 Plumbing and drainage for waste water from the sink shall be provided as required by MBC G13 "Foul Water".

1.2 Cooker

1.2.1 A cooker or an oven or a hot plate, or a wall oven and a separate hob, shall be provided for cooking.

1.3 Perishable food store

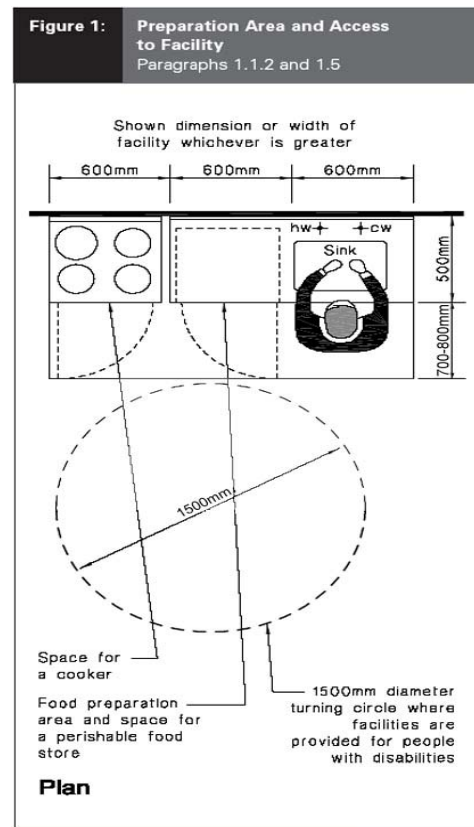
1.3.1 The food store shall have a minimum capacity of:

0.5 m³ for use by up to 2 people

1.0 m³ for use by 3 to 5 people

1.0 m³ + 0.2 m³ per additional person over 5 people

1.3.2 The food storage space shall provide for either refrigeration, or ventilation to the outside air



1.3.3 Ventilation may be by mechanical or natural means. Where natural air flow is used, wall vents to the exterior shall be installed near both the top and bottom of the storage area.

1.3.4 Ventilation openings shall be fly and vermin proof.

1.4 Energy source

1.4.1 Where a *building* is connected to a reticulated energy source, cooking and refrigeration appliances shall be permanently connected to a gas supply, complying with MBC G11, or provided with connections to electrical outlets complying with MBC G9.

1.5 Accessibility

1.5.1 The minimum clear space, adjacent to the facilities, shall be as shown in Figure 1. The space may be common to two facilities where one is to be located above the other, and shall extend at least 800 mm on the operational side of the facility.

1.5.2 Where facilities are provided for *people with disabilities*, space to allow a turning circle of 1500 mm shall be provided in front of those facilities.

1.6 Wall linings

Wall linings adjacent to appliances and facilities shall have surfaces that can be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminate, tiles, wallboards with painted or applied *impervious* coatings or films, are examples of suitable materials for these surfaces.

2.0 Commercial and Industrial Facilities

2.0.1 This part of the acceptable solution applies only to *Commercial* or *Industrial buildings*.

2.1 Interior linings for food processing areas

2.1.1 Walls of concrete, cement plaster, or concrete block shall be sealed with a synthetic coating which provides an *impervious*, easily cleaned surface.

COMMENT:

1. Particular care is required in selecting suitable surface finishes for food processing areas. Concrete floors in particular which have not been specially treated or protected, may suffer deterioration from chemical attack.

2. The interior surfaces of food processing areas should be light in colour. This makes the presence of dirt obvious and facilitates effective cleaning.

3. Food processing spaces include all spaces, or spaces immediately surrounding or supportive to the space, where animals are slaughtered or dressed, or where any food product is processed, conveyed, held, refrigerated or packed.

2.1.2 Porous materials such as wood and plasterboard are not acceptable ceilings or wall linings.

2.1.3 Exposed trusses, service ducts and similar *building elements* in food processing areas shall be completely enclosed with a material which is non-absorbent and easily cleaned.

2.1.4 Surface finishes shall be protected from likely impact and not be subject to chipping or flaking.

COMMENT:

Wherever practical it is advisable to use materials which do not require repainting.

2.1.5 Lining materials, surface coatings and sealants complying with MAF Qual Approvals Manual MQ1 for specific applications, are acceptable.

COMMENT:

BRANZ Technical Paper P36 is a useful reference document for food processing floors.

2.2 Interior linings in other areas

2.2.1 Examples of other types of *buildings* needing special attention, are factories where electroplating or the processing of lead products is carried out, and mortuaries.

2.2.2 Specific attention shall be given to protection from free water used for washing down premises, products or *building elements*, and from contaminating vapours or liquids which could form unhygienic or *hazardous* deposits on *building elements*.

2.2.3 The surfaces of floors, walls, ceilings and other *building elements*, as well as any joints in their *construction*, shall be *impervious* and easily cleaned. The following are acceptable surface materials:

- a) Polyvinylchloride sheet
- b) Ceramic tiles with waterproof grouted joints
- c) Concrete with steel trowel finish.

COMMENT:

In the case of floors the requirement for a smooth surface must be balanced against the need to provide reasonable slip resistance for *building* users.

2.2.4 Wall/floor junctions which are coved, shall have any floor covering carried vertically to at least 75 mm above floor level.

2.2.5 *Construction* methods shall avoid ledges, recesses, cracks or other areas where moisture or *contaminants* could accumulate and be difficult to remove.

2.3 Wash-down areas

2.3.1 *Buildings* where wash-down is used for cleaning (e.g. abattoirs or dairy process areas), shall also be constructed to avoid the accumulation of water.

2.3.2 Horizontal ledges shall be sloped at no less than 45° to prevent accumulation of dirt and moisture. Stairs and walkways shall be graded towards drainage points.

2.3.3 Floors shall be graded to remove all effluent and water to a disposal system complying with NZBC G13 or G14.

2.3.4 Floors shall be self-draining and evenly graded to fall to *adequately* sized floor outlets or an open channel. In food

processing areas slopes shall be no less than 1 in 60 for monolithic type floors, or 1 in 50 for tiled floors.

2.3.5 In equipment wash-down areas, floor gradients shall be no less than 1 in 25.

2.3.6 Where floor-drain outlets are used, they shall be installed so that each outlet serves a floor area of no more than:

- a) 20 m² in dairy process areas,
- b) 40 m² in other areas.

2.3.7 Open channels shall be spaced no more than 10 m apart, be deep enough to avoid overflowing, and have a gradient to their outlet of no less than 1 in 60.