Compliance Document for
New Zealand Building Code
Handbook

Prepared by the Department of Building and Housing

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**Document Status**

The most recent version of this document, as detailed in the Document History, is approved by the Department of Building and Housing. It is effective from 1 April 2004 and supersedes all previous versions of this document.

People using this Compliance Document should check for amendments on a regular basis. The Department of Building and Housing may amend any part of any Compliance Document at any time. Up-to-date versions of Compliance Documents are available from www.dbh.govt.nz
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*NEW ZEALAND BUILDING CODE HANDBOOK*

*DEPARTMENT OF BUILDING AND HOUSING*

*1 December 1995*
1.0 Introduction

1.0.1 This preface is provided only as a convenient user reference. It gives simple answers to questions frequently asked about the building code and associated legislation. Legal interpretation must however, be based on the actual wording of the Act and Regulations themselves.

1.1 The Act

1.1.1 The Building Act 1991 establishes a national, uniform, building control system which covers:

- All buildings including Crown buildings, except for certain defence works.
- All components of each building including plumbing, electrical and mechanical installations.

1.1.2 The Act applies to:

- Building construction, including alteration and demolition.
- Maintenance of building systems or features such as lifts and fire protection installations.

1.1.3 The Act does not cover:

- Planning and resource management, and other aspects of a building’s relationship to the surrounding neighbourhood.
- Occupational safety and health, and other aspects of managing people.

1.1.4 The building control system regulates only those matters essential for ensuring that buildings perform in a way which:

- Safeguards people from injury and illness.
- Safeguards people, particularly those with disabilities, from loss of amenity.
- Protects other property from damage.
- Facilitates efficient use of energy.

1.1.5 The controls do not provide for regulatory intervention in the owner’s choice on other matters such as aesthetics or non-essential building features provided solely for the comfort or convenience of users. Nor do they protect an owner’s economic interests in terms of ensuring value for money, or through losses due to lack of care or competence.

1.1.6 No person shall be required to achieve performance criteria additional to or more restrictive than those specified in the building code, except as may be provided for in any other Act.

1.2 The New Zealand Building Code

1.2.1 The New Zealand Building Code (NZBC) is a schedule to the Regulations authorised by the Act. It contains the mandatory provisions for meeting the purposes of the Act, and is performance-based. That means it says only what is to be done, not how to do it.

1.3 The Building Industry Authority

1.3.1 The Building Industry Authority (BIA) is a Crown agency established under the Act as the sole regulatory authority for building controls in New Zealand.

1.4 Territorial authorities

1.4.1 Territorial authorities are responsible within their districts for the day-to-day administration of the building control legislation.

2.0 Special Terms

2.1 Building certifier

2.1.1 A building certifier is a person approved by the Building Industry Authority to issue building certificates with respect to specific provisions of the New Zealand Building Code. A building certifier may be employed by a building owner as an alternative to using the territorial authority for checking technical proposals and performing inspections.

2.2 Building certificate

2.2.1 A building certificate is a formal confirmation by a building certifier that specific aspects of a building comply with the New Zealand Building Code. A territorial authority is obliged to accept such a certificate.
2.3 Project information memorandum

2.3.1 A territorial authority is required, either on request or when a building consent is issued, to provide the owner with a project information memorandum. The memorandum shall contain all information known to the territorial authority about physical site conditions, and requirements under any legislation, which could be of relevance to an owner initiating a building project.

2.3.2 This requirement is intended to avoid an owner being committed to expensive redesign costs on a project as a result of not being supplied with details of requirements in advance of doing the work.

2.4 Building consent

2.4.1 The building consent is the formal authorisation by the territorial authority that proposed building work may proceed. The consent may contain conditions, and will confirm inspection requirements necessary to ensure that the finished work complies with the New Zealand Building Code.

2.5 Waivers and modifications

2.5.1 A territorial authority may grant waivers and modifications to provisions of the New Zealand Building Code.

2.5.2 In doing so, the territorial authority must have due regard to matters described in section 47 of the Act. These include the physical characteristics of the building, its location, use and intended life, and any special historical, cultural or traditional considerations. The Building Industry Authority must be notified of any waivers or modifications approved by a territorial authority.

2.5.3 Waivers and modifications to New Zealand Building Code provisions, are not to be confused with site changes to a design or variations to an acceptable solution, which still comply with the New Zealand Building Code. In effect such changes are an alternative solution and may be authorised at any time by a building certifier or territorial authority.

2.6 Accreditation certificate

2.6.1 The Building Industry Authority may issue an accreditation certificate for materials, components and construction methods used in building. Accreditations may be based on an assessment of appraisals given by recognised independent specialists, or on type endorsements confirming that a particular material, component or construction method conforms with one already acceptable under the New Zealand Building Code.

2.6.2 Any materials or methods for which the Building Industry Authority has issued an accreditation certificate must be accepted by a territorial authority or building certifier as satisfying relevant New Zealand Building Code provisions.

2.7 Determination

2.7.1 A determination is a decision by the Building Industry Authority on whether a material, component or method complies with the New Zealand Building Code.

2.7.2 An application for a determination is made to resolve a disagreement between a building owner and a territorial authority or building certifier. A determination applies only to a particular building and is binding on all parties concerned.

2.7.3 The Building Industry Authority will publish those determinations of significance, as a guide to future decisions by territorial authorities and building certifiers.

2.8 Notice to rectify

2.8.1 A territorial authority may issue to the owner or owner’s agent a notice to rectify, requiring any building work not complying with the Act or New Zealand Building Code to be rectified.
2.9 Code compliance certificate

2.9.1 A territorial authority or building certifier will, on the satisfactory completion of building work, issue a code compliance certificate indicating that all necessary provisions of the New Zealand Building Code have been satisfied.

2.9.2 Separate code compliance certificates may be issued for different parts of staged building construction.

2.10 Compliance schedule

2.10.1 A compliance schedule specifies inspection, maintenance and reporting procedures for systems whose continued operation is essential for ongoing New Zealand Building Code compliance.

2.10.2 Such systems include automatic fire protection equipment, lifts, signs, emergency lighting and ventilation plant.

2.11 Building warrant of fitness

2.11.1 An annual building warrant of fitness is a building owner’s confirmation that essential features of the building, as listed in the compliance schedule, have been properly maintained.

3.0 Means of Code Compliance

3.1 Owner’s choice

3.1.1 An owner is free to use any materials, components or construction methods which comply with relevant performance criteria of the New Zealand Building Code. The absence of prescriptive requirements is expected to encourage innovation and the use of new technology.

3.1.2 For those people who prefer specific guidance, Approved Documents issued by the Building Industry Authority provide detailed methods for establishing New Zealand Building Code compliance.

3.2 Approved Documents

3.2.1 Approved Documents authorised under the Act, contain acceptable solutions and verification methods.

3.2.2 A territorial authority or building certifier must accept that compliance with an Approved Document is a means of establishing compliance with those provisions of the New Zealand Building Code to which that document refers.

3.3 Acceptable solutions

3.3.1 Acceptable solutions given in Approved Documents are examples of materials, components and construction methods which, if used, will result in compliance with the New Zealand Building Code. They serve also as guidelines for alternative solutions.

3.4 Alternative solutions

3.4.1 There is no obligation to adopt any particular solution. Materials, components and construction methods which differ in whole or in part from those described in Approved Documents may be used, if they comply with the New Zealand Building Code. The owner may be required to demonstrate that any such method does in fact comply, when seeking a consent from the territorial authority under section 33 of the Act, or a determination from the Building Industry Authority under section 17 of the Act.

3.5 Verification methods

3.5.1 New Zealand Building Code compliance of an alternative solution may be verified by any of the following methods:

a) Calculations – using recognised analytical methods and mathematical models.

b) Laboratory tests – using tests (sometimes to destruction) on prototype components and systems.

c) Tests in-situ – which may involve examination of plans and verification by inspection, where compliance with specified numbers (e.g. fittings), dimensions or locations is required. Non-destructive tests (e.g. pipe pressure tests), are also included.
3.5.2 Where specific test methods are known, and practicable, they are listed in Approved Documents.

3.6 Producer statements

3.6.1 A territorial authority may, at its discretion, accept a producer statement establishing compliance with the New Zealand Building Code.

3.6.2 A building certifier may also accept a producer statement if satisfied on reasonable grounds that the product or design complies with the New Zealand Building Code.

3.6.3 The acceptance of a producer statement does not absolve the territorial authority or building certifier from responsibility.

3.7 Status of other publications

3.7.1 Publications issued by organisations other than the Building Industry Authority are referred to in Approved Documents. Those publications (subject to any stated deletions or modifications), are methods of compliance with the New Zealand Building Code, to the extent that they relate to provisions specifically stated in the purpose of each New Zealand Building Code clause.

3.7.2 It should be noted in using reference publications that:


b) For purposes of the New Zealand Building Code, reference content may be separated into two parts comprising either verification methods or acceptable solutions.

c) Content on good practice, while being desirable is not essential for satisfying New Zealand Building Code performance.

d) Approvals, waivers and modifications under the New Zealand Building Code may be granted only by the territorial authority, or the Building Industry Authority as the outcome of a referral. This does not preclude the site supervisor making (within the limits of his/her technical competence) minor practical construction changes to facilitate New Zealand Building Code compliance.

e) As it is the responsibility of building owners or their agents to demonstrate that alternative solutions comply with the New Zealand Building Code, phrases such as “to the approval of the engineer”, used in referenced publications, are not applicable to the New Zealand Building Code.

3.7.3 Referenced publications are:

- specific to the dated edition quoted, and include any amendments issued prior to the date shown at the foot of the page on which they are listed, or
- include only the quoted edition and specific amendments as listed in each Approved Document.

4.0 Interpretation

4.1 Building Code

4.1.1 This schedule to the Building Regulations 1992 is divided under eight main categories into a total of 37 clauses of which the first two are general provisions, and the remainder specifically applicable to different aspects of building construction.

4.1.2 Clause references are identified by letters and numerals, with the letter indicating the category.

4.1.3 First order numerals (either 1, 2 or 3) indicate primary subdivisions of each clause where:

1 is the Objective

2 is the Functional Requirement

3 is the Performance

4.1.4 Second order numerals identify a specific Functional Requirement or Performance.

For example in Clause F4.3.2:

F indicates the main category “Safety of Users”.

4 indicates specific application to “Safety from falling”.

3 indicates a Performance.

2 indicates the second performance of the Clause.
4.1.5 Throughout the New Zealand Building Code and Approved Documents, except in headings, defined words are indicated by italics.

4.1.6 Defined words of the New Zealand Building Code are listed in Clause A2. Approved Documents each contain a list of definitions relevant to the document. A full list of definitions is contained in this Handbook.

4.1.7 Where an Objective, Functional Requirement or Performance has limited application, the exceptions are identified immediately beside the Clause to which they refer.

4.2 Approved Documents

4.2.1 Approved Documents may contain acceptable solutions and verification methods. In cases where a verification method or acceptable solution has not been adopted, this is stated. Over time additional verification methods and acceptable solutions may be issued by the Building Industry Authority.

4.2.2 Each acceptable solution and verification method is identified according to topic and whether it is an acceptable solution or verification method at the top of each page.

For example:

E1/VM1 Indicates that the topic is E1 “Surface Water”, and the document is verification method number 1.

G13/AS2 Indicates that the topic is G13 “Foul Water”, and the document is acceptable solution number 2.

4.2.3 Approved Documents each include copies of the appropriate New Zealand Building Code Clause and a list of references and definitions relevant to the document, but do not contain explanations of classified uses. These apply to all Approved Documents and are available separately in Clause A1 and the New Zealand Building Code, reproduced in this Handbook.

4.2.4 Advisory comment

Where Approved Documents contain information that is general advice, such comments are identified and in shaded smaller print immediately following the paragraph to which they refer.
Publications Referenced in Handbook and Approved Documents

(Revised by Amendment 6)

For the purposes of New Zealand Building Code compliance, acceptable reference documents include only the quoted edition and specific amendments as listed below. Dates in brackets indicate that the Standard was reviewed and reissued without change that year.

Approved Documents in which the particular references are quoted are identified by the relevant New Zealand Building Code Clause and the number of the verification method or acceptable solution.

For example: **B1/VM1/AS3** indicates that the reference occurs in Verification Method 1, and Acceptable Solution 3 of the Approved Document for Clause B1 Structure.

Where references are quoted in the Handbook, these are identified by the letters HB and the relevant section. For example: **HB/CS 3** indicates that the reference occurs in compliance schedule CS 3 in the Handbook.

Places where the reference documents are quoted, are more specifically identified by paragraph or table, in the reference list contained in each Approved Document.

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NZS/BS 476:-  Fire tests on building materials and structures
Part 20: 1987  Method for determination of the fire resistance of elements of construction (general principles)
Amend: 6487

C/AS1

Part 21: 1987  Methods for determination of the fire resistance of loadbearing elements of construction
C/AS1

Part 22: 1987  Methods for determination of the fire resistance of non-loadbearing elements of construction
C/AS1

NZS/BS 970:-  Specification for wrought steels for mechanical and allied engineering purposes
Part 1: 1991  General inspection and testing procedures and specific requirements for carbon, carbon manganese, alloy and stainless steels
E1/AS1

NZS/BS 1387: 1985 Specification for screwed and socketed steel tubes and tubulars and for plain end steel tubes suitable for welding or screwing to BS 21 pipe threads
(1990)

G10/AS1, G12/AS1, G14/VM1

NZS/AS 1397: 1993 Steel sheet and strip – hot-dipped zinc-coated or aluminium/zinc coated. (This Standard is an acceptable alternative to NZS 3441: 1978.)

E2/AS1

NZS/BS 1560:-  Circular flanges for pipes, valves and fittings (class designated)
Part 3:-  Steel, cast iron and copper alloy flanges
Section 3.1: 1989 Specification for steel flanges
Section 3.2: 1989 Specification for cast iron flanges

E1/AS1, G10/AS1, G14/VM1

NZS/AS 1650: 1989 Hot-dipped galvanised coatings on ferrous articles

G10/AS1

NZS/AS 1657: 1992 Fixed platforms, walkways, stairways and ladders – Design, construction and installation (known as the SAA Code for fixed platforms, walkways, stairways, and ladders)

D1/AS1

NZS/BS 1740:-  Specification for wrought steel pipe fittings (screwed BS 21 – R series thread)
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NZS 1900:-  Model building bylaw
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Division 11.2 Farm buildings
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NZS/AS 2033: 1980 Installation of polyethylene pipe systems

E1/AS1, G14/VM1

NZS 2295: 1988 Building papers (breather type)
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NZS/BS 2494: 1990 Specification for elastomeric seals for joints in pipework and pipelines

NZS/BS 2654: 1989 Specification for manufacture of vertical steel welded non-refrigerated storage tanks with butt-welded shells for the petroleum industry

NZS 2908:- Cellulose-cement products
    Part 1: 1992 Corrugated sheets

NZS/BS 2971: 1991 Specification for Class II arc welding of carbon steel pipework for carrying fluids

NZS 3101:- Concrete structures standard
    Part 1: 1995 The design of concrete structures

NZS 3106: 1986 Code of practice for concrete structures for the storage of liquids
    Amend: 1, 2

NZS 3107: 1978 Specification for precast concrete drainage and pressure pipes

NZS 3109: 1997 Specification for concrete construction

NZS 3112:- Methods of test for concrete
    Part 2: 1986 Tests relating to the determination of strength of concrete
    Amend: 1

NZS 3114: 1987 Specification for concrete surface finishes
    Amend: 1

NZS 3116: 1991 Interlocking concrete block paving

NZS 3124: 1987 Specification for concrete construction for minor works

NZS 3302: 1983 Specification for ceramic pipes, fittings and joints

NZS 3331: 1972 Specification for quality of vitreous china sanitary appliances

NZS 3402: 1989 Steel bars for the reinforcement of concrete

NZS 3403: 1978 Specification for hot-dip galvanized corrugated steel sheet for building purposes

NZS 3404:- Steel structures standard
    Part 1: 1997 Steel structures standard

NZS 3421: 1975 Specification for hard drawn mild steel wire for concrete reinforcement

NZS 3441: 1978 Specification for hot-dipped zinc-coated steel coil and cut lengths
Amend: 1, 2 (See also NZS/AS 1397: 1993)

NZS 3501: 1976 Specification for copper tubes for water, gas, and sanitation

NZS 3502: 1976 Specification for copper and copper alloy tubes for general engineering purposes

NZS 3601: 1973 Metric dimensions for timber
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NZS/BS 3601: 1987 Specification for carbon steel pipes and tubes with specified room temperature properties for pressure purposes
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NZS 3604: 1999 Timber framed buildings
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NZS 3617: 1979 Specification for profiles of weatherboards, fascia boards, and flooring

NZS 3631: 1988 New Zealand timber grading rules

NZMP 3640: 1992 Specification of the minimum requirements of the NZ Timber Preservation Council Inc.
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NZS/AS 3725: 1989 Loads on buried concrete pipes

NZS 4121: 2001 Design for access and mobility – Buildings and associated facilities

NZS 4203: 1984 Code of practice for general structural design and design loadings for buildings
Amend: 1

NZS 4203: 1992 Code of practice for general structural design and design loadings for buildings
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NZS 4206: 1992 Concrete interlocking roofing tiles

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Definitions

Unless the context otherwise requires, words used in the New Zealand Building Code and Approved Documents shall have the meaning given under this section of the Handbook.

**Access chamber** A chamber with working space at drain level through which the drain passes either as an open channel or as a pipe incorporating an inspection point.

**Access point** A place where access may be made to a drain or discharge pipe for inspection, cleaning or maintenance; and may include a cleaning eye, inspection point, rodding point, inspection chamber or access chamber.

**Access route** A continuous route that permits people and goods to move between the apron or construction edge of the building to spaces within a building, and between spaces within a building.

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

**Accessible route** An access route usable by people with disabilities. It shall be a continuous route that can be negotiated unaided by a wheelchair user. The route shall extend from street boundary or car parking area to those spaces within the building required to be accessible to enable people with disabilities to carry out normal activities and processes within the building.

**Accessible stairway** A stairway having features for use by people with disabilities. Buildings required to be accessible shall have at least one accessible stairway leading off an accessible route whether or not a lift is provided.

**Accreditation certificate** means an accreditation certificate issued under Part VIII of the Act.

**Active conductor** Any electrical conductor in which the electrical potential differs from that of a neutral conductor or earth.

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

**Adjacent building** A nearby building, including an adjoining building, whether or not erected on other property.

**Air gap** The vertical distance through air between the lowest point of the water supply outlet and the flood level rim of the equipment or the fixture into which the outlet discharges.

**Air admittance valve** A valve that allows air to enter but not to escape in order to limit pressure fluctuations within the sanitary plumbing or drainage system.

**Allotment** has the meaning ascribed to it by section 4 of the Building Act 1991.

**Alter** in relation to a building includes to rebuild, re-erect, repair, enlarge and extend; and alteration has a corresponding meaning.

**Amenity** An attribute of a building which contributes to the health, physical independence, and well being of the building's users but which is not associated with disease or a specific illness.

**Appliance hearth** A layer of non-combustible material under or near an appliance. It may be either part of the building structure or an overlay on a combustible floor.

**Asbestos** as defined by the Asbestos Regulations 1983 means:

(a) Actinolite, amosite, chrysotile, crocidolite, fibrous anthophyllite, or tremolite; or

(b) A mixture containing a mineral specified in paragraph a) of this definition; or

(c) A material that is composed wholly or partly of any such mineral; or

(d) A material or article that is contaminated by any such material.

**Atmospheric burner** A burner system where all the air for combustion is induced by the inspirating effect of a gas injector and/or by natural draught in the combustion chamber without mechanical assistance.

**Authority** means the Building Industry Authority established under Part III of the Act.
**Backflow** The unplanned reversal of flow of water or mixtures of water and contaminants into the water supply system. See back-siphonage and back-pressure.

**Backflow prevention device** A device that prevents backflow.

**Back-pressure** A backflow condition caused by the downstream pressure becoming greater than the supply pressure.

**Back-siphonage** Backflow condition caused by the supply pressure becoming less than the downstream pressure.

**Baluster** A post providing the support for the top and bottom rails of a barrier.

**Balustrade** The infill parts of a barrier (typically between floor and top rail).

**Basement** Any firecell or part of a firecell below the level of the lowest final exit.

**Building** has the meaning ascribed to it by section 3 of the Act as follows: meaning of building –

1. In this Act, unless the context otherwise requires, the term “building” means any temporary or permanent movable or immovable structure (including any structure intended for occupation by people, animals, machinery, or chattels); and includes any mechanical, electrical, or other systems, and any utility systems, attached to and forming part of the structure whose proper operation is necessary for compliance with the building code; but does not include:

   (a) Systems owned or operated by a network utility operator for the purpose of reticulation of other property; or

   (b) Cranes, including any cranes as defined in regulations in force under the Health and Safety in Employment Act 1992; or

   (c) Cablecars, cableways, ski tows, and other similar stand alone machinery systems, whether or not incorporated within any other structure; or

   (d) Any description of vessel, boat, ferry, or craft used in navigation, whether or not it has any means of propulsion, and regardless of that means; nor does it include

      (i) a barge, lighter, or other like vessel:

      (ii) a hovercraft or other thing deriving full or partial support in the atmosphere from the reactions of air against the surface of the water over which it operates:

      (iii) a submarine or other thing used in navigation while totally submerged; or

**COMMENT:**

Because fire safety precautions are increased with increases in escape height, the precautions for basements increase with basement depth. Thus a single floor building with one basement level is treated as a two floor building, a single floor building with three basement levels as a four floor building and the requirements of C/AS1 Table 4.1 shall be applied downwards as opposed to upwards for levels above ground.

**Boundary** means any boundary which is shown on a survey plan approved by the Chief Surveyor and which is deposited in the Titles Office whether or not a new title has been issued.

**Boundary joist** A joist running along the outer ends of the floor joists.

**Branch discharge pipe** A discharge pipe that serves one or more fixture discharge pipes for any one floor.

**Branch vent pipe** A vent pipe that serves two or more fixture vent pipes.
(e) Vehicles and motor vehicles (including vehicles and motor vehicles as defined in section 2(1) of the Transport Act 1962 and section 2(1) of the Transport (Vehicle and Driver Registration and Licensing) Act 1986, but not including vehicles and motor vehicles, whether movable or immovable, which are used exclusively for permanent or long-term residential purposes; or

(ea) Aircraft, including any machine that can derive support in the atmosphere from the reactions of the air otherwise than by the reactions of the air against the surface of the earth; or

(f) Containers as defined in section 2 of the Dangerous Goods Act 1974; or

(g) Magazines as defined in section 2 of the Explosives Act 1957; or

(h) Scaffold used in the course of the construction process; or

(i) Falsework used in the course of the construction process.

(2) For the purposes of Part IX of this Act a building consent, a code compliance certificate, and a compliance schedule the term building also includes –

(a) Any part of a building; and

(b) Any 2 or more buildings which, on completion of any building work, are intended to be managed as 1 building with a common use and a common set of ownership arrangements.

(3) For the purposes of subclause (2) of this definition, where any utility system or any part of any utility system –

(a) Is external to the building; and

(b) Is also connected to or is intended to be connected to –

(i) A network under the control of a network utility operator; or

(ii) Some other facility which is able to provide for the successful functioning of the utility system in accordance with its intended design – that utility system or that part of the utility system shall be deemed to be part of a building.

(4) Notwithstanding the provisions of subclause (3) of this definition, where a septic tank is connected to a building utility system the septic tank shall be deemed to form part of that building utility system.

Building certifier means a person approved as a building certifier by the Authority under Part VII of the Building Act 1991.

Building code means the building code made under Part VI of the Building Act 1991, being the building code set out in the First Schedule to the Building Regulations.

Building consent means a consent to carry out building work granted by a territorial authority under Part V of the Building Act 1991; and includes all conditions to which the consent is subject.

Building element Any structural and non-structural component or assembly incorporated into or associated with a building. Included are fixtures, services, drains, permanent mechanical installations for access, glazing, partitions, ceilings and temporary supports.

Building height The vertical distance between the floor level of the lowest final exit from the building; and the highest occupied floor level containing or supporting any purpose group other than IE, IA or ID, or penthouses used to enclose stairways, liftshafts or machinery rooms located on or within the roof.
Building performance index (BPI) in relation to a building, means the energy from a network utility operator or a depletable resource (measured in kilowatt-hours per square metre of floor area and per degree-day, and calculated using the Building Research Association of New Zealand’s Annual Loss Factor Design Manual 1990 or some other method that can be correlated with that manual) needed to maintain the building at a constant internal temperature for the period from 1 May to the close of 31 August under the following standard conditions:

(a) A continuous temperature of 20°C throughout the building.

(b) An air change rate of 1 change per hour or the actual air leakage rate, whichever is the greater.

(c) A heat emission contribution arising from internal heat sources for the period being considered of 1000 kWh for the first 50 m² of floor area and 10 kWh for every additional square metre of floor area.

(d) No allowance for:
   - carpets, or
   - blinds, curtains, or drapes, on windows.

(e) Windows to have a shading coefficient of 0.6 (made up of 0.8 for windows and recesses and 0.75 for site shading).

Building statement of fitness means a statement issued by a territorial authority under section 44(4)(c) of the Act.

Building work means work for or in connection with the construction, alteration, demolition, or removal of a building, and includes sitework.

Cavity barrier A construction provided to close openings within a concealed space against the passage of fire, or to restrict the spread of fire within such spaces.

Check valve (or non-return valve) A valve that permits flow in one direction but prevents a return flow and is part of a backflow device.

Chimney A non-combustible structure which encloses one or more flues, fireplaces or other heating appliances.

Chimney back The non-combustible wall forming the back of a fireplace.

Chimney base That part of a chimney which houses the fireplace.

Chimney breast The front fireplace wall construction above the fireplace opening.

Chimney jambs The side walls of a fireplace.

Cladding The exterior weather-resistant surface of a building.

Classified use means a classified use listed in clause A1 of the building code.

Cleaning eye A small diameter access point usually formed as part of a fitting or trap.

Code compliance certificate means a certificate to that effect issued by a territorial authority or a building certifier pursuant to section 43 of the Building Act 1991.

Combined waste pipe A discharge pipe which serves two or more waste pipes.

Combustible See non-combustible.

Common ramp A ramp which is used, or intended to be used by the public whether as of right or not, and is not a service ramp or accessible ramp.

Common stairway A stairway which is used, or intended to be used, by the public whether as of right or not, and is not a private stairway, service stairway or accessible stairway.

Compliance schedule means a compliance schedule issued under section 44 of the Building Act 1991.

Compound In relation to the storage of liquid dangerous goods, a basin, pit, excavation, hollow or enclosure constructed of concrete, brick, clay, earth, or similar incombustible material which will effectively retain the liquid dangerous goods if they leak from their container(s).
Definitions

Concealed space Any part of the space within a building that cannot be seen from an occupied space.

COMMENT:
This term includes any ceiling space, roof space, space under a raised floor (such as computer rooms, floors, or stages), plenums, spaces under a tiered floor, “left-over spaces” created when some structural element or the like has been covered in; small service or duct spaces within the volume of a firecell and the like, but not a protected shaft.

Construct in relation to a building, includes to build, erect, prefabricate, and relocate; and construction has a corresponding meaning.

Contaminant includes any substance (including gases, liquids, solids, and micro-organisms) or energy (excluding noise) or heat, that either by itself or in combination with the same, similar, or other substances, energy, or heat
(a) When discharged into water, changes or is likely to change the physical, chemical, or biological condition of water, or
(b) When discharged onto or into land or into air, changes or is likely to change the physical, chemical, or biological condition of the land or air onto or into which it is discharged.

This is the meaning ascribed to it by the Resource Management Act 1991.

Controlled area That area where the use of radioactive material or an irradiating apparatus may, in the opinion of the licensee, present a hazard to persons within that area.

Cool location means a location in New Zealand where the degree-day total is 920 or more.

Cross connection Any actual or potential connection between a potable water supply and a source of contamination.

Damp-proof course (DPC) A narrow strip (generally up to 300 mm wide) of durable vapour barrier placed between building elements to prevent the passage of moisture from one element to another.

Damp-proof membrane (DPM) A sheet material, coating or vapour barrier, having a low water vapour transmission, and used to prevent water and water vapour movement through concrete in contact with the ground. (Also known as a concrete underlay.)

Dangerous goods Any materials included in the UN classification, classes 2-5.

Dangerous goods workroom A room reserved primarily for the use of dangerous goods of Class 3(a) or Class 3(b) (i.e. flammable liquids).

Dead end That part of an open path where escape is possible in only one direction.

COMMENT:
A dead end ceases to exist where the escape route reaches a point in the open path which offers alternative directions of travel, or at a final exit or an exitway.

Degree-day in relation to any location on any day, –
(a) If a base temperature of 15ºC is greater than the mean of the maximum and minimum outdoor temperatures at that location on that day, means the number of degrees Celsius by which that base temperature is greater than that mean.
(b) If a base temperature of 15ºC is not greater than the mean of the maximum and minimum outdoor temperatures at that location on that day, means zero.

Degree-day total in relation to any location, means the sum of the degree-days for that location for the period of 1 May to 31 August, as derived from Average Degree-day Tables – Selected NZ Stations (Miscellaneous Publication 159, 1978 of the New Zealand Meteorological Service).

Depot In relation to dangerous goods, a building, place, or vessel as may be prescribed, or as may be approved by an Inspector (of dangerous goods), as a depot for the storage of dangerous goods.

Developed length The total length along the centre line of a pipe including fittings and bends.
Diameter (or bore) The nominal internal diameter.

Discharge pipe Any pipe that is intended to convey discharge from sanitary fixtures or sanitary appliances.

Discharge stack A discharge pipe that has one or more discharge pipe connections, and which is vented at one end via a discharge stack vent.

Discharge stack vent A vent pipe connected to the top of the discharge stack.

Discharge unit The unit of measure for the discharge (hydraulic load) in the plumbing system, and is based on the rate, duration and frequency of discharge from a sanitary fixture or sanitary appliance.

Doorset A complete assembly comprising a door leaf or leaves including any glazed or solid panels adjacent to or over the leaves within the door frame including hardware or other inbuilt features; and a door frame, if any, with its fixings to the wall and, for a sliding or tilting door, all guides and their respective fixings to the lintel, wall or sill.

Drain A pipe normally laid below ground level including fittings and equipment and intended to convey foul water or surface water to an outfall.

Drainage access area means a space within a building containing an inspection chamber or access chamber, and which is isolated from other enclosed spaces within the building.

Drain vent pipe Any pipe which is intended to permit the movement of air into and out of the drain and sewer.

Draught diverter A device, without moving parts, fitted in the flue of an appliance for isolating the combustion system from the effects of pressure changes in the secondary flue.

Durable Resistant to wear and decay.

Electrical installation Any electrical fixed appliances, and components used in the reticulation of electricity, which are intended to remain permanently attached to and form part of the building.

Electrical supply system The source of electricity external to the electrical installation.

Energy work means –
(a) Gasfitting;
(b) Prescribed electrical work.

Energy work certificate means a certificate of the kind referred to in paragraph (e) or paragraph (f) of section 50(1) of the Act.

Escape height The height between the floor level in the firecell being considered and the floor level of the required final exit which is the greatest vertical distance above or below that firecell.

COMMENT:
1. It is necessary only to use the greatest height to the exits required for the firecell being considered, even though the building may have other final exits at lower or higher levels.
2. Where the firecell contains intermediate floors, or upper floors within household units the escape height shall be measured from the floor having the greatest vertical separation from the final exit.

Escape route A continuous unobstructed route from any occupied space in a building to a final exit to enable occupants to reach a safe place, and shall comprise one or more of the following: open paths, protected paths and safe paths.

COMMENT:
Doors are not obstructions in an escape route provided they comply with C/AS1 Part 3 and D1/AS1.

Essential service In the context of an electrical installation means emergency lighting, firemen’s lifts, alarms, water pumps, sprinklers, detectors, ventilation systems and public address systems necessary for the safety of people in buildings.

Estimated value The value of building work shall be the aggregate of the values, determined in accordance with section 10 of the Goods and Services Tax Act 1985, of all goods and services to be supplied for that building work.
Evacuation time The time taken by the occupants of the building to evacuate the building to a final exit.

Exitway All parts of an escape route protected by fire or smoke separations, or by distance when exposed to open air, and terminating at a final exit.

External wall Any exterior face of a building within 30° of vertical, consisting of primary and/or secondary elements intended to provide protection against the outdoor environment, but which may also contain unprotected areas.

COMMENT: A roof is an external wall if within 30° of the vertical.

Factor of safety in relation to any building means the ratio of resisting forces to applied forces for a given loading condition. It is generally expressed to two significant figures.

Falsework used in the course of the construction process means any temporary structure or framework used in construction work to support materials, equipment, or any assembly; and includes the use of steel tubes, adjustable steel props, proprietary frames, or any other means to support a permanent structure during its construction until it becomes self-supporting; but does not include scaffolding or cranes for support.

Final exit The point at which an escape route terminates by giving direct access to a safe place.

COMMENT: Final exits are commonly the external doors from a ground floor; but this applies only if such doors open directly onto a safe place. If a safe place can be reached only by passing down an alley, or across a bridge, then the final exit is not reached until the end of such an alley or bridge. Final exits, therefore, should be seen strictly as a point of arrival, rather than as any particular element of a building. They are determined entirely by the definition of safe place.

Fire The state of combustion during which flammable materials burn producing heat, toxic gases, or smoke or flame or any combination of these.

Firecell Any space including a group of contiguous spaces on the same or different levels within a building, which is enclosed by any combination of fire separations, external walls, roofs, and floors.

COMMENT: Floors, in this context, includes ground floors and those in which the underside is exposed to the external environment (e.g. when cantilevered). Note also that internal floors between firecells are fire separations.

Firecell rating (F) The time in minutes for which it is intended to prevent fire spreading to another firecell within a building, or causing structural collapse within the firecell due to failure of any primary or secondary element.

COMMENT: 1. The purpose of the firecell rating is to prevent premature collapse of elements of structure in order to protect:
   a) The occupants, some of whom may have to remain in the building for some time while evacuation proceeds, particularly if the building is a large one.
   b) Adjacent household units and sleeping areas in the building of fire origin.
   c) Fire fighters engaged on rescue and fire fighting operations (although this is limited because property protection in the building of origin is not a matter covered by the New Zealand Building Code except as required by b) above).

2. The use of the F rating to determine the FRR of a primary or secondary element is discussed in C/AS1 Part 5.

Fire damper A device with a specified FRR complete with fixings and operating mechanism for automatically closing off an airway where it passes through a fire separation.

COMMENT: An airway may be a duct, plenum, ceiling space, roof space or similar construction used for the passage of ventilating air.

Fire door A doorset, single or multi-leaf, having a specific fire resistance rating, and in certain situations a smoke control capability, and forming part of a fire separation. The door, in the event of fire, if not already closed, will close automatically and be self latching.
Requirements for fire doors are given in C/AS1 Paragraph 6.19.1 and 6.19.8 and Appendix C Paragraph C8.1.

Fire hazard means the danger in terms of potential harm and degree of exposure arising from the start and spread of fire and the smoke and gases that are thereby generated.

Fire hazard category (FHC) The number (graded 1 to 4 in order of increasing severity), used to classify purpose groups or activities having a similar fire hazard, and where fully developed fires are likely to have similar impact on the structural stability of the building.

Fire hazard categories are identified in C/AS1 Table 2.1.

Fire intensity The release rate of calorific energy in watts, determined either theoretically or empirically, as applicable.

Fire load The sum of the net calorific values of the combustible contents which can reasonably be expected to burn within a firecell, including furnishings, built-in and removable materials, and building elements. The calorific values shall be determined at the ambient moisture content or humidity. (The unit of measurement is MJ.)

Fire load energy density (FLED) The total fire load divided by the firecell floor area. In this calculation the floor area shall include circulation and service spaces, but exclude exitways and protected shafts.

The total fire load is converted to fire load energy terms in megajoules (MJ) for calculation of the FLED (MJ/m²).

Fireplace A space formed by the chimney back, the chimney jambs, and the chimney breast in which fuel is burned for the purpose of heating the room into which it opens.

Fire resistance rating (FRR) The term used to describe the minimum fire resistance of primary and secondary elements as determined in the standard test for fire resistance, or in accordance with a specific calculation method verified by experimental data from standard fire resistance tests. It comprises three numbers giving the time in minutes for which each of the criteria stability, integrity and insulation are satisfied, and is presented always in that order.

1. Examples of FRRs are:
   a) 30/30/15 indicating stability 30 minutes, integrity 30 minutes, insulation 15 minutes.
   b) 30/-/- indicating stability 30 minutes, but no time requirement for integrity or insulation.
   c) -/15/15 indicating no time requirement for stability, but 15 minutes for integrity and insulation.
   d) 60/30/x indicating stability of 60 minutes, integrity of 30 minutes, and a requirement for insulation from C/AS1 Paragraph 5.6.4.

2. C/AS1 Part 5 gives more information on FRRs.

Fire resisting closure A fire rated device or assembly for closing an opening through a fire separation. It shall have a FRR of no less than that required for the fire separation.

A fire resisting closure is intended to include fire doors, fire windows or access panels. In this context the opening may be used to permit passage of people or goods, or to transmit light, but does not include an opening to permit the passage of building services.

Fire resisting glazing Fixed or openable glazing, complete with frame and fixings, mullions, transoms and glazing beads, with a specified FRR and complying with NZS 4232: Part 2.

1. The requirement for fire resisting glazing will not be met by ordinary window glass, or safety glasses, but rather by wired glass, or by special fire resisting glass shown by test to perform adequately. The nature and design of the frames also have an effect on the performance of fire resisting glazing.

2. Openable glazing is required by NZS 4232 Part 2 to be fitted with an automatic device which, in the event of fire, will close and latch the window sash.
Fire safety precautions (FSPs) The combination of all methods used in a building to warn people of an emergency, provide for safe evacuation, and restrict the spread of fire, and includes both active and passive protection.

**COMMENT:**
This definition has the same meaning and wording as the definition of “fire safety systems” in the Building Regulations.

Fire separation Any building element which separates firecells or firecells and safe paths, and provides a specific fire resistance rating.

Fire shutter A fire rated device, complete with fixings and operating mechanism, for automatically closing off an opening in a fire separation or protected shaft.

Fire stop A material or method of construction used to restrict the spread of fire within or through fire separations, and having a FRR no less than that of the fire separation.

**COMMENT:**
Fire stops are mainly used to seal around penetrations, but can also be used to seal narrow gaps between building elements.

Fixture An article intended to remain permanently attached to and form part of a building.

Fixture discharge pipe A discharge pipe that is used to convey waste from a single sanitary fixture or sanitary appliance to a branch discharge pipe, a discharge stack, or directly to a drain. It does not include any pipes forming part of a sanitary appliance.

Fixture vent pipe (trap vent) A vent pipe that is connected to a fixture discharge pipe or the sanitary fixture itself.

Flame barrier A material or system applied or installed to protect another building element from flame contact. The protection shall be effective for no less than 10 minutes exposure in the standard test for fire resistance.

**COMMENT:**
1. The principal use of flame barriers is to delay ignition of foamed plastics materials.

Flame safeguard system A system consisting of a flame detector(s) plus associated circuitry, integral components, valves and interlocks the function of which is to shut off the fuel supply to the burner(s) in the event of ignition failure or flame failure.

Flammability index (FI) That index number for flammability, which is determined according to the standard test method for flammability of thin flexible materials.

Flood level rim The top edge at which water can overflow from equipment or a fixture.

Floor waste An outlet located at the low point of a graded floor or in a level floor designed to receive accidental or intentional discharges.

Floor waste pipe A pipe that receives the discharge from a floor waste and that discharges outside the building or to the foul water drainage or sanitary plumbing system.

Flue The passage through which the products of combustion are conveyed to the outside.

Flue liner Pipes or linings of fire clay, metal or fire brick, surrounding flues.

Flue system A series of interconnecting flue pipe casings which form a safe passage (flue) for conveying products of combustion from within an appliance to the outside of a building or structure.

Foamed plastics Combustible foamed plastic polymeric materials of low density (typically less than 100 kg/m³) and are classified as cellular polymers which are manufactured by creating a multitude of fine voids (typically 90 to 98%) distributed more or less uniformly throughout the product. Examples of foamed plastics are latex foams, polyethylene foams, polyvinyl chloride foams, expanded or extruded polystyrene foams, phenolic foams, urea-formaldehyde foams, polyurethane foams and polychloropene foams.
Definitions

COMMENT:
1. Foamed plastics may be rigid or flexible, but rigid foams are the most common in building products. When burnt they tend to generate high levels of heat energy (kJ/kg) and varying quantities of smoke and other toxic gases depending on the nature and volume of the particular product.

2. Where doubt exists as to whether a building material is foamed plastics, an opinion should be sought from a person or organisation with appropriate skill and experience in fire engineering. That opinion should be included with the building consent application to the territorial authority.

Forced or induced draught appliance An appliance where all or part of the air for combustion is provided by a fan or other mechanical device which is an integral part of the combustion system.

Foul water The discharge from any sanitary fixture or sanitary appliance.

Foul water drainage system Drains, joints and fittings normally laid underground and used specifically for the conveyance of water from the plumbing system to an outfall.

Free outlet (push through) In the context of storage water heaters means a water heater with a tap on the cold water inlet so designed that the hot water is discharged through an open outlet.

Functional requirements in relation to a building, means those functions which a building is to perform for the purposes of the Act.

Gantry A structure covering a public way providing protection from both the side and overhead.

Gasfitting has the same meaning as in section 2 of the Plumbers, Gasfitters, and Drainlayers Act 1976.

Gather That part of a chimney where the transition from fireplace to stack occurs.

Good ground means any soil or rock capable of permanently withstanding an ultimate bearing pressure of 300 kPa (i.e. an allowable bearing pressure of 100 kPa using a factor of safety of 3.0), but excludes:

a) Potentially compressible ground such as topsoil, soft soils such as clay which can be moulded easily in the fingers, and uncompacted loose gravel which contains obvious voids,

b) Expansive soils being those that have a liquid limit of more than 50% when tested in accordance with NZS 4402 Test 2.2, and a linear shrinkage of more than 15% when tested, from the liquid limit, in accordance with NZS 4402 Test 2.6, and

c) Any ground which could forseeably experience movement of 25 mm or greater for any reason including one or a combination of: land instability, ground creep, subsidence, seasonal swelling and shrinking, frost heave, changing ground water level, erosion, dissolution of soil in water, and effects of tree roots.

COMMENT:
Soils (excepting those described in a), b) and c) above) tested with a dynamic cone penetrometer in accordance with NZS 4402 Test 6.5.2, shall be acceptable as good ground for building foundations if penetration resistance is no less than:

a) 3 blows per 75 mm at depths no greater than the footing width.

b) 2 blows per 75 mm at depths greater than the footing width.

Depths shall be measured from the underside of the proposed footing.

Grease trap A device designed to intercept grease in a foul water discharge.

Group sleeping area A firecell containing communal sleeping accommodation for a specified number of people who may or may not be known to one another. Partial subdivision within the firecell is permitted with specific limitation including that no occupied space is fully enclosed and all occupied spaces are open and available to all occupants at any time. A group sleeping area firecell may include spaces for associated direct support functions, such as hygiene facilities and tea making (not cooking) activities, for use by the occupants. It does not include spaces, such as waiting rooms, lounges, dining rooms or kitchens, providing a communal service function for all occupants.
COMMENT:
1. Examples of group sleeping area firecells are dormitories, hospital wards, wharenui, backpacker hostels and ski lodges.
2. The maximum number of people permitted in a group sleeping area firecell, and the permitted form of subdivision, will depend on the ability of the occupants to react to the presence of fire and escape to a safe place.

Gully trap A fitting designed to prevent foul air escaping from the drainage system and used to receive the discharge from waste pipes.

Habitable space A space used for activities normally associated with domestic living, but excludes any bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, clothes-drying room, or other space of a specialised nature occupied neither frequently nor for extended periods.

Habitable work Any building where people live, work or may assemble, but does not include buildings associated with the storage or use of dangerous goods on the same site.

COMMENT:

Handrail A rail to provide support to, or assist with the movement of a person.

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

Hazardous substance Has the meaning ascribed to it by the Fire Service Act 1975.

Hearth The insulating floor under the fire and in front and at the sides of the fireplace.

Hoard ing A structure alongside a public way providing side protection but no overhead protection.

Hold-open device A device which holds a smoke control door or fire door open during normal use, but is released by deactivating the device by an automatic fire detection system, allowing the door to close automatically under the action of a self-closing device.

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.

HVAC An abbreviation for heating, ventilating and airconditioning.

Ignitability index (Ig) That index number for ignitability which is determined according to the standard test method for measuring the properties of lining materials.

Illuminance The luminous flux falling onto a unit area of surface.


Impervious That which does not allow the passage of moisture.

In bulk In relation to liquid or gaseous dangerous goods, product contained in receptacles of a liquid capacity greater than 250 litres. Conversely, non-bulk means contained in receptacles of 250 litres capacity or less.

Inspection chamber A chamber with working space at ground level through which the drain passes either as an open channel or as a pipe incorporating an inspection point.

Inspection point A removable cap at drain level through which access may be made for cleaning and inspecting the drainage system.

Insulating material A material that has a thermal conductivity of less than 0.07 W/mK.
Insulation In the context of fire protection, the time in minutes for which a prototype specimen, of a fire separation when subjected to the standard test for fire resistance, has limited the transmission of heat through the specimen.

Integrity In the context of fire protection, the time in minutes for which a prototype specimen, of a fire separation when subjected to the standard test for fire resistance, has prevented the passage of flame or hot gases.

COMMENT:
The precise meaning of integrity depends on the type of building elements being treated and how it is defined in the standard test being used.

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.

Interceptor trap A device which will separate and retain desired liquids and solids from a liquid stream and which will provide a water barrier to prevent foul air or gas from entering any downstream system.

Intermediate floor Any upper floor within a firecell and which is not fire separated from the floor below. Upper floors within household units need not meet the specific fire safety requirements which apply to intermediate floors in all other situations.

COMMENT:
1. An intermediate floor may be open to the firecell or enclosed with non-fire rated construction. If enclosed with fire rated walls another firecell is created.
2. Household units occur only in purpose groups SR and SH. Life safety provisions are governed by the limitations in permitted open path lengths.

Isolation distance The minimum physical distance by which an installation, or specified part of an installation, containing dangerous goods must be separated from any other specified place, or building.

Kerb ramp means a short ramp either cutting through a kerb or built up to the kerb.

Land held under the same title includes a piece of land, or a building or part of a building, or both, that is:
- (a) A unit under the Unit Titles Act 1972, or
- (b) Leased under a crosslease registered under the Land Transfer Act 1952, or
- (c) Leased under a company lease registered under the Land Transfer Act 1952.

Licensee A person holding a license issued under the Radiation Protection Act 1965 and for the time being in force.

Limited area atrium A single firecell in which individual occupied spaces at different levels open onto a common enclosed space. Limitations are placed on the number of intermediate floors (no more than two levels), individual floor areas and permitted occupant load, depending on the provisions for smoke detection, smoke control and the means of escape from fire.

COMMENT:
Typical limited area atrium buildings are small shopping malls, and motel complexes with a central atrium feature open to a number of floors.

Lock-out The safety shut down condition of the control system such that re-start cannot be accomplished without manual resetting.

Lower flammable limit (LFL) (also referred to as Lower Explosive Limit (LEL)). The lowest percentage of hydrocarbon or flammable vapour in the air which will readily ignite on introduction of an ignition source.

Main private stairway A private stairway intended to provide access to and between frequently used spaces such as living areas, kitchens and garages, and includes all exterior private stairways.
Means of escape from fire in relation to a building which has a floor area, means continuous unobstructed routes of travel from any part of a floor area of that building to a place of safety; and includes all active and passive protection features required to assist in protecting people from the effects of the fire in the course of their escape.

Minister means the Minister of Internal Affairs.

Minor private stairway A private stairway not on a main thoroughfare, and intended to provide infrequent access to a single room which is not a living area or kitchen.

Multi-unit dwelling Applies to a building or use which contains more than one separate household or family.

COMMENT: For fire-safety purposes each household unit is a separate firecell.

Natural draught The flow produced by the tendency of warmed gases to rise.

Network utility operator means a person who:

(a) Undertakes the distribution or transmission by pipeline of natural or manufactured gas, petroleum, or geothermal energy; or

(b) Is an electricity operator or electrical distributor as defined by section 2(1) of the Electricity Act 1992 for the purposes of any works defined by that Act; or

(c) Undertakes the piped distribution of potable water for supply; or

(d) Is the operator of a sewerage system or a stormwater drainage system.

Nominal pile width The least width of a pile in side view and is equal to the diameter in round piles.

Non-bulk See in bulk.

Non-combustible Materials shall be classified as non-combustible or combustible when tested to:

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Non-return valve A valve that permits flow in one direction but prevents a return flow and is part of a hot or cold water system.

Nosing The rounded projecting edge of a stair tread.

Notional boundary The boundary which for fire safety purposes, is assumed to exist between two buildings on the same property under a single land title.

COMMENT: A notional boundary may be located anywhere between the two buildings, and once chosen determines the unprotected area permitted in each building. Locating it closer to one building than the other, may be an advantage where it is planned for a rear wall without windows to face the front wall of the other building requiring windows.

Occupant load The greatest number of people likely to occupy a particular space within a building. It is determined by:

a) Multiplying the number of people per m² (occupant density) for the activity being undertaken, by the total floor area, or

b) For sleeping areas, counting the number of beds, or

c) For fixed seating areas, counting the number of seats.

Occupied space Any space within a building in which a person will be present from time to time during the intended use of the building.

Open path That part of an escape route (including dead ends) within a firecell where occupants may be exposed to fire or smoke while making their escape.

Open space includes land on which there is and will be no buildings and which has no roof over any part of it other than overhanging eaves.

Open vented storage water heater A water heater incorporating a vent pipe which is permanently open to the atmosphere.
Other property means any land or buildings or part thereof which are:
(a) Not held under the same allotment; or
(b) Not held under the same ownership – and includes any road.

Outdoor air Air as typically comprising by volume:
i) oxygen 20.94%
ii) carbon dioxide 0.03%
iii) nitrogen and other inert gases 79.03%.

Outfall That part of the disposal system receiving surface water or foul water from the drainage system. For foul water, the outfall may include a sewer or a septic tank. For surface water, the outfall may include a natural water course, kerb and channel, or soakage system.

Over-pressure protection Devices preventing the pressure in piping or appliances from exceeding a predetermined value.

Owner in relation to any land, including any buildings on that land, means the person who is for the time being entitled to the rack rent thereof or who would be so entitled if the land were let to a tenant at a rack rent; and, for the purposes of sections 30, 33, and 43 of the Act, includes the:
(a) Owner of the fee simple of the land; and
(b) Any person who has agreed in writing, whether conditionally or unconditionally, to purchase the land or any leasehold estate or interest in the land, or to take a lease of the land, while the agreement remains in force, and ownership has a corresponding meaning.

Penetration A pipe, cable or duct passing through an opening in a fire separation.

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.

Performance criteria in relation to a building, means those qualitative or quantitative criteria which the building is to satisfy in performing its functional requirement.

Person includes the Crown, a corporation sole, and also a body of persons, whether corporate or unincorporated.

Piping system An assembly of pipes, pipe fittings, gaskets, bolting and pipe supports.

Pitch line The line joining the leading edge or nosings (if any) of successive stair treads within a single flight of a stairway.

Plans and specifications means the drawings, specifications, and other documents according to which a building is proposed to be constructed, altered, demolished, or removed, including proposed procedures for inspection during construction, alteration, demolition, or removal, and also including (in respect of construction or alteration):
(a) The intended use of the building; and
(b) The design features or systems which the applicant considers will be required to be included in any compliance schedule issued in terms of section 44 of the Act; and
(c) The proposed procedures for inspection and routine maintenance for the purposes of that compliance schedule in respect of those design features or systems.

Plumbing system Pipes, joints and fittings laid above ground and used for the conveyance of foul water to the foul water drain, and includes vent pipes.

Potable (and potable water) Water that is suitable for human consumption.

Prescribed electrical work has the same meaning as in section 2(1) of the Electricity Act 1992.

Pressure control valve A pressure limiting valve or pressure reducing valve.
**Primary element** A building element providing the basic load bearing capacity to the structure, and which if affected by fire may initiate instability or premature structural collapse.

**Principal user** A member of the primary group for which a building was constructed, and therefore explicitly excludes persons or groups of persons providing care or control of that principal user group.

**Privacy** The situation of being withdrawn from view.

**Private stairway** A stairway used, or intended to be used, by the occupants of a single household unit.

**Privy** A private room containing a receptacle (other than a WC) or an excavation for excreted liquid or solid human waste, and with a means of disposal or containment of the waste.

**Producer statement** means any statement supplied by or on behalf of an applicant for a building consent or by or on behalf of a person who has been granted a building consent that certain work will be or has been carried out in accordance with certain technical specifications.

**Property** includes land, buildings, and goods; but does not include incorporeal forms of property.

**Protected path** That portion of an exitway within a firecell which is protected from the effects of smoke by smoke separations.

**Protected shaft** A space, other than a safe path, enclosed by fire separations or external walls used to house building services, lifts, or conveyors which pass from one firecell to another.

**Public place** Any place which is freely open to and frequented by the public, but excludes private property where the access of the public to dangerous goods can be controlled by the licensee.

**Purpose group** The classification of spaces within a building according to the activity for which the spaces are used.

**R-value** The common abbreviation for describing the values of both thermal resistance and total thermal resistance.

**Railway line** has the meaning ascribed to it by section 2 of the Transport Services Licensing Act 1989.

**Reflectance** The ratio of the flux reflected from a surface to the flux incident on it.

**Regulations** means regulations in force under Part VI of the Act.

**Regulator** A device which automatically regulates the pressure or volume of gas passing through it to a predetermined level.

**Relevant boundary** means the boundary of an allotment which is other property in relation to the building concerned and from which is measured the separation between the building and that other property. For the external wall of any building, the relevant boundary shall be the nearest of the following boundaries:

(a) A boundary of a freehold allotment, except that where the other property is a road, railway line or public open space the relevant boundary is the boundary on the far side of that other property;

(b) A boundary of a cross lease or of a company lease or licence, except that where the other property is open space to which the lessee or licensee of the building concerned has an exclusive right of access and occupation or to which two or more occupiers have rights of access and occupation the relevant boundary is the boundary on the far side of that other property;

(c) A boundary shown on a unit plan excluding a boundary between a principal unit and its accessory unit, except that where the other property is open space which is common property, the relevant boundary is the boundary on the far side of that other property.
COMMENT:
1. Where an easement, such as a right of way, occurs within an allotment, the relevant boundary shall remain the same as if the easement did not exist.

2. Boundaries within a cross-lease or company lease or licence are shown on a survey plan. In some cases the boundary is the external wall or roof of a building.

3. The unit title boundaries of principal units, accessory units, and common property are shown in the unit plan. A boundary is frequently an internal or external wall, an upper floor, or the roof of a building.

4. A wall along a boundary between two allotments is called a “party wall” when the owners of the allotments each have legal rights in respect of that wall registered by way of easements on one or both titles. An internal wall between cross-leases, company leases, or unit titles, or between one of them and common property, is not generally called a party wall but in that case also the lessees, unit title holders, or corporate body concerned each have legal rights in respect of that wall. Such a wall separates areas which are other property in relation to each other, but the wall itself is part of each property. The fire protection consequence of that legal concept is that such a wall can be regarded as a fire separation providing protection against horizontal fire spread in each direction. In other words, that wall may provide the appropriate FRR instead of each property having its own wall of that FRR.

Relief vent A vent pipe which is connected to a discharge stack below the lowest branch connection and which connects at its upper end to the discharge stack vent or terminates as an open vent.

Road has the meaning ascribed to it by section 315 of the Local Government Act 1974 and includes a public place and also includes a motorway.

Rodding point A removable cap at ground level through which access may be made for cleaning and inspecting the drainage system.

Room-sealed appliance An appliance designed so that air for combustion neither enters from, nor combustion products enter into, the room in which the appliance is located.

Safe path That part of an exitway which is protected from the effects of fire by fire separations, external walls, or by distance when exposed to open air.

Safe place A place of safety in the vicinity of a building, from which people may safely disperse after escaping the effects of a fire. It may be a place such as a street, open space, public space or an adjacent building.

Safety colour (green, red or yellow) A colour of specified properties to which a safety meaning is attributed.

Safety glass means a glass so treated or combined with other materials as to reduce the likelihood of injury to persons when it is cracked or broken.

Safety shut-off system An arrangement of valves and associated control systems which shuts off the supply of gas when required by a device which senses an unsafe condition.

Safety sign A particular type of sign which comprises a geometric form and a safety colour, together with a safety symbol or text (that is, words, letters, numbers or a combination of these) and gives a particular safety message.

Safety symbol means a graphic symbol used in a safety sign.

Sanitary appliance An appliance which is intended to be used for sanitation and which is not a sanitary fixture. Included are machines for washing dishes and clothes.

Sanitary fixture Any fixture which is intended to be used for sanitation.

Sanitation The term used to describe the activities of washing and/or excretion carried out in a manner or condition such that the effect on health is minimised, with regard to dirt and infection.
Scaffolding used in the course of the construction process means any structure, framework, swinging stage, suspended scaffolding, or boatswain’s chair, of a temporary nature, used or intended to be used for the support or protection of workers engaged in or in connection with construction work for the purpose of carrying out that work, or for the support of materials used in connection with any such work; and includes any plank, coupling, fastening, fitting, or device used in connection with the construction, erection, or use of scaffolding.

Screen wall Any wall or barrier which effectively diverts flammable vapours by virtue of its width, height and position, or which prevents the spread of fire from one place to another.

Secondary element A building element not providing load bearing capacity to the structure and if affected by fire, instability or collapse of the building structure will not occur.

Secondary flow path The path over which surface water will follow if the drainage system becomes overloaded or inoperative.

Secondary private stairway A private stairway other than a main or minor private stairway, intended to provide access to another floor containing only bedrooms, bathroom or similar accommodation.

Secretary has the same meaning as in section 2(1) of the Electricity Act 1992 or in section 2(1) of the Gas Act 1992, as the case may require.

Service ramp means a ramp that is used, or intended to be used, infrequently by service personnel to gain access to spaces for the purposes of maintenance and the movement of goods.

Service stairway means a stairway that is used, or intended to be used, infrequently by service personnel to gain access to spaces for the purposes of maintenance and the movement of goods.

Sewer A drain that is under the control of, or maintained by, a network utility operator.

Sitework means work on a building site, including earthworks, preparatory to or associated with the construction, alteration, demolition or removal of a building.

Smokecell A space within a building which is enclosed by an envelope of smoke separations, or external walls, roofs, and floors.

Smoke control door A doorset with close-fitting single or multi-leaves which are impermeable to the passage of smoke, fitted with smoke seals and installed within a smoke separation. The door, in the event of smoke, if not already closed, will close automatically and be held closed.

Smoke developed index (SDI) That index number for smoke developed when determined according to the standard test method for measuring the properties of lining materials.

Smoke separation Any building element able to prevent the passage of smoke between two spaces. Smoke separations shall:

a) Consist of rigid building elements capable of resisting without collapse:
   i) a horizontal pressure of 0.25 kPa applied from either side, and
   ii) self weight plus the intended vertically applied live loads, and

b) Form an imperforate barrier to the spread of smoke, and

c) Be of non-combustible construction or a flame barrier, or achieve a FRR of 10/10/-, except that non-fire resisting glazing may be used if it is toughened or laminated safety glass.
1. The pressure requirement is to ensure adequate rigidity and is not a smoke leakage requirement.

2. Walls and floors, whether constructed of sheet linings fixed to studs or joists, or of concrete, metal or fired clay, need only be inspected by someone experienced in building construction to judge whether the construction is tight enough to inhibit the passage of smoke.

3. Item c) is intended to ensure that the smoke separation will continue to perform as an effective barrier when exposed to fire or smoke for a short period during fire development.

4. There is no requirement for smoke control doors or other closures in smoke separations to meet the provisions of item c).

**Socket outlet** An accessory fixed to a wall or ceiling and designed to accept a plug that extends the electrical supply to an appliance by means of a flexible cable.

**Soil fixture** A sanitary fixture constructed to receive solid and/or liquid excreted human waste. It includes bedpan disposal units, slop sinks, urinals, water closet pans, and water-flushed sanitary towel disposal units.

**Sound transmission class (STC)** A single number rating derived from measured values of transmission loss in accordance with classification ASTM E 413, Determination of Sound Transmission Class. It provides an estimate of the performance of a partition in certain common sound insulation situations.

**Specified intended life** has the meaning ascribed to it by section 39 of the Act as follows: “specified intended life” in relation to a proposed building, or any existing building proposed to be altered, and which is intended to have a use of not more than 50 years, means the period of time, as stated in an application for a building consent or in the consent itself, for which the building is proposed to be used for its intended use.

**Spread of flame index (SFI)** That index number for spread of flame which is determined according to the standard test method for measuring the properties of lining materials.

**Stability** In the context of fire protection, the time in minutes for which a prototype specimen, of a primary element when subject to the standard test for fire resistance, has continued to carry its fire design load without failure.

**Standard test** A test method which is recognised as being appropriate for the fire protection properties being assessed.

**Standard year** For the purposes of determining natural lighting, the hours between 8 am and 5 pm each day with an allowance being made for daylight saving.

**Storage water heater** A water tank with an integral water heater for the storage of hot water.

**Strength reduction factor** The factor by which the ultimate strength is multiplied to obtain the design strength.

**Structural fire endurance rating (S)** The time in minutes within which a fire should not cause structural failure of primary or secondary elements, resulting in consequential fire spread or collapse damage to other property, or an adjacent building on the same property which contains sleeping purpose groups.
Suite A *firecell* providing residential accommodation for the exclusive use of one *person* or of several people known to one another. It comprises one or more rooms for sleeping and may include spaces used for associated domestic activities such as hygiene and cooking.

**COMMENT:**
1. Bed numbers are limited to 6 in purpose groups SC and SD or 12 in purpose group SA in accordance with C/AS1 Paragraphs 6.6.5 and 6.7.6. Examples may be found in hotels, motels and residential care facilities, such as old people’s homes or in hospices providing temporary family accommodation.
2. It is assumed that the social cohesion of the occupants by virtue of the personal relationship (as family members, friends or associates) would ensure that any individual, becoming aware of fire, would naturally assist others within the *firecell* to escape. The term *suite* does not apply to a group of bedrooms where each room is available to different “key-holders”. In some cases a suite may be a single bedroom.

Sump A chamber which is installed in the *drain* and incorporates features to intercept and retain silt, gravel and other debris.

Surface finish The combination of a surface coating and substrate material on surfaces of *building elements* exposed to view. It can be an applied decorative coating or the uncoated *building element* itself. For interior surfaces the requirements are evaluated in terms of *SFI* and *SDI*. For exterior surfaces the requirements are evaluated in terms of rate of heat release as determined by Appendix C, Paragraph C9.1.

Surface water All naturally occurring water, other than sub-surface water, which results from rainfall on the site or water flowing onto the site, including that flowing from a *drain*, stream, river, lake or sea.

Tailpipe A device placed at the low point of a gas piping system to collect condensate, and from which the condensate may be removed.

Territorial authority has the meaning ascribed to it by section 2 of the Local Government Act 1974; and includes any organisation which is authorised to permit structures pursuant to section 12(1)(b) of the Resource Management Act 1991.

**Theatre** A place of assembly intended for the production and viewing of performing arts, and consisting of an auditorium and stage with provision for raising and suspending stage scenery above and clear of the working area.

**Thermal resistance** The resistance to heat flow of a given component of a *building element*. It is equal to the temperature difference (°C) needed to produce unit heat flux (W/m²) through unit area (m²) under steady conditions. The units are °C/m²/W.

**Threshold** A sill to an external door, or the floor under an internal door.

**Title boundary** A boundary with other property.

**COMMENT:**

**Total thermal resistance** The overall air-to-air thermal resistance across all components of a *building element* such as a wall, roof or floor. (This includes the surface resistances which may vary with environmental changes e.g. temperature and humidity, but for most purposes can be regarded as having standard values as given in NZS 4214.)

**Town gas** A manufactured gas.

**Toxic environment** An environment that contains *contaminants* that can contaminate the water supply in concentrations greater than those included in the New Zealand Drinking Water Standard 1995.

**Trap** A chamber which is installed in the *drain* and incorporates features to intercept and retain floatable debris.

**Travel distance** The length of the escape route as a whole or the individual lengths of its parts, namely:

a) *Open paths*

b) *Protected paths* and

c) *Safe paths*. 

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**Definitions**

**NEW ZEALAND BUILDING CODE HANDBOOK**

DEPARTMENT OF BUILDING AND HOUSING  
1 July 2001
**Unisex facilities** Facilities available for use by either sex.

**COMMENT:** Unisex facilities may also be described as both gender facilities.

**Unprotected area** in relation to an *external wall of a building*, means any part of the *external wall* which is not *fire* rated or has less than the required *FRR*.

**COMMENT:** Unprotected area includes non-fire rated windows, doors, or other openings, and non-fire rated external wall construction.

**Valve vented storage water heater** *(unvented storage water heater)* A storage water heater in which the required venting to the atmosphere is controlled by a valve.

**Vapour barrier** Sheet material or coating having a low water-vapour transmission, and used to minimise water-vapour penetration in buildings. (Vapour barriers are sometimes referred to as *damp-proof membranes*.)

**Vapour path length** The travel distance between the vapour source and the point at which the vapour concentration is being considered.

**Vent line** A pipe or tube which conveys gas to a safe place outside the *building* from a gas pressure *regulator relief valve*.

**Vent pipe** A pipe for the purpose of protecting *water seals* that at its upper end is either open to the atmosphere or fitted with an *air admittance valve* and that at its lower end is connected to a *discharge pipe*.

**Vent stack** A main vertical vent pipe, to which two or more branch vent pipes are connected.

**Warm location** means a location in New Zealand where the *degree-day total* is less than 920.

**Waste pipe** A *discharge pipe* that conveys the discharge from waste water fixtures to a *gully trap*.

**Waste water fixture** A sanitary fixture or sanitary appliance used to receive wastes, and which is not a *soil fixture*.

**Water heater** A device for heating water.

**Water main** A water supply pipe vested in, or is under the control, or maintained by, a *network utility operator*.

**Water seal** The depth of water that can be retained in a *water trap*.

**Water supply system** Pipes, fittings and tanks intended to be used in the piping of water from a *water main* or other water source to sanitary fixtures, sanitary appliances and fittings within a building.

**Water tank (vessel)** A covered fixed container for storing hot or cold water.

**Water trap** A fitting designed to retain a depth of water that prevents foul air and gases escaping from the plumbing system or foul water drainage system and entering a building.

**Weatherboards** Any overlapping strip cladding. It may be fixed either horizontally or vertically.

**Wharenui** A communal meeting house having a large open floor area used for both assembly and sleeping in the traditional Maori manner.

**Working day** means any day except a Saturday, a Sunday, Good Friday, Easter Monday, Christmas Day, Boxing Day, Anzac Day, Labour Day, the Sovereign’s birthday, Waitangi Day, and any other day observed in any locality concerned as a public holiday.
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1.0 Introduction

1.0.1 Section 44 of the Building Act 1991 requires specific systems in buildings to be subject to regular inspection, maintenance and reporting procedures. This section of the New Zealand Building Code Handbook provides guidelines for those procedures.

1.0.2 Where suitable reference documents have been identified these are quoted. In other cases suggested check lists are provided, but those lists do not necessarily satisfy the essential requirements for all installations.

1.0.3 In many cases inspection and maintenance requirements will be specific to a particular type of equipment, and recommendations of the designer, manufacturer or supplier should be followed.

1.0.4 The definition (Act s.2) of plans and specifications, includes the proposed procedures for inspection and routine maintenance of design features or systems required to have a compliance schedule. These must be supplied to the territorial authority with the application for a building consent.

1.0.5 The procedures and independent qualified persons must have the approval of the territorial authority which issues the compliance schedule in the prescribed form in accordance with the Act s.44(2).

1.1 Inspection and maintenance

1.1.1 Inspections will generally cover the complete installation. The frequency of such inspections shall be appropriate to the type of installation and the consequences of the system not functioning.

1.1.2 Maintenance for mechanical, electrical, hydraulic or electronic systems will generally be based on the designer’s, manufacturer’s or supplier’s recommendations for routine servicing, and the frequency will vary for different parts of the installation. Routine maintenance is aimed at avoiding breakdown or malfunction, but should breakdown or malfunction occur, corrective action should be taken as soon as is reasonably practical.

1.2 Reporting

1.2.1 Section 44(4) of the Act requires the compliance schedule to be kept in the building or some other location agreed upon with the territorial authority. Section 45(3) of the Act requires the owner to state on the building warrant of fitness, the location of the compliance schedule and associated written reports.

1.2.2 Depending on the installation it may, for practical reasons, be appropriate for a log book to be kept at the installation, with a summary report held in the designated location with the compliance schedule. Defects and action taken should be recorded with the date and the name of the individual concerned.

1.2.3 Written reports by independent qualified persons shall be filed by the owner in a systematic manner. The reports shall be kept for no less than 2 years and be available for inspection by authorised persons.

1.2.4 Where inspections are undertaken by the owner, details of those inspections and any remedial action taken shall be recorded and filed.

1.3 Existing buildings

1.3.1 Compliance schedules are required for existing buildings containing any of the nominated systems (Act s.44(6)). Existing buildings (other than those subject to alteration or change of use) are not required to be upgraded to comply with the New Zealand Building Code (Act s.8).

1.3.2 It is therefore implicit that the inspection and maintenance procedures for an existing building need only satisfy the requirements appropriate to the system at the time of installation. In such cases the examples given in this part of the Handbook may not be appropriate and this must be taken into account by the territorial authority when issuing compliance schedules for existing buildings.

1.3.3 Sections 38 and 46 of the Act explain the extent to which existing buildings, subject to alteration or change of use, must satisfy the New Zealand Building Code.
CS 1 Automatic Sprinkler Systems

A Inspections

Automatic sprinkler systems shall be inspected regularly to ensure continued effective operation. Content of the inspections shall be in accordance with NZS 4541 or NZS 4515 as is appropriate for the installation.

Frequency of inspection is dependent upon the type of installation, and shall be weekly, monthly, quarterly, annually, 2 yearly and 4 yearly as prescribed in the relevant referenced Standards.

B Maintenance

Automatic sprinkler systems shall be maintained in accordance with NZS 4541 or NZS 4515 as is appropriate for the installation.

C Persons responsible

All inspections and maintenance shall be undertaken by independent qualified persons.
A Inspections

Automatic fire doors, including smoke control doors fitted with hold-open devices, shall be inspected regularly to ensure continued effective operation. Inspections shall be monthly and annually and in particular shall check that:

i) Doors are not damaged or obstructed.

ii) Door leaves or fire shutters close and latch automatically from any position.

iii) Double acting doors and double leaf doors stop with the leaves in line with the frame, and seals are in contact at meeting stile and/or frame.

iv) Smoke control door seals are intact and provide continuous contact.

v) Hardware is securely fixed.

vi) No unauthorised hardware is attached.

vii) Doors in exitways can be opened without keys to allow ready egress from the inside of the building at all times.

viii) Fire door to frame clearances comply with NZS 4232.

ix) Manufacturer's label is on the fire door leaf or shutter and frame, and where the door installation has been work that is subject to a building consent, the labels comply with C/AS1 Paragraph 6.19.2 a).

x) Electrical interlocks on hold-open devices are operable.

B Maintenance

Automatic fire doors and fire shutters shall be maintained to ensure continued effective operation and fire separation integrity, and in particular compliance with the requirements i) to x) above.

C Persons Responsible

Monthly inspection and maintenance including items i) to vii) above shall be undertaken by the owner.

Annual inspection and maintenance including all items i) to x) above shall be undertaken by independent qualified persons.

COMMENT:

1. Doors included under CS 2 are those which automatically close when a fire alarm is actuated.

2. Compliance Schedule requirements for fire dampers are included under CS 9, and for fire doors and smoke control doors not having hold-open devices, under CS 13.

3. The terms “fire damper” and “fire shutter” are often loosely applied. These are defined terms with meanings being given under the definitions section in this Handbook.
CS 3 Emergency Warning Systems

**A  Inspections**

Emergency warning systems shall be inspected regularly to ensure continued effective operation. Content of the inspections for the different inspection frequencies shall be in accordance with the following referenced Standards:


ii) Voice communication systems – monthly, 6 monthly – AS 2220 and AS 1851.10.

**B  Maintenance**

Emergency warning systems shall be maintained in accordance with the appropriate Standard referenced above.

**C  Persons Responsible**

All inspection and maintenance shall be undertaken by independent qualified persons.

**COMMENT:**

1. F7/AS1 Paragraph 1.1.2 permits three monthly inspections in place of monthly inspections for certain types of buildings.

2. Manual fire alarms come in varying degrees of technical complexity. Where satisfied that the owner has the skill and training appropriate to the technology of the particular system, the territorial authority may permit the monthly inspections of non-monitored manual fire alarms to be undertaken by the owner.
CS 4 Emergency Lighting Systems

A Inspections
Emergency lighting systems shall be inspected regularly to ensure continued effective operation. Existing systems installed in accordance with NZS 6742 shall be inspected fortnightly or monthly (depending on type of installation), and annually. Systems installed in accordance with AS/NZS 2293 shall be inspected six monthly.

B Maintenance
Existing systems installed in accordance with NZS 6742 shall be maintained in accordance with that Standard.

Systems installed in accordance with AS/NZS 2293 shall be maintained in accordance with that Standard.

The maintenance, inspection and reporting procedures should be appropriate to the particular emergency lighting system concerned. Where there are no appropriate procedures in either NZS 6742 or AS/NZS 2293, these should be developed for the systems concerned and submitted to the territorial authority for its approval.

C Persons Responsible
The fortnightly, monthly or six monthly inspection and maintenance shall be undertaken by the owner who must ensure the person doing the work is appropriately qualified. Annual inspection and maintenance shall be undertaken by independent qualified persons.
CS 5 Escape Route Pressurisation Systems

A  Inspections

Escape route pressurisation systems shall be inspected regularly to ensure continued effective operation. Inspections shall be monthly, 6 monthly, and 2 yearly. Inspection content shall be in accordance with AS 1851.6 or the designer’s recommendations as is appropriate for the installation.

B  Maintenance

Escape route pressurisation systems shall be maintained in accordance with AS 1851.6 or the designer’s recommended maintenance procedures, as is appropriate.

C  Persons Responsible

All inspection and maintenance shall be undertaken by independent qualified persons.
CS 6 Riser Mains

A  Inspections
Riser mains for Fire Service use shall be inspected regularly to ensure continued effective operation. Inspections shall be:

- For pumps – weekly if diesel powered, or monthly if electrically powered.
- For hydrants – monthly.
- For total installation – annually.

Inspection content shall be in accordance with NZS 4510.

B  Maintenance
Riser mains for Fire Service use shall be maintained in accordance with NZS 4510.

C  Persons Responsible
The monthly inspection of hydrants to detect obvious faults or damage shall be undertaken by the owner. All other inspection and maintenance shall be undertaken by independent qualified persons.
CS 7 Automatic Backflow Preventers

A Inspections

Automatic backflow preventers connected to a potable water supply shall be inspected and tested annually in accordance with Chapter 5 of the United States Environmental Protection Agency “Cross Connection Control Manual” or AS 2845: Part 3.

Where non-testable backflow preventers are used in accordance with AS 3500.1, they shall be inspected annually and replaced if leaking or displaying any other fault. (Under AS 3500.1 non-testable backflow preventers are permitted only in a zone downstream of a zone testable device.)

B Maintenance

Automatic backflow preventers shall be immediately repaired or replaced if they fail the inspection test.

C Persons Responsible

The above inspection and maintenance procedures shall be undertaken by independent qualified persons.
A  Inspections

Passenger carrying lift installations shall be inspected annually.

Lifts installed in buildings prior to the introduction of the Building Act (i.e. pre-1993) shall comply with the Power Lift Rules applicable at the time of installation.

For installations that comply with D2/AS1:

- **If the lift design is based on NZS 4332**
  Inspections and checks shall be carried out in accordance with the requirements of the attached list.

- **If the lift design is based on EN 81 (Part 1 or 2)**
  Inspections shall comprise those given in Clause D.2 “Tests and verifications” of Annex D of that Standard plus the checks required by the attached list. The tests of Clause D.2 shall be performed in such a manner that, despite their repetition, they do not cause excessive wear or impose stresses likely to reduce the safety of the lift. This is the case in particular of the tests on components such as the safety gear and the buffers. Tests on these components shall be carried out with an empty car and at reduced speed.

If D2/AS1 has not been used the owner shall nominate the necessary lift inspections. Such proposals shall be to the approval of the territorial authority.

B  Maintenance

Lifts shall be maintained in accordance with the manufacturer’s or supplier’s recommendations.

Where such instructions are not available, maintenance shall be in accordance with a schedule prepared by a person who, on the basis of experience and qualifications, is competent to determine lift maintenance requirements.

Maintenance frequency shall reflect the rate of lift usage, but in no case shall it be at greater than 6 monthly intervals. For heavy usage the maintenance could be fortnightly.

C  Persons Responsible

The above inspection and maintenance procedures shall be undertaken by independent qualified persons.

D  Reporting

Reports shall include the name of the independent qualified person performing the work along with the dates that the work was performed.
### Checklists

#### List of Inspections and Checks Required for Passenger Carrying Lifts complying with D2/AS1

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<th>Checks required</th>
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<tr>
<td>Visual inspection of machine beams and supports.</td>
<td>6.1, 6.3, 7.18</td>
<td>✓</td>
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<tr>
<td>Check security of machine room door.</td>
<td>7.4.1</td>
<td>6.3.3, 6.3.4</td>
</tr>
<tr>
<td>Check there are no obstructions or rubbish in the machine room.</td>
<td>7.2, 7.7</td>
<td>✓</td>
</tr>
<tr>
<td>Check that lighting in machine room functions.</td>
<td>7.14</td>
<td>6.3.6</td>
</tr>
<tr>
<td>Check ventilation in machine room functions.</td>
<td>7.17</td>
<td>1.6 (7.17)</td>
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<tr>
<td>Check for the presence of circuit diagrams and manual.</td>
<td>24.10</td>
<td>1.6 (24.10)</td>
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<tr>
<td>Check condition of any emergency hand winding equipment.</td>
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<td>12.5</td>
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<tr>
<td>Check condition of traction sheave, with special attention to the grooves.</td>
<td>18.1, 18.2</td>
<td>✓</td>
</tr>
<tr>
<td>Check condition of divertor sheave and other sheaves.</td>
<td>18.1, 18.2</td>
<td>✓</td>
</tr>
<tr>
<td>Check the operation of the brake.</td>
<td>8.11</td>
<td>12.4</td>
</tr>
<tr>
<td>Check the condition of the brake and the brake linings.</td>
<td>8.11</td>
<td>12.4</td>
</tr>
<tr>
<td>Check the running of machines, gearboxes, motors, generators, their bearings and any commutators.</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Check operation of governor.</td>
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<td>5.2</td>
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<td>Check hoisting ropes for equal tension, attachments and terminations correct and in good condition, number of broken wires within acceptable limits, filings not being shed, all ropes of similar condition.</td>
<td>16, 17</td>
<td>9.2.3.1, 9.5.1</td>
</tr>
<tr>
<td>Check for presence and legibility of rope data plates.</td>
<td>16.6</td>
<td>-</td>
</tr>
<tr>
<td>Check that rope retainers are present and correctly fastened.</td>
<td>18.2</td>
<td>9.5.4</td>
</tr>
<tr>
<td>Visual check of guide rails for straightness and security.</td>
<td>20</td>
<td>✓</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lift pit</th>
<th>Inspections and checks required</th>
<th>Checks required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check there are no obstructions or rubbish in the pit.</td>
<td>11.3</td>
<td>1.6 (11.3)</td>
</tr>
<tr>
<td>Check that lighting in the lift pit and lift well functions.</td>
<td>11.6</td>
<td>5.9</td>
</tr>
<tr>
<td>Check dryness of pit.</td>
<td>11.3, 11.9</td>
<td>1.6 (11.3, 11.9)</td>
</tr>
<tr>
<td>Visual check of buffer condition.</td>
<td>10</td>
<td>✓</td>
</tr>
<tr>
<td>Check function of lift pit safety switch.</td>
<td>11.7</td>
<td>5.7.3.4 (a)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lift car exterior</th>
<th>Inspections and checks required</th>
<th>Checks required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check functioning of car external lighting.</td>
<td>22.20.1</td>
<td>13.6</td>
</tr>
<tr>
<td>Check condition of guides or rollers.</td>
<td>19.4, 20.15, 20.16</td>
<td>10.2</td>
</tr>
<tr>
<td>Check function of car top controls.</td>
<td>25.3</td>
<td>8.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lift car</th>
<th>Inspections and checks required</th>
<th>Checks required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect and test safety gear (car and counterweight).</td>
<td>29, 30, 69</td>
<td>9.8</td>
</tr>
<tr>
<td>Visual check of the car construction and linings.</td>
<td>22</td>
<td>8.3</td>
</tr>
<tr>
<td>Check door operation, including door protective devices.</td>
<td>23</td>
<td>1.6 (23.6), 8.7</td>
</tr>
<tr>
<td>Check lift rating plate present.</td>
<td>21.3</td>
<td>15.2.1</td>
</tr>
<tr>
<td>Check lift controls for correct operation.</td>
<td>25</td>
<td>14.2</td>
</tr>
<tr>
<td>Check correct operation of alarms and emergency telephone.</td>
<td>28.2</td>
<td>1.6 (28.2.1), 14.2.3, 15.12</td>
</tr>
<tr>
<td>Check access to all, if any, emergency trapdoor.</td>
<td>22.15</td>
<td>8.12</td>
</tr>
</tbody>
</table>
### List of Inspections and Checks Required for Passenger Carrying Lifts complying with D2/AS1 (Continued)

<table>
<thead>
<tr>
<th>Item Description</th>
<th>NZS 4332</th>
<th>EN 81&lt;sup&gt;1&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Landings doors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check door locks.</td>
<td>14.1, 14.4</td>
<td>7.7</td>
</tr>
<tr>
<td>Check emergency opening facilities on landing doors.</td>
<td>14.5</td>
<td>7.7.3.2, 15.11</td>
</tr>
<tr>
<td>Check door operation, including door protective devices.</td>
<td>23.6</td>
<td>1.6 (23.6), 7.5</td>
</tr>
<tr>
<td><strong>Hydraulic systems</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual check of the hydraulic system, including hoses, ram and cylinder.</td>
<td>34, 35, 37</td>
<td>✔</td>
</tr>
<tr>
<td>Check caisson for moisture.</td>
<td>34.3.7</td>
<td>✔</td>
</tr>
<tr>
<td>Check condition of flow restriction valve.</td>
<td>36.5</td>
<td>12.5.5</td>
</tr>
<tr>
<td>Check operation of the manual lowering means.</td>
<td>36.6</td>
<td>12.9</td>
</tr>
<tr>
<td>Check operation of device to hold car at lowest floor.</td>
<td>31.6</td>
<td>5.7.3</td>
</tr>
<tr>
<td>Check operation of anti-creep device.</td>
<td>60.4</td>
<td>9.5.1</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check operation of door locks, limit switches, slack rope switch, stop switches, trapdoor switch and other safety switches.</td>
<td>7.12, 11.7, 22.15(ff), 24.1, 26.1, 26.7, 27, 60</td>
<td>14.1, 14.2</td>
</tr>
<tr>
<td>Check function of lift car emergency lighting.</td>
<td>22.20.2.7, 22.21</td>
<td>1.6 (22.20.2.7)</td>
</tr>
<tr>
<td>Check for correct operation under fire conditions.</td>
<td>25.6, 25.7</td>
<td>1.6 (25.6, 25.7)</td>
</tr>
<tr>
<td>Check correct operation of counterweight displacement detector.</td>
<td>25.8</td>
<td>1.6 (25.8)</td>
</tr>
<tr>
<td>Check operation of load weighing device.</td>
<td>26.6</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Lifts on access routes for people with disabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check floor levelling.</td>
<td>70.1</td>
<td>1.6 (70.1)</td>
</tr>
<tr>
<td>Check door dwell time.</td>
<td>70.3</td>
<td>1.6 (70.3)</td>
</tr>
<tr>
<td>Check controls distinction.</td>
<td>70.4</td>
<td>1.6 (70.4)</td>
</tr>
<tr>
<td>Check correct operation of landing indicators.</td>
<td>70.5</td>
<td>1.6 (70.5)</td>
</tr>
<tr>
<td>Check handrails.</td>
<td>70.6</td>
<td>1.6 (70.6)</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual check for any repairs or modifications carried out incorrectly.</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Check maintenance records are properly kept.</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

Note:
1. For lifts designed to NZS 4332 all of the items above must be checked. References given are to clauses of NZS 4332.
2. For lifts designed to EN 81 (Part 1 or 2) checks shall be carried out where the item is ticked (✔) or a reference is given. References given are to clauses of EN 81, as modified by D2/AS1. References given in brackets are the relevant clauses imported from NZS 4332.
3. These checks are to be made in addition to the tests and verifications of Clause D.2 of Annex D of EN 81.

Name of independent qualified person: 

Address: 

Date of Inspection: 

---
CS 8/2 Service Lifts

A Inspections

Service lift installations shall be inspected annually. Installations in existing buildings shall comply with the Rules for Power Lifts Not Exceeding 750 Watts (1. H.P.): applicable at the time of installation. Where the lift installation complies with D2/AS2 the attached check list is a suitable basis for the inspection. If D2/AS2 has not been used the owner should provide and work to a similar check list approved by the territorial authority.

B Maintenance

Lifts shall be maintained in accordance with the manufacturer’s or supplier’s recommendations but at least every six months.

C Persons Responsible

The above inspection and maintenance procedures shall be undertaken by independent qualified persons.
### Checklist Suitable for Service Lifts complying with D2/AS2

References are rules in *The Rules For Power Lifts Not Exceeding 750 Watts (I.H.P.)*  
* Indicates that the rule has been modified by D2/AS2

<table>
<thead>
<tr>
<th>Reference</th>
<th>Initials and comments</th>
</tr>
</thead>
</table>

#### Machinery spaces
- Visual inspection of machine beams and supports. 3.1 (a)
- Check security of machine room door. 3.2 (f)*
- Clean the machinery space and clear out any rubbish. 3.2 (f)*
- Check lighting in the machinery space functions. 3.2 (d)
- Check the condition of the controller.
- Check the governor and any position devices.
- Check for the presence of circuit diagrams, manual and log book.

#### Machinery
- Check sheaves, pulleys and drums with special attention to the grooves. 6.2
- Check the condition and operation of the brake and the condition of brake linings. 3.1 (b)
- Check the running of the lift machinery. 3.1 (c)

#### Lift well
- Inspect and test any safety gear. 1.5
- Visual check of liftwell enclosure. 5
- Check hoisting ropes for equal tension, attachments and terminations correct and in good condition, number of broken wires within acceptable limits, filling not being shed, all ropes of similar condition, correct length of rope. 6.1.1
- Visual check of guide rails for integrity, straightness and security. 9.2*
- Check condition of guide shoes or rollers.

#### Lift pit
- Remove any rubbish from the lift pit.
- Check lighting in the pit functions. 4.4 (g)
- Check dryness of pit. 4.4 (b)
- Visual check of buffer condition and other pit components. 4.3*

#### Landing stations
- Check door locks. 8.3 (a) and (b), 8.4
- Check lift controls for correct operation.
Checklist Suitable for Service Lifts complying with D2/AS2 *(Continued)*

References are rules in The Rules For Power Lifts Not Exceeding 750 Watts (I.H.P.)

* Indicates that the rule has been modified by D2/AS2

<table>
<thead>
<tr>
<th>Reference</th>
<th>Initials and comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lift car</strong></td>
<td></td>
</tr>
<tr>
<td>Check car doors or safety barriers.</td>
<td></td>
</tr>
<tr>
<td>Check lift car lighting.</td>
<td></td>
</tr>
<tr>
<td><strong>Hydraulic systems</strong></td>
<td></td>
</tr>
<tr>
<td>Visual check of the hydraulic system, including hoses, ram and cylinder.</td>
<td>12*</td>
</tr>
<tr>
<td>Check caisson for moisture.</td>
<td></td>
</tr>
<tr>
<td>Check operation of anti-creep device.</td>
<td>12.7</td>
</tr>
<tr>
<td>Check the operation of control and auxiliary valves.</td>
<td>12.8, 12.9</td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td></td>
</tr>
<tr>
<td>Check operation of terminal stopping devices, slack rope switch and any emergency switch.</td>
<td>10</td>
</tr>
<tr>
<td>Check landing door interlocks and opening of the door when the car is away from the landing.</td>
<td>8.4 (a)</td>
</tr>
<tr>
<td><strong>General</strong></td>
<td></td>
</tr>
<tr>
<td>Visually check for any repairs or modifications carried out. Maintain full records of maintenance and inspections.</td>
<td></td>
</tr>
</tbody>
</table>

Name of independent qualified person: 

Address:

Date of Inspection:
A Inspections
Escalators and moving walks shall be inspected annually. Where the installation complies with D2/AS3 the attached check list is a suitable basis for the inspection. If D2/AS3 has not been used the owner should provide and work to a similar check list approved by the territorial authority.

B Maintenance
Escalators and moving walks shall be maintained in accordance with the manufacturer's or supplier's recommendations.

C Persons Responsible
The above inspection and maintenance procedures shall be undertaken by independent qualified persons.
# Checklist

## Check List Suitable for Escalators and Moving Walks

References are to clauses in EN 115

* Indicates that the rule has been modified by D2/AS3

<table>
<thead>
<tr>
<th>Reference</th>
<th>Initials and comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switches to inspection doors.</td>
<td>5.1.3</td>
</tr>
<tr>
<td>Stop switch in machinery space.</td>
<td>6.3.3*</td>
</tr>
<tr>
<td>Overspeed protection.</td>
<td>12.5</td>
</tr>
<tr>
<td>Emergency stop devices.</td>
<td>14.2.2.3.1</td>
</tr>
<tr>
<td>Other stop switches.</td>
<td>14.2.2.1 (a) to (h)</td>
</tr>
<tr>
<td>Brakes.</td>
<td>12.4, 16.2.1 (d)</td>
</tr>
<tr>
<td>Driving elements for visible signs of wear and tear and for insufficient tension of belts and chains.</td>
<td>9.0*</td>
</tr>
<tr>
<td>Steps, pallets or the belt for defects, true run and guidance.</td>
<td>8.0*</td>
</tr>
<tr>
<td>Dimensions and tolerances.</td>
<td>0.1.2, 11.0</td>
</tr>
<tr>
<td>Combs for proper condition and adjustment.</td>
<td>8.3, 11.3</td>
</tr>
<tr>
<td>Balustrade interior panelling and the skirting.</td>
<td>5.1.5.4 to 5.1.5.6</td>
</tr>
<tr>
<td>Handrails.</td>
<td>7.0*</td>
</tr>
</tbody>
</table>

**Name of independent qualified person:**

**Address:**

**Date of Inspection:**
A Inspections

Mechanical ventilation and air conditioning systems shall be inspected regularly to ensure continued effective operation. Inspection content and frequency shall be as follows:

i) Mechanical ventilation and air conditioning systems shall be inspected in accordance with either Part 2 of NZS 4302 or Section 2 of AS/NZS 3666.2 and the designer’s recommendations for functional operation and inspection frequency. Where the designer’s recommendations are not available, the requirements of either Part 2 of NZS 4302 or Section 2 of AS/NZS 3666.2 shall be met through compliance with an inspection and maintenance schedule prepared by a person who, on the basis of experience and qualifications, is competent to design heating, ventilating and air conditioning systems.

ii) Smoke control systems, including fire dampers, shall be inspected monthly, quarterly, half-yearly or yearly, as required by AS 1851.6, or in accordance with the designer’s recommendations as is appropriate.

B Maintenance

Mechanical ventilation and air conditioning systems shall be maintained in accordance with either Part 2 of NZS 4302 and AS 1851.6 or the designer’s recommended maintenance procedures as is appropriate to the installation. Specific design and designs in accordance with G4/AS1 shall include a maintenance manual. Particular attention must be given to systems incorporating cooling towers where organisms such as Legionella may be present. The procedures listed in either Section 309.3 of NZS 4302, or Section 2 of AS/NZS 3666.2 must be carried out.

To ensure adequate chemical control is being achieved in cooling towers with automatic chemical dosing, bacteriological tests shall be performed as detailed in the table below.

Cooling towers without automatic chemical dosing shall, in addition to the table below, be subject to weekly dipslide tests. When dipslide tests have a result of greater than 10^5 cfu/ml, control strategies in AS/NZS 3666.3 Table 3.2 must be implemented.

<table>
<thead>
<tr>
<th>Table 1: Cooling tower testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling tower with automatic chemical dosing</td>
</tr>
<tr>
<td>Legionella:</td>
</tr>
<tr>
<td>Heterotrophic microorganisms</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cooling tower without automatic chemical dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>In addition to the testing above, cooling towers without automatic chemical dosing must also do the following test.</td>
</tr>
<tr>
<td>Heterotrophic microorganisms</td>
</tr>
</tbody>
</table>

Note 1
Tests to AS/NZS 3896 and AS 4276.3.1 shall be undertaken by an IANZ biologically accredited laboratory.

Note 2
Legionella tests with results greater than or equal to 1000 cfu/ml should be notified within 48 hours to the local Medical Officer of Health at the Public Health Service of the District Health Board, and the Required Control Strategy from Table 3.1 of AS/NZS 3666.3 shall be implemented.

Note 3
Industrial cooling towers, or cooling towers used for industrial process that are not part of a building as defined in section 3 of the Building Act 1991, are not required by the Building Act to be included on the compliance schedule. Testing for Legionella in these cooling towers is required by employers to ensure a safe working environment for their employees under the Health and Safety in the Workplace Act legislation.
C Persons Responsible

All inspection and maintenance shall be undertaken by independent qualified persons.

COMMENT:

1. A mechanical ventilation or air conditioning system is required by section 44 (1) (i) to be on the compliance schedule only if serving all or a major part of the building.

   However, if a specialist system does not serve all or a major part of the building, but:
   - can spread pathogens or toxic gases from their source to other building spaces, and
   - those pathogens or toxic gases would remain undetected until illness has occurred,

   then the system could well come within section 44 (1) (j) and should be listed in the compliance schedule, see CS 10.

2. Mechanical ventilation or air conditioning systems which are ducted through smoke or fire separations and could spread fire or smoke to other firecells are to be included on this compliance schedule. For example, a system that included a central plant serving more than one floor, or plant serving a single floor having more than one firecell or smokecell.

3. Where failure of a system is readily apparent and likely to result in occupant complaints before health or safety are threatened, and does not serve all or a major part of the building, the system need not be a compliance schedule item. Examples are package units serving a single office and extract fans in cooking areas and toilet spaces, where failure may cause annoyance or discomfort but the effects are unlikely to be life threatening.
Any other mechanical, electrical, hydraulic or electronic system whose proper operation is necessary for compliance with the Building Act, shall have inspection and maintenance procedures determined by a person who, on the basis of experience and qualifications, is competent to do the work.

The procedures shall be contained in the compliance schedule and include the nature and frequencies of inspection and the required maintenance, and identify which activities may be undertaken by the owner, and which must be undertaken by independent qualified persons.

**COMMENT:**

1. This requirement is intended to provide the necessary flexibility for including in compliance schedules:
   - specialist building elements generally peculiar to a limited number of buildings, and
   - new systems which may be developed in the future.

2. The systems included should be restricted to those in which a failure is likely to go undetected until a life threatening situation has occurred. Examples are laboratory fume cupboards (for which inspection and maintenance procedures are given in NZS 7203), automatic locking security doors which could trap people within a building, and exitway pressurisation systems.
A Inspections

Building maintenance units shall be inspected 3 monthly, 6 monthly and annually. Inspections shall be in accordance with Clauses 21.1.4 and 21.1.5 of BS 6037: 1990. The annual testing shall be as described in Clause 19.2 of that document.

B Maintenance

Building maintenance units shall be maintained in accordance with Clause 21 of BS 6037: 1990, together with any additional requirements of the manufacturer.

COMMENT:

In using BS 6037: 1990, references to overseas legislation shall be read as references to corresponding New Zealand legislation.

C Persons Responsible

The 3 monthly inspections shall be undertaken by the owner. The 6 monthly and annual inspections and all maintenance procedures shall be undertaken by independent qualified persons.
CS 12 Signs

A Inspections

Signs shall be inspected regularly to ensure continued effectiveness, and in particular that they are of the correct type, are present and in the right locations, and are legible.

Inspections of signs required for emergency purposes to be illuminated, shall (as for emergency lighting) be done monthly. For other signs inspections shall be done annually.

B Maintenance

Signs shall be refurbished before they become illegible, and shall be replaced immediately should they be missing.

Defects in illuminated emergency signs shall be remedied immediately they are apparent.

C Persons Responsible

The above monthly inspection shall be undertaken by the building owner. Annual inspection shall be undertaken by independent qualified persons.

Maintenance shall be undertaken by the owner.
A Inspections

Means of escape shall be inspected:

• Daily, when the building is in use, for crowd occupancies (purpose groups CS, CL, CO and CM).
• Monthly in other occupancies.
• Annually for all occupancies.

Inspections shall be made to ensure that the passive and active features of the means of escape continue to perform as designed for safe evacuation, and in particular that:

i) Escape routes are kept clear of obstacles and hazards such as uneven flooring or insecure handrails at all times.

ii) Exit doors are not locked, barred, or blocked so as to prevent occupants from leaving the building in the event of an emergency without the use of a key.

iii) Smoke-control doors, fire doors and associated fittings including self-closing devices, are undamaged and operate correctly. The doors are not kept open by methods other than hold-open devices that comply with the New Zealand Building Code and are in good working order.

iv) Sliding automatic doors fitted with emergency fail-safe systems operate as designed.

v) Stairwells and passageways which are designed specifically for means of escape from fire are not used as places of storage or places where refuse is allowed to accumulate.

vi) Flammable cleaning liquid or material or any other like flammable liquid or material is not stored near or within any part of the building used as a means of escape from fire, and is in non-combustible containers with close fitting lids.

vii) Fire separations show no signs of damage or deterioration which could adversely affect their fire resisting function, particularly with respect to closures and fire stopping.

viii) No new surface coatings have been applied unless their fire properties have been confirmed as acceptable by an independent qualified person.

B Maintenance

Means of escape shall be maintained at all times in a safe condition with particular attention to freedom from obstructions and from storage of combustibles, adequacy of handrails, proper operation of fire and smoke control doors, and ease of opening any doors leading into the escape route and at the final exit.

For automatic sliding doors, AS 4085 (also published as NZS 4239) Appendix A provides suitable guidelines for determining maintenance procedures.

C Persons Responsible

Daily and monthly inspections shall be undertaken by the building owner, and annual inspections by independent qualified persons. Maintenance shall be undertaken by the owner.
A Inspections

a) All safety barriers shall be inspected annually to ensure that:
   i) the barrier is structurally sound and has not become damaged or corroded, and
   ii) no materials, rubbish or other objects are located near the safety barrier so as to permit the barrier to be climbed by a child under the age of six years.

b) Safety barriers required for compliance with the Fencing of Swimming Pools Act 1987 shall in addition to the requirements of a) above be inspected quarterly with particular attention to ensure that:

   Automatic closers on gates or doors effectively return the gate or door to the closed position and operate the latching device when the gate or door is released from a stationary position giving an opening width of no greater than 150 mm.

B Maintenance

Safety barriers shall be maintained in a structurally sound condition and, where applicable, self-closing gates and other components required for the protection of children shall be kept operable. Defects shall be remedied immediately they are apparent.

C Persons Responsible

The quarterly inspection procedures shall be undertaken by the owner. Annual inspections shall be undertaken by independent qualified persons. All maintenance shall be undertaken by the owner.
CS 15 Access and Facilities for People with Disabilities

A Inspections

Access and facilities for people with disabilities shall be inspected 6 monthly and annually to ensure that the building’s provisions (if any) for access and facilities for people with disabilities are kept in good working order.

The inspection shall check the adequacy of accessible routes from street level or car park to spaces within the building, with particular attention to:

- Usability of accessible route to the principal entrance.
- Manoeuvre spaces in:
  - accessible routes,
  - accessible car parking spaces,
  - accessible toilet areas,
  - accessible laundry areas,
  - accessible kitchens.
- Handrails.
- Lighting levels.
- Door hardware.
- Grab rails in toilets.
- Lifts:
  - door opening times,
  - location and height of control panels,
  - handrails.

B Maintenance

Defects shall be remedied immediately they become apparent.

C Persons Responsible

The 6 monthly inspections shall be undertaken by the owner. The annual inspections shall be undertaken by independent qualified persons. Maintenance shall be undertaken by the owner.
CS 16 Fire Hose Reels

A Inspections

Fire hose reels shall be inspected monthly and annually to ensure continued effective operation. Monthly inspections shall be in accordance with NZS 4503 Clause 6.1.3, and annual inspections with Clause 6.2.

B Maintenance

Defects in fire hose reels shall be remedied immediately they are apparent.

C Persons Responsible

Maintenance and monthly inspections shall be undertaken by the owner. Annual inspections shall be undertaken by an independent qualified person.
The following Approved Documents have been published by the Building Industry Authority. AS indicates an acceptable solution, VM indicates a verification method. The Approved Document for any topic includes both the acceptable solution and verification method (where one has been adopted by the Authority).

**B  STABILITY**

B1 Structure
- AS1  VM1 General
- AS2  Timber barriers
- AS3  Small chimneys
- VM4  Foundations

B2 AS1  VM1 Durability

**C  FIRE SAFETY**

C1 AS1  VM1 Fire safety in buildings

**D  ACCESS**

D1 AS1  VM1 Access routes
D2 Mechanical installations for access
- AS1  Passenger carrying lifts
- AS2  Domestic and service lifts
- AS3  Escalators and moving walks

**E  MOISTURE**

E1 AS1  VM1 Surface water
E2 AS1  VM1 External moisture
E3 AS1  Internal moisture

**F  SAFETY OF USERS**

F1 VM1 Hazardous agents on site
F2 AS1  Hazardous building materials
F3 AS1  Hazardous substances and processes

F4 AS1  Safety from falling
F5 AS1  Construction and demolition hazards
F6 AS1  VM1 Lighting for emergency
F7 AS1  Warning systems
F8 AS1  Signs

**G  SERVICES AND FACILITIES**

G1 AS1  Personal hygiene
G2 AS1  Laundering
G3 AS1  Food preparation and prevention of contamination
G4 AS1  VM1 Ventilation
G5 AS1  Interior environment
G6 AS1  VM1 Airborne and impact sound
G7 AS1  VM1 Natural light
G8 AS1  VM1 Artificial light
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G10 AS1  VM1 Piped services
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(Revised by Amendment 6)

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see also Communal residential, community service
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A General Provisions

A1 Classified Uses

FIRST SCHEDULE—continued

Clause A1—CLASSIFIED USES

1.0 EXPLANATION

1.0.1 For the purposes of this building code buildings are classified according to type, under seven categories.

1.0.2 A building with a given classified use may have one or more intended uses as defined in the Act.

2.0 Housing

2.0.1 Applies to buildings or use where there is self care and service (internal management). There are three types:

2.0.2 Detached Dwellings

Applies to a building or use where a group of people live as a single household or family. Examples: a holiday cottage, boarding house accommodating fewer than 6 people, dwelling or hut.

2.0.3 Multi-unit Dwelling

Applies to a building or use which contains more than one separate household or family. Examples: an attached dwelling, flat or multi-unit apartment.

2.0.4 Group Dwelling

Applies to a building or use where groups of people live as one large extended family. Examples: within a commune or marae.

3.0 COMMUNAL RESIDENTIAL

3.0.1 Applies to buildings or use where assistance or care is extended to the principal users. There are two types.

3.0.2 Community Service

Applies to a residential building or use where limited assistance or care is extended to the principal users. Examples: a boarding house, hall of residence, holiday cabin, hostel, hotel, motel, nurses’ home, retirement village, time-share accommodation, a work camp, or camping ground.

3.0.3 Community Care

Applies to a residential building or use where a large degree of assistance or care is extended to the principal users. There are two types:

a) Unrestrained; where the principal users are free to come and go. Examples: a hospital, an old people’s home or a health camp.

b) Restrained; where the principal users are legally or physically constrained in their movements. Examples: a borstal or drug rehabilitation centre, an old people’s home where substantial care is extended, a prison or hospital.

4.0 COMMUNAL NON-RESIDENTIAL

4.0.1 Applies to a building or use being a meeting place for people where care and service is provided by people other than the principal users. There are two types:
4.0.2 Assembly Service

Applies to a building or use where limited care and service is provided. Examples: a church, cinema, clubroom, hall, museum, public swimming pool, stadium, theatre, or whare runanga (the assembly house).

4.0.3 Assembly Care

Applies to a building or use where a large degree of care and service is provided. Examples: an early childhood centre, college, day care institution, centre for handicapped persons, kindergarten, school or university.

5.0 Commercial

5.0.1 Applies to a building or use in which any natural resources, goods, services or money are either developed, sold, exchanged or stored. Examples: an amusement park, auction room, bank, car-park, catering facility, coffee bar, computer centre, fire station, funeral parlour, hairdresser, library, office (commercial or government), police station, post office, public laundry, radio station, restaurant, service station, shop, showroom, storage facility, television station or transport terminal.

6.0 Industrial

6.0.1 Applies to a building or use where people use material and physical effort to:

(a) extract or convert natural resources,
(b) produce goods or energy from natural or converted resources,
(c) repair goods, or
(d) store goods (ensuing from the industrial process).

Examples: an agricultural building, agricultural processing facility, aircraft hanger, factory, power station, sewage treatment works, warehouse or utility.

7.0 Outbuildings

7.0.1 Applies to a building or use which may be included within each classified use but are not intended for human habitation, and are accessory to the principal use of associated buildings. Examples: a carport, farm building, garage, greenhouse, machinery room, private swimming pool, public toilet, or shed.

8.0 Ancillary

8.0.1 Applies to a building or use not for human habitation and which may be exempted from some amenity provisions, but which are required to comply with structural and safety-related aspects of the building code. Examples: a bridge, derrick, fence, free standing outdoor fireplace, jetty, mast, path, platform, pylon, retaining wall, tank, tunnel or dam.
This Clause of the New Zealand Building Code lists defined words used within the code. Those definitions, plus defined word or terms used in the Approved Documents are included in the section on definitions in this Handbook.
## Clause B1—STRUCTURE

### Provisions

**OBJECTIVE**

B1.1 The objective of this provision is to:

(a) Safeguard people from injury caused by structural failure,
(b) Safeguard people from loss of amenity caused by structural behaviour, and
(c) Protect other property from physical damage caused by structural failure.

### FUNCTIONAL REQUIREMENT

B1.2 Buildings, building elements and sitework shall withstand the combination of loads that they are likely to experience during construction or alteration and throughout their lives.

### PERFORMANCE

B1.3.1 Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.

B1.3.2 Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.

B1.3.3 Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including:

(a) Self-weight,
(b) Imposed gravity loads arising from use,
(c) Temperature,
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<td>(d) Earth pressure,</td>
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<td>(e) Water and other liquids,</td>
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<td>(f) Earthquake,</td>
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<td>(g) Snow,</td>
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<td>(h) Wind,</td>
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<td>(i) Fire,</td>
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<td>(j) Impact,</td>
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<td>(k) Explosion,</td>
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<td>(l) Reversing or fluctuating effects,</td>
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<td>(m) Differential movement,</td>
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<td>(n) Vegetation,</td>
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<tr>
<td>(o) Adverse effects due to insufficient separation from other buildings,</td>
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<tr>
<td>(p) Influence of equipment, services, non-structural elements and contents,</td>
<td></td>
</tr>
<tr>
<td>(q) Time dependent effects including creep and shrinkage, and</td>
<td></td>
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<tr>
<td>(r) Removal of support.</td>
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**B1.3.4** Due allowance shall be made for:

(a) The consequences of failure,

(b) The intended use of the building,

(c) Effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur,

(d) Variation in the properties of materials and the characteristics of the site, and

(e) Accuracy limitations inherent in the methods used to predict the stability of buildings.

**B1.3.6** The demolition of buildings shall be carried out in a way that avoids the likelihood of premature collapse.

**B1.3.6** Sitework, where necessary, shall be carried out to:
FIRST SCHEDULE—continued

<table>
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<tr>
<td>(a) Provide stability for construction on the site, and</td>
<td></td>
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<tr>
<td>(b) Avoid the likelihood of damage to other property.</td>
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<tr>
<td>B1.3.7 Any sitework and associated supports shall take account of the</td>
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<td>effects of:</td>
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<tr>
<td>(a) Changes in ground water level,</td>
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<td>(b) Water, weather and vegetation, and</td>
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<tr>
<td>(c) Ground loss and slumping.</td>
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#### Clause B2—DURABILITY

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<td><strong>OBJECTIVE</strong></td>
<td></td>
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<tr>
<td>B2.1 The objective of this provision is to ensure that a building will throughout its life continue to satisfy the other objectives of this code.</td>
<td>Performance B2.3.1 applies from the time of issue of the applicable code compliance certificate. Building elements are not required to satisfy a durability performance which exceeds the specified intended life of the building.</td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:</td>
<td></td>
</tr>
<tr>
<td>(a) The life of the building, being not less than 50 years, if:</td>
<td></td>
</tr>
<tr>
<td>(i) Those building elements (including floors, walls, and fixings) provide structural stability to the building, or</td>
<td></td>
</tr>
<tr>
<td>(ii) Those building elements are difficult to access or replace, or</td>
<td></td>
</tr>
<tr>
<td>(iii) Failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building.</td>
<td></td>
</tr>
<tr>
<td>(b) 15 years if:</td>
<td></td>
</tr>
<tr>
<td>(i) Those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, or</td>
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Amend 4
Feb 1998
### FIRST SCHEDULE—continued

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<th>Provisions</th>
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<td>(ii) Failure of those building elements to comply with the building code would go undetected during normal use of the building, but would be easily detected during normal maintenance.</td>
<td></td>
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<tr>
<td>(c) 5 years if:</td>
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<tr>
<td>(i) The building elements (including services, linings, renewable protective coatings, and fixtures) are easy to access and replace, and</td>
<td></td>
</tr>
<tr>
<td>(ii) Failure of those building elements to comply with the building code would be easily detected during normal use of the building.</td>
<td></td>
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<tr>
<td><strong>B.2.3.2</strong> Individual building elements which are components of a building system and are difficult to access or replace must either:</td>
<td></td>
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<tr>
<td>(a) All have the same durability, or</td>
<td></td>
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<tr>
<td>(b) Be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement.</td>
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### Clause C1—OUTBREAK OF FIRE

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<td><strong>OBJECTIVE</strong></td>
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<tr>
<td>C1.1 The objective of this provision is to safeguard people from injury or illness caused by fire.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
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<tr>
<td>C1.2 In buildings fixed appliances using the controlled combustion of solid, liquid or gaseous fuel, shall be installed in a way which reduces the likelihood of fire.</td>
<td></td>
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<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
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<tr>
<td>C1.3.1 Fixed appliances and services shall be installed so as to avoid the accumulation of gases within the installation and in building spaces, where heat or ignition could cause uncontrolled combustion or explosion.</td>
<td></td>
</tr>
<tr>
<td>C1.3.2 Fixed appliances shall be installed in a manner that does not raise the temperature of any building element by heat transfer or concentration to a level that would adversely affect its physical or mechanical properties or function.</td>
<td></td>
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C2 Means of Escape

FIRST SCHEDULE—continued

Clause C2—MEANS OF ESCAPE

Provisions

OBJECTIVE

C2.1 The objective of this provision is to:

(a) Safeguard people from injury or illness from a fire while escaping to a safe place, and

(b) Facilitate fire rescue operations.

FUNCTIONAL REQUIREMENT

C2.2 Buildings shall be provided with means of escape from fire which:

(a) Give people adequate time to reach a safe place without being overcome by the effects of fire, and

(b) Give fire service personnel adequate time to undertake rescue operations.

PERFORMANCE

C2.3.1 The number of open paths available to each person escaping to an exitway or final exit shall be appropriate to:

(a) The travel distance.

(b) The number of occupants,

(c) The fire hazard, and

(d) The fire safety systems installed in the firecell.

C2.3.2 The number of exitways or final exits available to each person shall be appropriate to:

(a) The open path travel distance,

(b) The building height,

(c) The number of occupants,

(d) The fire hazard, and

(e) The fire safety systems installed in the building.

C2.3.3 Escape routes shall be:

(a) Of adequate size for the number of occupants,
### FIRST SCHEDULE—continued

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<td>(b) Free of obstruction in the direction of escape,</td>
<td>Performance C2.3.3(b) must not prevent a door that forms part of an escape route from being locked if the person who locks it is satisfied that no-one is in that part of the building served by the escape route and that no one is likely to enter that part of the building, except in an emergency, without unlocking that door.</td>
</tr>
<tr>
<td>(c) Of length appropriate to the mobility of the people using them,</td>
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<td>(d) Resistant to the spread of fire as required by Clause C3 “Spread of Fire”;</td>
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<td>(e) Easy to find as required by Clause F8 “Signs”;</td>
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<td>(f) Provided with adequate illumination as required by Clause F6 “Lighting for Emergency”, and</td>
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<td>(g) Easy and safe to use as required by Clause D1.3.3 “Access Routes”.</td>
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#### Clause C3—SPREAD OF FIRE

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<tr>
<td>C3.1 The objective of this provision is to:</td>
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</tr>
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<td>(a) Safeguard people from injury or illness when evacuating a building during fire.</td>
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<tr>
<td>(b) Provide protection to fire service personnel during firefighting operations.</td>
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</tr>
<tr>
<td>(c) Protect adjacent household units, other residential units, and other property from the effects of fire.</td>
<td></td>
</tr>
<tr>
<td>(d) Safeguard the environment from adverse effects of fire.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>C3.2 Buildings shall be provided with safeguards against fire spread so that:</td>
<td></td>
</tr>
<tr>
<td>(a) Occupants have time to escape to a safe place without being overcome by the effects of fire,</td>
<td>Requirement C3.2(d) applies only to buildings where significant quantities of hazardous substances are stored and processed.</td>
</tr>
<tr>
<td>(b) Firefighters may undertake rescue operations and protect property,</td>
<td></td>
</tr>
<tr>
<td>(c) Adjacent household units, other residential units, and other property are protected from damage, and</td>
<td></td>
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<tr>
<td>(d) Significant quantities of hazardous substances are not released into the environment during fire.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>C3.3.1 Interior surface finishes on walls, floors, ceilings and suspended building elements, shall resist the spread of fire and limit the generation of toxic gases, smoke and heat, to a degree appropriate to:</td>
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<tr>
<td>(a) The travel distance,</td>
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<tr>
<td>(b) The number of occupants,</td>
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</table>
### FIRST SCHEDULE—continued

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<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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<tbody>
<tr>
<td>(c) The fire hazard, and</td>
<td>Performance C3.3.2(b) does not apply to Detached Dwellings or within household units of Multi-unit Dwellings.</td>
</tr>
<tr>
<td>(d) The active fire safety systems installed in the building.</td>
<td></td>
</tr>
<tr>
<td><strong>C3.3.2 Fire separations</strong> shall be provided within buildings to avoid the spread of fire and smoke to:</td>
<td><strong>C3.3.4 Concealed spaces and cavities within buildings</strong> shall be sealed and subdivided where necessary to inhibit the unseen spread of fire and smoke.</td>
</tr>
<tr>
<td>(a) Other firecells,</td>
<td><strong>C3.3.5 External walls and roofs</strong> shall have resistance to the spread of fire, appropriate to the fire load within the building and to the proximity of other household units, other residential units and other property.</td>
</tr>
<tr>
<td>(b) Spaces intended for sleeping, and</td>
<td><strong>C3.3.6 Automatic fire suppression systems</strong> shall be installed where people would otherwise be:</td>
</tr>
<tr>
<td>(c) Household units within the same building or adjacent buildings.</td>
<td>(a) Unlikely to reach a safe place in adequate time because of the number of storeys in the building,</td>
</tr>
<tr>
<td>(d) Other property.</td>
<td>(b) Required to remain within the building without proceeding directly to a final exit, or where the evacuation time is excessive,</td>
</tr>
<tr>
<td><strong>C3.3.3 Fire separations</strong> shall:</td>
<td></td>
</tr>
<tr>
<td>(a) Where openings occur, be provided with fire resisting closures to maintain the integrity of the fire separations for an adequate time, and</td>
<td></td>
</tr>
<tr>
<td>(b) Where penetrations occur, maintain the fire resistance rating of the fire separation.</td>
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</tr>
<tr>
<td>Performance C3.3.4 shall not apply to Detached Dwellings.</td>
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</table>
### FIRST SCHEDULE—continued

<table>
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<tr>
<th>Provisions</th>
<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td>(c) Unlikely to reach a safe place due to confinement under institutional care because of mental or physical disability, illness or legal detention, and the evacuation time is excessive, or (d) At high risk due to the fire load and fire hazard within the building.</td>
<td></td>
</tr>
<tr>
<td>C3.3.7 Air conditioning and mechanical ventilation systems shall be constructed to avoid circulation of smoke and fire between firecells.</td>
<td></td>
</tr>
<tr>
<td>C3.3.8 Where an automatic smoke control system is installed, it shall be constructed to: (a) Avoid the spread of fire and smoke between firecells, and (b) Protect escape routes from smoke until the occupants have reached a safe place.</td>
<td></td>
</tr>
<tr>
<td>C3.3.9 The fire safety systems installed shall facilitate the specific needs of fire service personnel to: (a) Carry out rescue operations, and (b) Control the spread of fire.</td>
<td></td>
</tr>
<tr>
<td>C3.3.10 Environmental protection systems shall ensure a low probability of hazardous substances being released to: (a) Soils, vegetation or natural waters, (b) The atmosphere, and (c) Sewers or public drains.</td>
<td>Performance C3.3.10 applies only to buildings where significant quantities of hazardous substances are stored or processed.</td>
</tr>
</tbody>
</table>
C4 Structural Stability During Fire


FIRST SCHEDULE—continued

Clause C4—STRUCTURAL STABILITY DURING FIRE

OBJECTIVE

C4.1 The objective of this provision is to:

(a) Safeguard people from injury due to loss of structural stability during fire, and

(b) Protect household units and other property from damage due to structural instability caused by fire.

FUNCTIONAL REQUIREMENT

C4.2 Buildings shall be constructed to maintain structural stability during fire to:

(a) Allow people adequate time to evacuate safely,

(b) Allow fire service personnel adequate time to undertake rescue and firefighting operations, and

(c) Avoid collapse and consequential damage to adjacent household units or other property.

PERFORMANCE

C4.3.1 Structural elements of buildings shall have fire resistance appropriate to the function of the elements, the fire load, the fire intensity, the fire hazard, the height of the buildings and the fire control facilities external to and within them.

C4.3.2 Structural elements shall have a fire resistance of no less than that of any element to which they provide support within the same firecell.

C4.3.3 Collapse of elements having lesser fire resistance shall not cause the consequential collapse of elements required to have a higher fire resistance.
## D Access

### D1 Access Routes

#### FIRST SCHEDULE—continued

<table>
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<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>D1.1</strong> The objective of this provision is:</td>
<td>Objective <strong>D1.1(c)</strong> shall apply only to those <strong>buildings</strong> to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.</td>
</tr>
<tr>
<td>(a) Safeguard people from injury during movement into, within and out of <strong>buildings</strong>,</td>
<td></td>
</tr>
<tr>
<td>(b) Safeguard people from injury resulting from the movement of vehicles into, within and out of <strong>buildings</strong>, and</td>
<td>Requirement <strong>D1.2.1</strong> shall not apply to <strong>Ancillary buildings</strong> or <strong>Outbuildings</strong>.</td>
</tr>
<tr>
<td>(c) Ensure that <strong>people with disabilities</strong> are able to enter and carry out normal activities and functions within <strong>buildings</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>D1.2.1</strong> <strong>Buildings</strong> shall be provided with reasonable and adequate access to enable safe and easy movement of people.</td>
<td></td>
</tr>
<tr>
<td><strong>D1.2.2</strong> Where a <strong>building</strong> is provided with loading or parking spaces, they shall be constructed to permit safe and easy unloading and movement of vehicles, and to avoid conflict between vehicles and pedestrians.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>D1.3.1</strong> <strong>Access routes</strong> shall enable people to:</td>
<td></td>
</tr>
<tr>
<td>(a) Safely and easily approach the main entrance of <strong>buildings</strong> from the apron or <strong>construction edge</strong> of a <strong>building</strong>,</td>
<td></td>
</tr>
<tr>
<td>(b) Enter <strong>buildings</strong>,</td>
<td></td>
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<tr>
<td>(c) Move into spaces within <strong>buildings</strong> by such means as corridors, doors, stairs, ramps and lifts,</td>
<td></td>
</tr>
<tr>
<td>(d) Manoeuvre and park cars, and</td>
<td></td>
</tr>
<tr>
<td>(e) Manoeuvre and park delivery vehicles required to use the loading space.</td>
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### FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D1.3.2</strong> At least one access route shall have features to enable people with disabilities to:</td>
<td>Performance D1.3.2 shall not apply to Housing, Outbuildings, Ancillary buildings, and to Industrial buildings where no more than 10 people are employed.</td>
</tr>
<tr>
<td>(a) Approach the building from the street boundary or, where required to be provided, the building car park,</td>
<td></td>
</tr>
<tr>
<td>(b) Have access to the internal space served by the principal access, and</td>
<td></td>
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<tr>
<td>(c) Have access to and within those spaces where they may be expected to work or visit, or which contain facilities for personal hygiene as required by Clause G1 “Personal Hygiene”.</td>
<td></td>
</tr>
<tr>
<td><strong>D1.3.3</strong> Access routes shall:</td>
<td></td>
</tr>
<tr>
<td>(a) Have <em>adequate</em> activity space,</td>
<td></td>
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<tr>
<td>(b) Be free from dangerous obstructions and from any projections likely to cause an obstruction,</td>
<td></td>
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<tr>
<td>(c) Have a safe cross fall, and safe slope in the direction of travel,</td>
<td></td>
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<tr>
<td>(d) Have <em>adequate</em> slip-resistant walking surfaces under all conditions of normal use,</td>
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<tr>
<td>(e) Include stairs to allow access to upper floors irrespective of whether an escalator or lift has been provided,</td>
<td></td>
</tr>
<tr>
<td>(f) Have stair treads, and ladder treads or rungs which:</td>
<td></td>
</tr>
<tr>
<td>(i) provide <em>adequate</em> footing,</td>
<td></td>
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<tr>
<td>(ii) have uniform rise within each flight and for consecutive flights,</td>
<td></td>
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<tr>
<td>(g) Have stair treads with a leading edge that can be easily seen,</td>
<td></td>
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</table>
### FIRST SCHEDULE—continued

<table>
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<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>(h) Have stair treads which prevent children falling through or becoming held fast between treads, where open risers are used,</td>
<td>Performance D1.3.3 (b) shall not apply within Industrial buildings, Outbuildings and Ancillary buildings.</td>
</tr>
<tr>
<td>(i) Not contain isolated steps,</td>
<td>Performance D1.3.3 (j) shall not apply to isolated steps.</td>
</tr>
<tr>
<td>(j) Have smooth, reachable and graspable handrails to provide support and to assist with movement along a stair or ladder,</td>
<td></td>
</tr>
<tr>
<td>(k) Have handrails of adequate strength and rigidity as required by Clause B1 “Structure”,</td>
<td></td>
</tr>
<tr>
<td>(l) Have landings of appropriate dimensions and at appropriate intervals along a stair or ramp to prevent undue fatigue,</td>
<td></td>
</tr>
<tr>
<td>(m) Have landings of appropriate dimensions where a door opens from or onto a stair, ramp or ladder so that the door does not create a hazard, and</td>
<td></td>
</tr>
<tr>
<td>(n) Have any automatically controlled doors constructed to avoid the risk of people becoming caught or being struck by moving parts.</td>
<td></td>
</tr>
</tbody>
</table>

**D1.3.4** An accessible route, in addition to the requirement of Clause D1.3.3, shall:

| (a) Be easy to find, as required by Clause F8 “Signs”, | |
| (b) Have adequate activity space to enable a person in a wheelchair to negotiate the route while permitting an ambulant person to pass, | |
(c) Include a lift complying with Clause D2 “Mechanical Installations for Access” to upper floors where:

(i) buildings are four or more storeys high,

(ii) buildings are three storeys high and have a total design occupancy of 50 or more persons on the two upper floors,

(iii) buildings are two storeys high and have a total design occupancy of 40 or more persons on the upper floor, or

(iv) an upper floor, irrespective of design occupancy, is to be used for the purposes of public reception areas of banks, central, regional and local government offices and facilities, hospitals, medical and dental surgeries, and medical, paramedical and other primary health care centres,

(d) Contain no thresholds or upstands forming a barrier to an unaided wheelchair user,

(e) Have means to prevent the wheel of a wheelchair dropping over the side of the accessible route,

(f) Have doors and related hardware which are easily used,

(g) Not include spiral stairs, or stairs having open risers,

(h) Have stair treads with leading edge which is rounded, and
<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Have handrails on both sides of the accessible route when the slope of the route exceeds 1 in 20. The handrails shall be continuous along both sides of the stair, ramp and landing except where the handrail is interrupted by a doorway.</td>
<td></td>
</tr>
<tr>
<td><strong>D1.5.5</strong> Vehicle spaces and circulation routes shall have:</td>
<td></td>
</tr>
<tr>
<td>(a) Dimensions appropriate to the intended use,</td>
<td></td>
</tr>
<tr>
<td>(b) Appropriate crossfall, and slope in the direction of travel,</td>
<td></td>
</tr>
<tr>
<td>(c) Adequate queuing and circulation space, and</td>
<td></td>
</tr>
<tr>
<td>(d) Adequate sight distances.</td>
<td></td>
</tr>
<tr>
<td><strong>D1.5.6</strong> Vehicle spaces for use by people with disabilities, shall, in addition to the requirements of Clause D1.5.5, be:</td>
<td></td>
</tr>
<tr>
<td>(a) Provided in sufficient numbers,</td>
<td></td>
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<tr>
<td>(b) Located to avoid conflict between vehicles and people using or moving to or from the space, and</td>
<td></td>
</tr>
<tr>
<td>(c) Easy to find as required by Clause F8 Signs.</td>
<td></td>
</tr>
</tbody>
</table>
The objective of this provision is to:

(a) Safeguard people from injury and loss of amenity while using mechanical installations for movement into, within and out of buildings,

(b) Safeguard maintenance personnel from injury while servicing mechanical installations for access, and

(c) Ensure that people with disabilities are able to carry out normal activities and processes within buildings.

Objective D2.1(c) shall apply only to those buildings to which section 47A of the Act applies.

### FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Clause D2—MECHANICAL INSTALLATIONS FOR ACCESS</th>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td>D2.1</td>
<td></td>
</tr>
<tr>
<td>The objective of this provision is to:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Safeguard people from injury and loss</td>
<td></td>
<td></td>
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<tr>
<td>of amenity while using mechanical installations for movement into, within and out of buildings,</td>
<td></td>
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<tr>
<td>(b) Safeguard maintenance personnel from</td>
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<tr>
<td>injury while servicing mechanical installations for access, and</td>
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<tr>
<td>(c) Ensure that people with disabilities</td>
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<tr>
<td>are able to carry out normal activities and</td>
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<tr>
<td>processes within buildings.</td>
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</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td>D2.2</td>
<td></td>
</tr>
<tr>
<td>Mechanical installations for access into,</td>
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<td></td>
</tr>
<tr>
<td>within and out of buildings shall provide</td>
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<tr>
<td>for the safe and easy movement of people, and for the safety of maintenance personnel.</td>
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</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td>D2.3.1</td>
<td></td>
</tr>
<tr>
<td>Mechanical installations for access shall:</td>
<td></td>
<td></td>
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<tr>
<td>(a) Move people safely, and stop and hold</td>
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<td>as required for the normal use of the</td>
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<td>installation, for all loads up to and</td>
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<td>including 25% in excess of the rated load,</td>
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<tr>
<td>(b) Not produce excessive acceleration or</td>
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<tr>
<td>deceleration,</td>
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<tr>
<td>(c) Be constructed to avoid the likelihood</td>
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<tr>
<td>of people falling, tripping, becoming</td>
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<tr>
<td>caught, being able to touch or be struck</td>
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<td>by moving parts, sharp edges or</td>
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<td>projections, under both normal and</td>
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<tr>
<td>reasonably foreseeable abnormal conditions</td>
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<td>of use,</td>
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</tbody>
</table>
FIRST SCHEDULE—continued

Provisions

(d) Be constructed to prevent collision between components, or between components and the building,

(e) Have a control system that ensures safe abnormal operation in the event of overloading or failure of any single component, and

(f) Be capable of being isolated for inspection, testing and maintenance.

**D2.3.3** Mechanical installations for access shall be provided with:

(a) Adequate control over normal use, to ensure people’s safety throughout any operation involving starting, stopping or changing the direction of travel,

(b) Notification of position, where people are fully enclosed and the installation serves more than two levels,

(c) Adequate lighting and ventilation for both normal and emergency use, and

(d) Signs as required by Clause F8 “Signs”,

**D2.3.3** Mechanical installations for access shall, for emergency purposes, be provided with a means of:

(a) Calling outside help,

(b) Releasing people safely,

(c) Safeguarding people from exposure to hazardous situations, and

(d) Allowing authorised personnel to override the normal running procedure and take exclusive control of the installation.

**D2.3.4** Potentially dangerous equipment shall be located in spaces which:

Limits on application

Performance D2.3.3(d) shall not apply to installations travelling less than 15 m vertically.
### FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td>(a) Are secure from unauthorised entry and contain only equipment associated with the installation,</td>
<td></td>
</tr>
<tr>
<td>(b) Are appropriately sized and suitably guarded to provide <em>adequate</em> safe working areas for maintenance personnel,</td>
<td></td>
</tr>
<tr>
<td>(c) Are provided with <em>adequate</em> power and lighting for maintenance, and</td>
<td></td>
</tr>
<tr>
<td>(d) Have an environment that ensures the safe operation of the equipment under all likely conditions of use.</td>
<td></td>
</tr>
</tbody>
</table>

**D2.3.5** Mechanical installations on accessible routes shall:

(a) Where the passenger conveyor is manually controlled, provide:
   (i) controls which are easily identifiable and easy to use,
   (ii) *adequate* notification that the passenger conveyor has registered a summoning call, and
   (iii) *adequate* notification that the passenger conveyor has arrived, and of its future direction of travel,

(b) Where the passenger conveyor is fully enclosed and serves more than two levels, provide an *adequate* means of informing occupants of their location,

(c) Where appropriate, have doors which:
   (i) are power operated,
   (ii) are readily distinguishable from their surroundings, and
   (iii) where automatic, remain open sufficiently long to enable *people with disabilities* to pass through, and

(d) Have *handrails* within the passenger conveyor.
E Moisture

E1 Surface Water

FIRST SCHEDULE—continued

Clause E1—SURFACE WATER

Provisions

OBJECTIVE

E1.1 The objective of this provision is to:

(a) Safeguard people from injury or illness, and other property from damage, caused by surface water, and

(b) Protect the outfalls of drainage systems.

FUNCTIONAL REQUIREMENT

E1.2 Buildings and sitework shall be constructed in a way that protects people and other property from the adverse effects of surface water.

PERFORMANCE

E1.3.1 Except as otherwise required under the Resource Management Act 1991 for the protection of other property, surface water, resulting from an event having a 10% probability of occurring annually and which is collected or concentrated by buildings or sitework, shall be disposed of in a way that avoids the likelihood of damage or nuisance to other property.

E1.3.2 Surface water, resulting from an event having a 2% probability of occurring annually, shall not enter buildings.

E1.3.3 Drainage systems for the disposal of surface water shall be constructed to:

(a) Convey surface water to an appropriate outfall using gravity flow where possible,

(b) Avoid the likelihood of blockages,

(c) Avoid the likelihood of leakage, penetration by roots, or the entry of ground water where pipes or lined channels are used.

Limits on application

Performance E1.3.2 shall apply only to Housing, Communal Residential and Communal Non-residential buildings.
FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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<tbody>
<tr>
<td>(d) Provide reasonable access for maintenance and clearing blockages,</td>
<td></td>
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<tr>
<td>(e) Avoid the likelihood of damage to any outfall, in a manner acceptable to the network utility operator, and</td>
<td></td>
</tr>
<tr>
<td>(f) Avoid the likelihood of damage from superimposed loads or normal ground movements.</td>
<td></td>
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</tbody>
</table>
Clause E2—EXTERNAL MOISTURE

OBJECTIVE

E2.1 The objective of this provision is to safeguard people from illness or injury which could result from external moisture entering the building.

FUNCTIONAL REQUIREMENT

E2.2 Buildings shall be constructed to provide adequate resistance to penetration by, and the accumulation of, moisture from the outside.

PERFORMANCE

E2.3.1 Roofs shall shed precipitated moisture. In locations subject to snowfalls, roofs shall also shed melted snow.

E2.3.2 Roofs and exterior walls shall prevent the penetration of water that could cause undue dampness, or damage to building elements.

E2.3.3 Walls, floors and structural elements in contact with the ground shall not absorb or transmit moisture in quantities that could cause undue dampness, or damage to building elements.

E2.3.4 Building elements susceptible to damage shall be protected from the adverse effects of moisture entering the space below suspended floors.

E2.3.5 Concealed spaces and cavities in buildings shall be constructed in a way which prevents external moisture being transferred and causing condensation and the degradation of building elements.

E2.3.6 Excess moisture present at the completion of construction, shall be capable of being dissipated without permanent damage to building elements.
<table>
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<tr>
<th>Provisions</th>
<th>Limits on application</th>
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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>E3.1 The objective of this provision is to:</td>
<td></td>
</tr>
<tr>
<td>(a) Safeguard people against illness or injury which could result from accumulation of internal moisture, and</td>
<td></td>
</tr>
<tr>
<td>(b) Protect household units from damage caused by free water from another occupancy in the same building.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>E3.2 Buildings shall be constructed to avoid the likelihood of:</td>
<td></td>
</tr>
<tr>
<td>(a) Fungal growth or the accumulation of contaminants on linings and other building elements,</td>
<td></td>
</tr>
<tr>
<td>(b) Free water overflow penetrating to an adjoining household unit, and</td>
<td></td>
</tr>
<tr>
<td>(c) Damage to building elements being caused by use of water.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td>Performance E3.3.1 shall not apply to Communal Non-residential, Commercial, Industrial, Outbuildings or Ancillary buildings.</td>
</tr>
<tr>
<td>E3.3.1 An adequate combination of thermal resistance and ventilation shall be provided to all habitable spaces, bathrooms, laundries, and other spaces where moisture may be generated.</td>
<td></td>
</tr>
<tr>
<td>E3.3.2 Accidental overflow from sanitary fixtures or laundering facilities shall be constrained from penetrating to another occupancy in the same building.</td>
<td></td>
</tr>
<tr>
<td>E3.3.5 Floor surfaces of any space containing sanitary fixtures or laundering facilities shall be impervious and easily cleaned.</td>
<td></td>
</tr>
<tr>
<td>E3.3.4 Wall surfaces adjacent to sanitary fixtures or laundering facilities shall be impervious and easily cleaned.</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
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<tr>
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</tr>
<tr>
<td><strong>E8.3.5</strong> Surfaces of <em>building elements</em> likely to be splashed or become</td>
<td></td>
</tr>
<tr>
<td>contaminated in the course of the <em>intended use</em> of the <em>building</em>, shall</td>
<td></td>
</tr>
<tr>
<td>be <em>impervious</em> and easily cleaned.</td>
<td></td>
</tr>
<tr>
<td><strong>E8.3.6</strong> Water splash shall be prevented from penetrating behind</td>
<td></td>
</tr>
<tr>
<td>linings or to <em>concealed spaces</em>.</td>
<td></td>
</tr>
</tbody>
</table>
## F Safety of Users

### F1 Hazardous Agents on Site

**1992/150 Building Regulations 1992**

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clause F1—HAZARDOUS AGENTS ON SITE</strong></td>
<td></td>
</tr>
</tbody>
</table>

**OBJECTIVE**

F1.1 The objective of this provision is to safeguard people from injury or illness caused by hazardous agents or contaminants on a site.

**FUNCTIONAL REQUIREMENT**

F1.2 Buildings shall be constructed to avoid the likelihood of people within the building being adversely affected by hazardous agents or contaminants on the site.

**PERFORMANCE**

F1.3.1 Sites shall be assessed to determine the presence and potential threat of any hazardous agents or contaminants.

F1.3.2 The likely effect of any hazardous agent or contaminant on people shall be determined taking account of:

a) The intended use of the building,

b) The nature, potency or toxicity of the hazardous agent or contaminant, and

c) The protection afforded by the building envelope and building systems.
<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F2.1</strong> The objective of this provision is to safeguard people from injury and illness caused by exposure to hazardous building materials.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F2.2</strong> Building materials which are potentially hazardous, shall be used in ways that avoid undue risk to people.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F2.3.1</strong> The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.</td>
<td>Performance F2.3.2 does not apply to Housing</td>
</tr>
<tr>
<td><strong>F2.3.2</strong> Transparent panels capable of being mistaken for an unimpeded path of travel shall be marked to make them visible.</td>
<td></td>
</tr>
<tr>
<td><strong>F2.3.3</strong> Glass or other brittle materials with which people are likely to come into contact shall:</td>
<td></td>
</tr>
<tr>
<td>(a) If broken on impact, break in a way which is unlikely to cause injury, or</td>
<td></td>
</tr>
<tr>
<td>(b) Resist a reasonably foreseeable impact without breaking, or</td>
<td></td>
</tr>
<tr>
<td>(c) Be protected from impact.</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
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</tr>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F3.1</strong> The objective of this provision is to safeguard people from injury or illness, and other property from damage, caused by hazardous substances or processes in buildings.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F3.2</strong> Buildings where hazardous substances are stored and hazardous processes undertaken, shall be constructed to provide adequate protection to people and to other property.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F3.3</strong> Spaces in buildings where hazardous substances are stored, handled or used, or where hazardous processes are undertaken, shall be located and constructed to protect people, and other property, under both normal and reasonably foreseeable abnormal conditions, and shall be provided with:</td>
<td></td>
</tr>
<tr>
<td>(a) Means of restricting unauthorised access,</td>
<td></td>
</tr>
<tr>
<td>(b) Means of preventing hazardous substances, or other materials unacceptable to the network utility operator, from entering sewers or public drains,</td>
<td></td>
</tr>
<tr>
<td>(c) Means of allowing the harmless release of pressure where there is a significant risk of explosion occurring,</td>
<td></td>
</tr>
<tr>
<td>(d) Protected ignition sources where flammable or explosive goods are stored,</td>
<td></td>
</tr>
<tr>
<td>(e) Means of rendering harmless by ventilation, containment, dilution, or chemical or biological action, any radioactive, toxic or flammable vapours, gases or materials which may escape from pipes, vessels or containers,</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
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<tr>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>(f) Impervious, easily cleaned surface finishes on building elements likely to be splashed or become contaminated in the course of the intended use of the building, and</td>
<td></td>
</tr>
<tr>
<td>(g) Signs as required by Clause F8 “Signs”.</td>
<td></td>
</tr>
</tbody>
</table>
**F4 Safety from Falling**

**FIRST SCHEDULE—continued**

**Clause F4—SAFETY FROM FALLING**

<table>
<thead>
<tr>
<th><strong>Provisions</strong></th>
<th><strong>Limits on application</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td>Performance F4.3.1 shall not apply where such a barrier would be incompatible with the intended use of an area, or to temporary barriers on construction sites where the possible fall is less than 3 metres or to buildings providing pedestrian access in remote locations where the route served presents similar natural hazards.</td>
</tr>
<tr>
<td>F4.1 The objective of this provision is to safeguard people from injury caused by falling.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td>Performance F4.3.3 shall not apply to any pool exempted under section 5 of the Fencing of Swimming Pools Act 1987.</td>
</tr>
<tr>
<td>F4.2 Buildings shall be constructed to reduce the likelihood of accidental fall.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>F4.3.1 Where people could fall 1 metre or more from an opening in the external envelope or floor of a building, or from a sudden change of level within or associated with a building, a barrier shall be provided.</td>
<td></td>
</tr>
<tr>
<td>F4.3.2 Roofs with permanent access shall have barriers provided.</td>
<td></td>
</tr>
<tr>
<td>F4.3.3 Swimming pools have a depth of water exceeding 400mm, shall have barriers provided.</td>
<td></td>
</tr>
<tr>
<td>F4.3.4 Barriers shall:</td>
<td></td>
</tr>
<tr>
<td>(a) Be continuous and extend for the full extent of the hazard,</td>
<td></td>
</tr>
<tr>
<td>(b) Be of appropriate height,</td>
<td></td>
</tr>
<tr>
<td>(c) Be constructed with adequate rigidity,</td>
<td></td>
</tr>
<tr>
<td>(d) Be of adequate strength to withstand the foreseeable impact of people and, where appropriate, the static pressure of people pressing against them.</td>
<td></td>
</tr>
<tr>
<td>(e) Be constructed to prevent people from falling through them, and</td>
<td></td>
</tr>
</tbody>
</table>

*Amend 7 Jan 2002*
### FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>(f) In the case of a swimming pool, restrict the access of children under 6 years of age to the pool or the immediate pool area.</td>
</tr>
<tr>
<td>(g) Restrict the passage of children under 6 years of age when provided to guard a change of level in areas likely to be frequented by them.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td>Performance F4.3.4 (f) shall not apply to any pool exempted under section 5 of the Fencing of Swimming Pools Act 1987.</td>
</tr>
</tbody>
</table>

**F4.3.5** Barriers to swimming pools shall have in addition to performance F4.3.4:

- (a) All gates and doors fitted with latching devices not readily operated by children, and constructed to automatically close and latch when released from any stationary position 150 mm or more from the closed and secured position, but excluding sliding and sliding-folding doors that give access to the immediate pool surround from a building that forms part of the barrier, and

- (b) No permanent objects on the outside of the barrier that could provide a climbing step.
### F5 Construction and Demolition Hazards

#### FIRST SCHEDULE—continued

**Clause F5—CONSTRUCTION AND DEMOLITION HAZARDS**

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F5.1</strong> The objective of this provision is to safeguard people from injury, and other property from damage, caused by construction or demolition site hazards.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F5.2</strong> Construction and demolition work on buildings shall be performed in a manner that avoids the likelihood of:</td>
<td></td>
</tr>
<tr>
<td>(a) Objects falling onto people on or off the site,</td>
<td></td>
</tr>
<tr>
<td>(b) Objects falling on property off the site,</td>
<td></td>
</tr>
<tr>
<td>(c) Other hazards arising on the site affecting people off the site and other property, and</td>
<td></td>
</tr>
<tr>
<td>(d) Unauthorised entry of children to hazards on the site.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F5.3.1</strong> Suitable construction methods shall be used to avoid the likelihood of tools or materials falling onto places where people might be present.</td>
<td></td>
</tr>
<tr>
<td><strong>F5.3.2</strong> Where construction or demolition work presents a hazard in places to which the public has access, barriers shall be provided and shall:</td>
<td></td>
</tr>
<tr>
<td>(a) Be of appropriate height and construction to prevent site hazards from harming traffic or passersby,</td>
<td></td>
</tr>
<tr>
<td>(b) Be difficult to climb,</td>
<td></td>
</tr>
<tr>
<td>(c) Have no openings other than those approved by the territorial authority for access and viewing,</td>
<td></td>
</tr>
<tr>
<td>(d) Have no gates or doors which project beyond the site when opened,</td>
<td></td>
</tr>
</tbody>
</table>
## FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>(e) Contain no projection that would be a hazard to traffic or people, and</td>
<td></td>
</tr>
<tr>
<td>(f) Be clearly marked where the barrier itself may otherwise present a hazard to traffic or passersby.</td>
<td></td>
</tr>
</tbody>
</table>

**F5.3.3** Where a *construction* or demolition site contains any hazard which might be expected to attract the unauthorised entry of children, the hazard shall be enclosed to restrict access by children.

**F5.3.4** Suitable barriers shall be constructed to provide a safe route for people where lifting equipment creates a risk of accident from objects falling on a place of public access, or where a similar risk results from the height at which *construction* or demolition work is being carried out.
FIRST SCHEDULE—continued

Clause F6—LIGHTING FOR EMERGENCY

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td>Requirement F6.2 shall not apply to <strong>Detached Dwellings, household units within Multi-unit Dwellings, Outbuildings or Ancillary buildings.</strong></td>
</tr>
<tr>
<td><strong>F6.1</strong> The objective of this provision is to safeguard people from injury due to inadequate lighting being available during an emergency.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td>Performance F6.3.1 shall not apply to spaces infrequently inhabited such as plant rooms, storage areas and service tunnels.</td>
</tr>
<tr>
<td><strong>F6.2</strong> Buildings shall be provided with adequate lighting within all escape routes in an emergency.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F6.3.1</strong> An illuminance of 1 lux minimum shall be maintained at floor level throughout buildings for a period equal to 1.5 times the evacuation time or 30 minutes, whichever is the greater.</td>
<td></td>
</tr>
<tr>
<td><strong>F6.3.2</strong> Signs to indicate escape routes shall be provided as required by Clause F8 “Signs”.</td>
<td></td>
</tr>
</tbody>
</table>
## FIRST SCHEDULE—continued

### Clause F7—WARNING SYSTEMS

#### Provisions

**OBJECTIVE**

*F7.1* The objective of this provision is to safeguard people from injury or illness due to lack of awareness of an emergency.

**FUNCTIONAL REQUIREMENT**

*F7.2* Buildings shall be provided with appropriate means of warning people to escape to a safe place in an emergency.

**PERFORMANCE**

*F7.3.1* A means of warning must alert people to the emergency in adequate time for them to reach a safe place.

*F7.3.2* Appropriate means of detection and warning for fire must be provided within each household unit.

*F7.3.3* Appropriate means of warning for fire and other emergencies must be provided in buildings as necessary to satisfy the other performance requirements of this code.

#### Limits on application

Performance F7.3 does not apply to Outbuildings or Ancillary buildings.
F8 Signs

FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F8.1</strong> The objective of this provision is to:</td>
<td>Objective F8.1 (c) shall apply only to those buildings to which section 47A of the Act applies.</td>
</tr>
<tr>
<td>(a) Safeguard people from injury or illness resulting from inadequate identification of escape routes, or of hazards within or about the building,</td>
<td></td>
</tr>
<tr>
<td>(b) Safeguard people from loss of amenity due to inadequate direction, and</td>
<td></td>
</tr>
<tr>
<td>(c) Ensure that people with disabilities are able to carry out normal activities and processes within buildings.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td>Requirement F8.2 shall not apply to Detached Dwellings, or within household units of Multi-unit Dwellings.</td>
</tr>
<tr>
<td><strong>F8.2</strong> Signs shall be provided in and about buildings to identify:</td>
<td></td>
</tr>
<tr>
<td>(a) Escape routes,</td>
<td></td>
</tr>
<tr>
<td>(b) Emergency related safety features,</td>
<td></td>
</tr>
<tr>
<td>(c) Potential hazards, and</td>
<td></td>
</tr>
<tr>
<td>(d) Accessible routes and facilities for people with disabilities.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>F8.3.1</strong> Signs shall be clearly visible and readily understandable under all conditions of foreseeable use.</td>
<td></td>
</tr>
<tr>
<td><strong>F8.3.2</strong> Signs indicating potential hazards shall be provided in sufficient locations to notify people before they encounter the hazard.</td>
<td></td>
</tr>
<tr>
<td><strong>F8.3.3</strong> Signs to facilitate escape shall:</td>
<td></td>
</tr>
<tr>
<td>(a) Be provided in sufficient locations to identify escape routes and guide people to a safe place, and</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>(b) Remain visible in the event of a power failure of the main lighting supply, for the same duration as required by Clause F6 “Lighting for Emergency”.</td>
<td></td>
</tr>
<tr>
<td><strong>F8.3.4</strong> Signs shall be provided in sufficient locations to identify accessible routes and facilities provided for people with disabilities.</td>
<td></td>
</tr>
</tbody>
</table>
### G Services and Facilities

#### G1 Personal Hygiene

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>G1.1 The objective of this provision is to:</td>
<td></td>
</tr>
<tr>
<td>(a) Safeguard people from illness caused by infection or contamination,</td>
<td></td>
</tr>
<tr>
<td>(b) Safeguard people from loss of amenity arising from the absence of appropriate personal hygiene facilities, and</td>
<td></td>
</tr>
<tr>
<td>(c) Ensure <strong>people with disabilities</strong> are able to carry out normal activities and processes within <strong>buildings</strong>.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>G1.2 <strong>Buildings</strong> shall be provided with appropriate spaces and facilities for personal hygiene.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>G1.3.1 <strong>Sanitary fixtures</strong> shall be provided in sufficient number and be appropriate for the people who are intended to use them.</td>
<td></td>
</tr>
<tr>
<td>G1.3.2 <strong>Sanitary fixtures</strong> shall be located, constructed and installed to:</td>
<td></td>
</tr>
<tr>
<td>(a) Facilitate <strong>sanitation</strong>,</td>
<td></td>
</tr>
<tr>
<td>(b) Avoid risk of food contamination,</td>
<td></td>
</tr>
<tr>
<td>(c) Avoid harbouring dirt or germs,</td>
<td></td>
</tr>
<tr>
<td>(d) Provide appropriate privacy,</td>
<td></td>
</tr>
<tr>
<td>(e) Avoid affecting occupants of adjacent spaces from the presence of unpleasant odours, accumulation of offensive matter, or other source of annoyance,</td>
<td></td>
</tr>
<tr>
<td>(f) Allow effective cleaning,</td>
<td></td>
</tr>
<tr>
<td>Objective G1.1 (c) shall apply only to those <strong>buildings</strong> to which section 25 of the <strong>Disabled Persons Community Welfare Act 1975</strong> applies.</td>
<td></td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(g) Discharge to a plumbing and drainage system as required by Clause G1.3 “Foul Water” when water-borne disposal is used, and</td>
<td>Performance G1.3.4 shall not apply to Housing, Outbuildings, Ancillary buildings, and to Industrial buildings where no more than 10 people are employed.</td>
</tr>
<tr>
<td>(h) Provide a healthy safe disposal system when non-water-borne disposal is used.</td>
<td></td>
</tr>
<tr>
<td>G1.3.3 Facilities for personal hygiene shall be provided in convenient locations.</td>
<td></td>
</tr>
<tr>
<td>G1.3.4 Personal hygiene facilities provided for people with disabilities shall be accessible.</td>
<td></td>
</tr>
</tbody>
</table>
# Building Code

## G2 Laundering

<table>
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<tr>
<th>1992/150</th>
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</thead>
<tbody>
<tr>
<td><strong>First Schedule—continued</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Clause G2—LAUNDERING

#### Provisions

**OBJECTIVE**

G2.1 The objective of this provision is to ensure:

(a) Adequate amenities for people to do laundering, and

(b) That people with disabilities are able to carry out normal activities and processes within buildings.

**FUNCTIONAL REQUIREMENT**

G2.2 Buildings shall be provided with adequate space and facilities for laundering.

**PERFORMANCE**

G2.3.1 Facilities shall have capacity for the intended use, and consist of fixtures, or space and services for appliances.

G2.3.2 Space shall be adequate in size to provide for the installation and use of fixtures or appliances.

G2.3.3 Space and facilities shall be provided within each accommodation unit or may be grouped elsewhere in a convenient location.

G2.3.4 Accessible facilities shall be provided for people with disabilities.

**Limits on application**

<table>
<thead>
<tr>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective G2.1 (b) shall apply to those buildings to which section 25 of the Disabled Persons Community Welfare 1975 Act applies.</td>
</tr>
<tr>
<td>Requirement G2.2 shall apply only to Housing, old people’s homes, early childhood centres, camping grounds and work camps.</td>
</tr>
<tr>
<td>Performance G2.3.4 shall apply only to camping grounds.</td>
</tr>
</tbody>
</table>
G3 Food Preparation and Prevention of Contamination

FIRST SCHEDULE—continued

Clause G3—FOOD PREPARATION AND PREVENTION OF CONTAMINATION

Provisions

OBJECTIVE
G3.1 The objective of this provision is to:
(a) Safeguard people from illness due to contamination,
(b) Enable hygienic food preparation without loss of amenity, and
(c) Ensure that people with disabilities are able to carry out normal activities and processes within buildings.

FUNCTIONAL REQUIREMENT
G3.2.1 Buildings shall be provided with space and facilities for the hygienic storage, preparation and cooking of food, that are adequate for the intended use of the building.

G3.2 Buildings used for the storage, manufacture or processing of food, including animal products, shall be constructed to safeguard the contents from contamination.

G3.2.3 Buildings 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 building contents.

PERFORMANCE
G3.3.1 Food preparation facilities shall be hygienic and include:
(a) Space for a refrigerator, or a perishable food storage area capable of being cooled and protected from vermin and insects.

Limits on application

Objective G3.1 (c) shall apply only to those buildings to which section 47A of the Act applies.

Requirement G3.2.1 shall apply to Housing, work camps, old people’s homes and early childhood centres, and where appropriate shall also apply to Commercial and Industrial buildings whose intended uses include the manufacture, preparation, packaging or storage of food.

Performance G3.3.1 (a) and (b) shall apply to Housing, work camps, old people’s homes, early childhood centres and Commercial or Industrial buildings whose intended uses include the handling of perishable food.
**FIRST SCHEDULE—continued**

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Means for food rinsing, utensil washing and waste water disposal.</td>
<td>Performance G3.3.1 (c) shall apply to Housing, work camps, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>(c) Means for cooking food, and</td>
<td>Performance G3.3.1 (d) shall apply to Housing, work camps, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>(d) Space and a surface for food preparation.</td>
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</tbody>
</table>

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

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>(a) Interior linings and work surfaces shall be impervious and easily cleaned,</td>
<td>Performance G3.3.2 (b) shall apply to Housing, work camps, old people's homes and early childhood centres, and where appropriate shall also apply to Commercial and Industrial buildings whose intended uses include the manufacture, preparation, packaging or storage of food.</td>
</tr>
<tr>
<td>(b) All building elements constructed with materials which are free from hazardous substances which could cause contamination to the building contents, and</td>
<td>Performance G3.3.2 (c) shall not apply to Housing.</td>
</tr>
<tr>
<td>(c) Exposed building elements located and shaped to avoid the accumulation of dirt.</td>
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</tbody>
</table>

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.

Performance G3.3.5 shall apply only to camping grounds and accessible accommodation units in Communal Residential buildings.
### FIRST SCHEDULE—continued

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</table>

**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 G3.3.6 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.
The objective of this provision is to safeguard people from illness or loss of amenity due to lack of fresh air.

**FUNCTIONAL REQUIREMENT**

**G4.2** Spaces within buildings shall be provided with adequate ventilation consistent with their maximum occupancy and their intended use.

**PERFORMANCE**

**G4.3.1** Spaces within buildings shall have means of ventilation with outdoor air that will provide an adequate number of air changes to maintain air purity.

**G4.3.2** Mechanical air-handling systems shall be constructed and maintained in a manner that prevents harmful bacteria, pathogens and allergens from multiplying within them.

**G4.3.3** Buildings shall have a means of collecting or otherwise removing the following products from the spaces in which they are generated:

(a) Cooking fumes and odours,
(b) Moisture from laundering, utensil washing, bathing and showering,
(c) Odours from sanitary and waste storage spaces,
(d) Gaseous by-products and excessive moisture from commercial or industrial processes,
(e) Poisonous fumes and gases,
(f) Flammable fumes and gases,
(g) Airborne particles,
(h) Bacteria, viruses or other pathogens, or
(i) Products of combustion.

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<tr>
<th>Clause</th>
<th>G4—VENTILATION</th>
<th>Provisions</th>
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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G4.1</strong></td>
<td>The objective of this provision is to safeguard people from illness or loss of amenity due to lack of fresh air.</td>
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<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
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<tr>
<td><strong>G4.2</strong></td>
<td>Spaces within buildings shall be provided with adequate ventilation consistent with their maximum occupancy and their intended use.</td>
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<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
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<tr>
<td><strong>G4.3.1</strong></td>
<td>Spaces within buildings shall have means of ventilation with outdoor air that will provide an adequate number of air changes to maintain air purity.</td>
<td></td>
</tr>
<tr>
<td><strong>G4.3.2</strong></td>
<td>Mechanical air-handling systems shall be constructed and maintained in a manner that prevents harmful bacteria, pathogens and allergens from multiplying within them.</td>
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</tr>
<tr>
<td><strong>G4.3.3</strong></td>
<td>Buildings shall have a means of collecting or otherwise removing the following products from the spaces in which they are generated: (a) Cooking fumes and odours, (b) Moisture from laundering, utensil washing, bathing and showering, (c) Odours from sanitary and waste storage spaces, (d) Gaseous by-products and excessive moisture from commercial or industrial processes, (e) Poisonous fumes and gases, (f) Flammable fumes and gases, (g) Airborne particles, (h) Bacteria, viruses or other pathogens, or (i) Products of combustion.</td>
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<td>Provisions</td>
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<tr>
<td><strong>G4.3.4</strong> Contaminated air shall be disposed of in a way which avoids creating a nuisance or hazard to people and other property.</td>
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<td><strong>G4.3.5</strong> The quantities of air supplied for ventilation shall meet the additional demands of any fixed combustion appliances.</td>
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</table>
**FIRST SCHEDULE—continued**

**Clause G5—INTERIOR ENVIRONMENT**

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<tr>
<th>Provisions</th>
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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>G5.1</strong> The objective of this provision is to:</td>
<td>Objective G5.1 (d) shall apply to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.</td>
</tr>
<tr>
<td>(a) Safeguard people from illness caused by low air temperature,</td>
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<tr>
<td>(b) Safeguard people from injury or loss of amenity caused by inadequate activity space,</td>
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<tr>
<td>(c) Safeguard people from injury caused by unsafe installations, and</td>
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<tr>
<td>(d) Ensure that people with disabilities are able to carry out normal activities and processes within buildings.</td>
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</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>G5.2.1</strong> Buildings shall be constructed to provide:</td>
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<tr>
<td>(a) An adequate, controlled interior temperature,</td>
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<tr>
<td>(b) Adequate activity space for the intended use, and</td>
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<tr>
<td>(c) Accessible spaces and facilities.</td>
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<tr>
<td><strong>G5.2.2</strong> Heating appliances in buildings shall be installed in a way that reduces the likelihood of injury.</td>
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<tr>
<td><strong>PERFORMANCE</strong></td>
<td>Performance G5.3.1 shall apply only to old people's homes and early childhood centres.</td>
</tr>
<tr>
<td><strong>G5.3.1</strong> Habitable spaces, bathrooms and recreation rooms shall have the provision for maintaining the internal temperature at no less than 16°C measured at 750 mm above floor level, while the space is adequately ventilated.</td>
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FIRST SCHEDULE—continued

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<tr>
<th>Provisions</th>
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<tbody>
<tr>
<td><strong>G5.3.2</strong> Heating appliances, and any attached cables, pipes or other fittings shall be securely fixed in place.</td>
<td>Performance G5.3.2 shall apply only to old people’s homes and early childhood centres.</td>
</tr>
<tr>
<td><strong>G5.3.3</strong> Habitable spaces shall have sufficient space for activity, furniture, and sanitary and mobility aids.</td>
<td>Performance G5.3.3 shall apply only to old people’s homes.</td>
</tr>
<tr>
<td><strong>G5.3.4</strong> Where reception counters or desks are provided for public use, at least one counter or desk shall be accessible.</td>
<td>Performance G5.3.4 applies only to Communal Residential, Communal Non-Residential, and Commercial buildings.</td>
</tr>
<tr>
<td><strong>G5.3.5</strong> Buildings shall be provided with listening systems which enable enhanced hearing by people with hearing aids.</td>
<td>Performance G5.3.5 applies only to: (a) Communal Non-residential assembly spaces occupied by more than 250 people, and (b) Any theatre, cinema, or public hall, and (c) Assembly spaces in old people’s homes occupied by more than 20 people.</td>
</tr>
<tr>
<td><strong>G5.3.6</strong> Enhanced listening systems shall be identified by signs complying the Clause F8 “Signs”.</td>
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</table>
### G6 Airborne and Impact Sound

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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>G6.1 The objective of this provision is to safeguard people from illness or loss of amenity as a result of undue noise being transmitted between abutting occupancies.</td>
<td></td>
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<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>G6.2 <em>Building elements</em> which are common between occupancies, shall be constructed to prevent undue noise transmission from other occupancies or common spaces, to the habitable spaces of household units.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>G6.3.1 The <em>Sound Transmission Class</em> of walls, floors and ceilings, shall be no less than 55.</td>
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</tr>
<tr>
<td>G6.3.2 The <em>Impact Insulation Class</em> of floors shall be no less than 55.</td>
<td></td>
</tr>
</tbody>
</table>
Clause G7—NATURAL LIGHT

**OBJECTIVE**

G7.1 The objective of this provision is to safeguard people from illness or loss of amenity due to isolation from natural light and the outside environment.

**FUNCTIONAL REQUIREMENT**

G7.2 Habitable spaces shall provide adequate openings for natural light and for a visual awareness of the outside environment.

**PERFORMANCE**

G7.3.1 Natural light shall provide an illuminance of no less than 30 lux at floor level for 75% of the standard year.

G7.3.2 Openings to give awareness of the outside shall be transparent and provided in suitable locations.

Requirement G7.2 shall apply only to Housing, old people’s homes and early childhood centres.
Clause G8—ARTIFICIAL LIGHT

OBJECTIVE
G8.1 The objective of this provision is to safeguard people from injury due to lack of adequate lighting.

FUNCTIONAL REQUIREMENT
G8.2 Spaces within buildings used by people shall be provided with adequate artificial lighting which, when activated in the absence of sufficient natural light, will enable safe movement.

PERFORMANCE
G8.3 Illuminance at floor level shall be no less than 20 lux.

Limits on application

Requirement G8.2 shall apply to:
(a) All exitways in Multi-unit Dwellings, Group Dwellings and Communal Residential, Communal Non-residential, Commercial and Industrial buildings,
(b) All access routes except those in Outbuildings and Ancillary buildings, and
(c) All common spaces within Multi-unit Dwellings, Group Dwellings, and Communal Residential and Communal Non-residential buildings.

Performance G8.3 shall not apply in emergencies, for which Illuminance requirements are given in Clause F6 “Lighting for Emergency”.
<table>
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<tr>
<th>Clause G9 — ELECTRICITY</th>
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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
</tr>
<tr>
<td>G9.1 The objective of this provision is to ensure that:</td>
</tr>
<tr>
<td>(a) In buildings supplied with electricity, the electrical installation has safeguards against outbreak of fire and personal injury, and</td>
</tr>
<tr>
<td>(b) People with disabilities are able to carry out normal activities and processes within buildings.</td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
</tr>
<tr>
<td>G9.2 Where provided in a building, electrical installations shall be safe for their intended use.</td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
</tr>
<tr>
<td>G9.3 The electrical installation shall incorporate systems to:</td>
</tr>
<tr>
<td>(a) Protect people from contact with parts of the installation which are live during normal operation, and to prevent parts of the installation or other building elements becoming live during fault conditions,</td>
</tr>
<tr>
<td>(b) Permit the safe isolation of the installation and of electrical fittings and appliances,</td>
</tr>
<tr>
<td>(c) Safeguard people from excessive temperatures resulting from either normal operation of electrical equipment, or from currents which could exceed the installation rating,</td>
</tr>
<tr>
<td>(d) Safeguard people from injury which may result from electromechanical stress in electrical components caused by currents in excess of the installation rating.</td>
</tr>
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</table>

**Limits on application**
Objective G9.1 (b) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.

**FIRST SCHEDULE—continued**

<table>
<thead>
<tr>
<th>Provisions</th>
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<tbody>
<tr>
<td>(e) Protect building elements from risk of ignition, impairment of their physical or mechanical properties, or function, due to temperature increases resulting from heat transfer or electric arc,</td>
<td>Performance G9.3.4 shall not apply to Housing, Outbuildings, Ancillary buildings, and to Industrial buildings where no more than 10 people are employed.</td>
</tr>
<tr>
<td>(f) Operate safely in its intended environment, and</td>
<td></td>
</tr>
<tr>
<td>(g) Safeguard against ignition of the surrounding atmosphere where it is potentially flammable or explosive.</td>
<td></td>
</tr>
</tbody>
</table>

**G9.3.2** An electrical installation supplying an essential service shall:

(a) Maintain the supply for a time appropriate to that service, and

(b) Be capable of being isolated from the supply system, independently of the remainder of the installation.

**G9.3.3** An electrical installation connected to an electrical supply system, shall contain safeguards which protect the safety features of the external supply.

**G9.3.4** In buildings intended for use by people with disabilities, light switches and plug socket outlets shall be accessible and usable.
**Objective**

G10.1 The objective of this provision is to safeguard people from injury or illness caused by extreme temperatures or hazardous substances associated with building services.

**Functional Requirement**

G10.2 In buildings provided with potentially hazardous services containing hot, cold, flammable, corrosive or toxic fluids, the installations shall be constructed to provide adequate safety for people.

**Performance**

G10.3.1 Piping systems shall be constructed to avoid the likelihood of:

(a) Significant leakage or damage during normal or reasonably foreseeable abnormal conditions,

(b) Detrimental contamination of the contents by other substances,

(c) Adverse interaction between services, or between piping and electrical systems, and

(d) People having contact with pipes which could cause them harm.

G10.3.2 Provision shall be made for the ready removal of moisture or condensate in gas pipes.

G10.3.3 Pipes shall be protected against corrosion in the environment of their use.

G10.3.4 Piping systems shall be identified with markings if the contents are not readily apparent from the location or associated equipment.
<table>
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<tr>
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<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td><strong>G10.3.5</strong> Enclosed spaces shall be constructed to avoid the likelihood of accumulating vented or leaking gas.</td>
<td></td>
</tr>
<tr>
<td><strong>G10.3.6</strong> Piped systems shall have isolation devices which permit the installation or individual items of apparatus to be isolated from the supply system, for maintenance, testing, fault detection and repair.</td>
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</tr>
</tbody>
</table>
### Clause G11 — GAS AS AN ENERGY SOURCE

#### Objective

G11.1 The objective of this provision is to:

(a) Safeguard people from injury arising from the use of gas as an energy source,

(b) Safeguard people and other property from the risk of fire or explosion, and

(c) Safeguard people from loss of amenity due to the gas supply being inadequate for the intended use.

#### Functional Requirement

G11.2 In buildings where gas is used as an energy source, the supply system shall be safe and adequate for its intended use.

#### Performance

G11.3.1 Supply systems shall be constructed to maintain a safe pressure range appropriate to the appliances and the type of gas used.

G11.3.2 The gas supply to all appliances in a single ventilated space, shall be fitted with an automatic cut-off activated by failure of any continuous forced ventilation system used for combustion, ventilation or safe operation of a fixed gas appliance.

G11.3.3 A flued fixed gas appliance shall have no adverse interaction with any other flued appliance.

G11.3.4 Supply systems shall have isolation devices which permit the whole installation, or individual items of apparatus, to be isolated from the supply for maintenance, testing, fault detection or repair.
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</table>
| **G11.3.5** Where gas is supplied from an external source, the supply system within buildings shall be constructed to avoid the likelihood of:  
  (a) Contamination of the external supply from other gas sources within the building,  
  (b) Adverse effects on the pressure of the external supply, and  
  (c) The external supply pipe acting as an earthing conductor. |                       |
| **G11.3.6** The location and installation of meters and service risers shall meet the requirements of the network utility operator. |                       |
G12 Water Supplies

Provisions

Objective

G12.1 The objective of this provision is to:
   (a) safeguard people from illness caused by contaminated water;
   (b) safeguard people from injury caused by hot water system explosion, or from contact with excessively hot water;
   (c) safeguard people from loss of amenity arising from—
      (i) a lack of hot water for personal hygiene; or
      (ii) water for human consumption, which is offensive in appearance, odour or taste;
   (d) ensure that people with disabilities are able to carry out normal activities and functions within buildings.

Functional requirement

G12.2 Buildings provided with water outlets, sanitary fixtures, or sanitary appliances must have safe and adequate water supplies.

Performance

G12.3.1 Water intended for human consumption, food preparation, utensil washing, or oral hygiene must be potable

G12.3.2 A potable water supply system shall be—
   (a) protected from contamination; and
   (b) installed in a manner which avoids the likelihood of contamination within the system and the water main; and
   (c) installed using components that will not contaminate the water.

G12.3.3 A non-potable water supply system used for personal hygiene shall be installed in a manner that avoids the likelihood of illness or injury being caused by the system.

G12.3.4 Water pipes and outlets provided with non-potable water shall be clearly identified.

Limits on application

Objective G12.1(d) shall apply only to those buildings to which section 47A of the Act applies.

Schedule

New clause G12 substituted in First Schedule of principal regulations
## Building Amendment Regulations 2001

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<td><strong>Performance</strong>—continued</td>
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</tr>
<tr>
<td><strong>G12.3.5</strong> Sanitary fixtures and sanitary appliances must be provided with hot water when intended to be used for—</td>
<td>Performance G12.3.5(b) shall apply only to housing, retirement homes and early childhood centres.</td>
</tr>
<tr>
<td>(a) utensil washing; and</td>
<td></td>
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<tr>
<td>(b) personal washing, showering, or bathing.</td>
<td></td>
</tr>
<tr>
<td><strong>G12.3.6</strong> Where hot water is provided to sanitary fixtures and sanitary appliances, used for personal hygiene, it must be delivered at a temperature that avoids the likelihood of scalding.</td>
<td></td>
</tr>
<tr>
<td><strong>G12.3.7</strong> Water supply systems must be installed in a manner that—</td>
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<tr>
<td>(a) pipes water to sanitary fixtures and sanitary appliances flow rates that are adequate for the correct functioning of those fixtures and appliances under normal conditions; and</td>
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<tr>
<td>(b) avoids the likelihood of leakage; and</td>
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<tr>
<td>(c) allows reasonable access to components likely to need maintenance; and</td>
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<tr>
<td>(d) allows the system and any backflow prevention devices to be isolated for testing and maintenance.</td>
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<tr>
<td><strong>G12.3.8</strong> Vessels used for producing or storing hot water must be provided with safety features that—</td>
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<tr>
<td>(a) relieve excessive pressure during both normal and abnormal conditions; and</td>
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<tr>
<td>(b) limit temperatures to avoid the likelihood of flash steam production in the event of rupture.</td>
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<tr>
<td><strong>G12.3.9</strong> A hot water system must be capable of being controlled to prevent the growth of legionella bacteria.</td>
<td>Performance G12.3.10 applies only to those buildings to which section 47A of the Act applies.</td>
</tr>
<tr>
<td><strong>G12.3.10</strong> Water supply taps must be accessible and usable for people with disabilities.</td>
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Clerk of the Executive Council.
### Clause G13—FOUL WATER

#### OBJECTIVE

G13.1 The objective of this provision is to:

(a) Safeguard people from illness due to infection or contamination resulting from personal hygiene activities, and

(b) Safeguard people from loss of amenity due to the presence of unpleasant odours or the accumulation of offensive matter resulting from foul water disposal.

#### FUNCTIONAL REQUIREMENT

G13.2 Buildings, in which sanitary fixtures and sanitary appliances using water-borne waste disposal are installed, shall be provided with an adequate plumbing and drainage system to carry foul water to appropriate outfalls.

#### PERFORMANCE

G13.3.1 The plumbing system shall be constructed to:

(a) Convey foul water from buildings to a drainage system,

(b) Avoid the likelihood of blockage and leakage,

(c) Avoid the likelihood of foul air and gases entering buildings, and

(d) provide reasonable access for maintenance and clearing blockages.

G13.3.2 The drainage system shall:

(a) Convey foul water to an appropriate outfall,

(b) Be constructed to avoid the likelihood of blockage.
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<td>(c) Be supported, jointed and</td>
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<td>protected in a way that will</td>
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<td>avoid the likelihood of</td>
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<td>penetration of roots or the</td>
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<td>entry of ground water,</td>
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<td>(d) Be provided with reasonable</td>
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<td>access for maintenance and</td>
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<td>clearing blockages,</td>
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<td>(e) Be ventilated to avoid the</td>
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<td>likelihood of foul air and gases</td>
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<td>accumulating in the drainage</td>
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<td>system and sewer, and</td>
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<td>(f) Be constructed to avoid the</td>
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<td>likelihood of damage from</td>
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<td>superimposed loads or normal</td>
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<td>ground movement.</td>
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**G13.5.3** Where a sewer connection is available, the drainage system shall be connected to the sewer, and the connection shall be made in a manner that avoids damage to the sewer and is to the approval of the network utility operator.

**G13.5.4** Where no sewer is available, an adequate on-site disposal system shall be provided for foul water in the same manner as detailed in clause G14 ‘‘Industrial Liquid Waste’’.
### Objectives

**G14.1** The objective of this provision is to safeguard people from injury or illness caused by infection or contamination resulting from industrial liquid waste.

### Functional Requirement

**G14.2** Buildings in which industrial liquid waste is generated shall be provided with adequate spaces and facilities for the safe and hygienic collection, holding, treatment and disposal of the waste.

### Performance

**G14.3.1** Industrial liquid waste shall be conveyed to storage containers and within disposal systems in a way which will:

(a) Transfer wastes from buildings safely and hygienically,

(b) Avoid the likelihood of blockage and leakage,

(c) Avoid the likelihood of foul air and gases entering buildings, and

(d) Provides reasonable access for clearing of blockages.

**G14.3.2** Facilities for the storage, treatment, and disposal of industrial liquid waste shall be constructed:

(a) With adequate capacity for the volume of waste and the frequency of disposal,

(b) With adequate vehicle access for collection if required,

(c) To avoid the likelihood of contamination of any potable water supplies in compliance with Clause G12 “Water Supplies”,
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<tbody>
<tr>
<td>(d) To avoid the likelihood of contamination of soils, ground water and waterways except as permitted under the Resource Management Act 1991.</td>
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<tr>
<td>(e) From materials which are impervious both to the waste for which disposal is required, and to water.</td>
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<tr>
<td>(f) To avoid the likelihood of foul air and gases accumulating within or entering into buildings,</td>
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<tr>
<td>(g) To avoid the likelihood of unauthorised access by people, and</td>
<td></td>
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<tr>
<td>(h) To permit easy cleaning and maintenance.</td>
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<tr>
<td><strong>FIRST SCHEDULE—continued</strong></td>
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<tr>
<td><strong>Clause G15—SOLID WASTE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Provisions</strong></td>
<td></td>
</tr>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>G15.1</strong> The objective of this provision is to safeguard people from injury or illness caused by infection or contamination from solid waste.</td>
<td></td>
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<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td><strong>G15.2</strong> Buildings shall be provided with space and facilities for the collection, and safe hygienic holding prior to disposal, of solid waste arising from the intended use of the buildings.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td><strong>G15.3.1</strong> Where provision is made within buildings for the collection and temporary holding of solid waste, the spaces provided shall be:</td>
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<tr>
<td>(a) Of sufficient size for the volume of waste and frequency of disposal,</td>
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<tr>
<td>(b) Provided with reasonable access for the depositing and collection of the waste,</td>
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<tr>
<td>(c) Capable of maintaining sanitary conditions having regard to the types of waste and storage containers, and</td>
<td></td>
</tr>
<tr>
<td>(d) Capable of maintaining the appropriate temperature for the type of waste stored.</td>
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<tr>
<td><strong>G15.3.2</strong> Where a rubbish chute is provided, it shall be located and constructed to:</td>
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<tr>
<td>(a) Convey the solid waste to an appropriate storage container,</td>
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<tr>
<td>(b) Avoid the likelihood of blockage or leakage,</td>
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</tr>
<tr>
<td>(c) Permit easy cleaning and maintenance,</td>
<td></td>
</tr>
<tr>
<td><strong>Limits on application</strong></td>
<td></td>
</tr>
<tr>
<td>Requirement G15.2 shall not apply to Detached Dwellings, household units of Multi-unit Dwellings, Outbuildings or Ancilliary buildings if there is independent access or private open space at ground level.</td>
<td></td>
</tr>
</tbody>
</table>
### FIRST SCHEDULE—continued

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>(d) Avoid the likelihood of foul air or gases accumulating or entering the building,</td>
<td></td>
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<tr>
<td>(e) Avoid the likelihood of the spread of fire beyond the refuse chute,</td>
<td></td>
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<tr>
<td>(f) Have openings that allow waste to be safely deposited in the chute,</td>
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<tr>
<td>(g) Restrict access by children, animals and vermin.</td>
<td></td>
</tr>
<tr>
<td><strong>G15.3.3</strong> Where it is acceptable to the network utility operator, solid waste which has been suitably treated for disposal to a sewer may be discharged via a foul water drain complying with Clause G13 “Foul Water”.</td>
<td></td>
</tr>
</tbody>
</table>
5 Clause H1 of code (energy efficiency provisions) replaced
The First Schedule of the principal regulations is amended by revoking clause H1, and substituting the following clause:

Clause H1—Energy efficiency provisions

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective H1.1 The objective of this provision is to facilitate efficient use of energy.</td>
<td>Objective H1.1 applies only when the energy is sourced from a network utility operator or a depletable energy resource.</td>
</tr>
</tbody>
</table>

Functional requirement

H1.2 Buildings must be constructed to achieve an adequate degree of energy efficiency when that energy is used for—

(a) modifying temperature or humidity, or both; or
(b) providing hot water to sanitary fixtures or sanitary appliances, or both; or
(c) providing artificial lighting

Requirement H1.2(a) does not apply to assembly service buildings, industrial buildings, outbuildings, or ancillary buildings, or to plant and equipment provided to modify temperature, humidity, or both.

Requirement H1.2(c) applies only to commercial buildings and communal non-residential buildings whose floor area is greater than 300 m².

Performance

H1.3.1 The building envelope enclosing spaces where the temperature or humidity (or both) are modified must be constructed to—

(a) provide adequate thermal resistance; and
(b) limit uncontrollable airflow.

H1.3.2 Buildings must be constructed to ensure that the building performance index does not exceed:

(a) 0.13 kWh in a warm location; and
(b) 0.12 kWh in a cool location.

Performance H1.3.2 applies only to housing.
H1.3.3 Account must be taken of physical conditions likely to affect energy performance of buildings, including—
(a) the thermal mass of building elements; and
(b) the building orientation and shape; and
(c) the airtightness of the building envelope; and
(d) the heat gains from services, processes and occupants; and
(e) the local climate; and
(f) heat gains from solar radiation.

H1.3.4 Systems for the heating, storage, or distribution of hot water to sanitary fixtures or sanitary appliances must, having regard to the energy source used,—
(a) limit the energy lost in the heating process; and
(b) be constructed to limit heat losses from storage vessels, and from distribution systems connected to storage vessels.

H1.3.5 Artificial lighting fixtures must—
(a) be located and sized to limit energy use, consistent with the intended use of space; and
(b) be fitted with a means to enable light intensities to be reduced, consistent with reduced activity in the space.

Performance H1.3.4(b) applies only where individual storage vessels are 700 litres or less in capacity.
Performance H1.3.5 does not apply to lighting provided solely to meet the requirements of clause F6.

Marie Shroff,
Clerk of the Executive Council.