The New Zealand Building Code Handbook

Prepared by the Building Industry Authority
This Approved Document is prepared by the Building Industry Authority, which is a statutory body established by the Building Act 1991.

Building Industry Authority

Enquiries about the content of this document should be directed to:
Building Industry Authority
PO Box 11-846, Wellington.
Telephone 04 471 0794, 0800 242 243
Fax 04 471 0798, Email:bia@bia.govt.nz

Published by Scenario Communications Ltd
This Approved Document is published by Scenario Communications Ltd on behalf of the Building Industry Authority.

scenario

Sales enquiries should be directed to:
Customer Services,
Victoria University Book Centre

VICTORIA UNIVERSITY BOOK CENTRE

PO Box 12-337, Wellington, New Zealand
Telephone 0800 370 370, (04) 463 5511
Fax (04) 463 5510
Email: victoria-book-centre@bookcentre.co.nz

ISBN 0-477-01606-5

Handbook: **Document History**

	Date	Alterations
First published	July 1992	
Amendment 1	December 1993	p. 8, 4.1.1 pp. 11 to 28, Publications Referenced pp. 31 to 46, Definitions pp. 52 to 59, 66 to 69, 71 to 74, Compliance Schedules pp. 83 to 108, Index
Amendment 2	19 August 1994	pp. 1 and 2, Document History pp. 12 to 17, 21 to 25, Publications Referenced pp. 31, 40, 41, 44 to 46, Definitions pp. 52, 57, 58, 70, Compliance Schedules pp. 83 to 94, 97 to 108, Index
Reprinted incorporating Amendments 1 and 2	October 1994	
Second edition incorporating Amendments 1, 2 and 3	1 December 1995	p. 2, Document History pp. 11 to 24, Publications Referenced pp. 29, 30, 32, Definitions pp. 48 to 51, 54 to 58, 64, 65, 68, 71, Compliance Schedules pp. 79, 81, 83 to 87, 89, 90, 92 to 97, 99, 100, 102, Index pp. 130, 139, 140, 143, 170, Building Code
Amendment 4	28 February 1998	p. 2, Document History pp. 12 and 13, 15, 19 to 21, Publications Referenced pp. 79 to 81, 83 to 89, 91, 93 and 94, 96, 98, 100, 102 to 104, Index pp. 115, 115A, 115B, 116, 151 and 152, Building Code
Amendment 5	1 December 2000	pp. 11 – 23, Publications Referenced, pp. 27 – 42C, Definitions pp. 51, 55 – 58, 64, Compliance Schedules p. 75, List of Approved Documents, pp. 79 – 104C, Index
Amendment 6	1 July 2001	p. 2, Document History and Status, pp. 8 to 9, Preface pp. 11 to 32, Publications Referenced pp. 33, 34, 36 to 38, 41, 46, 48, 50 to 52, Definitions pp. 57, 58, Compliance Schedules, pp. 81 to 199, Index
Amendment 7	6 January 2002	p. 2 Document History and Status p. 26 References pp. 63 – 65, Compliance Schedules pp. 164 – 167, 176, 179, 189, 216 – 218 Code Clauses
Reprinted incorporating Amendment 7	July 2002	
Amendment 8	24 April 2003	pp. 20, 23, 25-26 References pp. 102, 135 Index p. 194 Code Clauses
Amendment 9	1 April 2004	pp. 13-28 References p. 41 Definitions pp. 71-71a Compliance Schedules p. 79 List of Approved Documents pp. 82, 86-89, 93, 96, 105-6 pp. 109, 113, 119, 123, 125 pp. 129-131, 135-6 pp. 139-148 Index

Note:
Page numbers relate to the document at the time of Amendment and may not match page numbers in current document.

Document Status

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

ISBN 0-477-01606-5

Contents

Preface

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:

Act s.5
- All buildings including Crown buildings, except for certain defence works.

Act s.3
- 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.

Act s.6 **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. Act s.7

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. Act s.48

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. Act s.10

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. Act s.24

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. Act Part VII

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. Act s.50(1)(a)

2.3 Project information memorandum

Act s.30

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

Act s.32

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

Act s.34(4)

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

Act s.47

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

Act Part VIII

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.

Act s.50(1)(c)

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

Act s.17(2)

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

Act s.42

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

Act s.43 **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

Act s.44 **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

Act s.45 **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. Act s.49

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. Act s.50(1)(d)

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. Act s.33 Act s.17

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

Act s.33(5) **3.6.1** A territorial authority may, at its discretion, accept a producer statement establishing compliance with the New Zealand Building Code.

Act s.56(2) **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

Act s.49(5) **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:

a) Provisions in the reference may exceed New Zealand Building Code provisions.

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

Act s.49(3)(a) c) Content on good practice, while being desirable is not essential for satisfying New Zealand Building Code performance.

Act s.49(3)(b) 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.

Amend 6 Jul 2001

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.

Amend 1 Dec 1993

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.

Amend 6 Jul 2001

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.

Amend 6 Jul 2001

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.

Amend 6 Jul 2001

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.

Amend 6 Jul 2001

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.

Contents **Page**

Standards New Zealand

		Where quoted
NZS/BS 21: 1985	Specification for pipe threads for tubes and fittings where pressure-tight joints are made on the threads (metric dimensions)	**G10**/AS1, **G14**/VM1
NZS/BS 143, and BS 1256: 1993	Specification for malleable cast iron and cast copper alloy threaded pipe fittings *Amend: 1, 2, 3*	**G10**/AS1, **G14**/VM1
NZS 202: 1966	Specification for steel pipes and joints for hydraulic purposes	**G14**/VM1
NZS 380: 1968	Specification for flameproof electric lighting fittings	**F6**/AS1

		Where quoted
NZS/BS 476:-	Fire tests on building materials and structures	**C**/AS1
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 (1990)	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	**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	**E1**/AS1, **G10**/AS1, **G14**/VM1
Section 3.2: 1989	Specification for cast iron flanges	**G10**/AS1
NZS/AS 1650: 1989	Hot-dipped galvanised coatings on ferrous articles	**B1**/AS2/AS3
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)	
Part 1: 1971 (1990)	Metric units *Amend: 1, 2, 3*	**G10**/AS1, **G14**/VM1
NZS 1900:-	Model building bylaw	
Ch 11: 1985	Special structures	
Division 11.2	Farm buildings *Amend: 1*	**B1**/VM1
NZS/AS 2033: 1980	Installation of polyethylene pipe systems	**E1**/AS1, **G14**/VM1
NZS 2295: 1988	Building papers (breather type) *Amend: A*	**E2**/AS1

		Where quoted
NZS/BS 2494: 1990	Specification for elastomeric seals for joints in pipework and pipelines	**E1**/AS1, **G13**/AS1/AS2, **G14**/VM1
NZS/BS 2654: 1989	Specification for manufacture of vertical steel welded non-refrigerated storage tanks with butt-welded shells for the petroleum industry	**G14**/VM1
NZS 2908:-	Cellulose-cement products	
Part 1: 1992	Corrugated sheets	**E2**/AS1
NZS/BS 2971: 1991	Specification for Class II arc welding of carbon steel pipework for carrying fluids	**G10**/AS1, **G14**/VM1
NZS 3101:-	Concrete structures standard	
Part 1: 1995	The design of concrete structures	**B1**/VM1, **B2**/AS1
NZS 3106: 1986	Code of practice for concrete structures for the storage of liquids *Amend: 1, 2*	**B1**/VM1,**G14**/VM1
NZS 3107: 1978	Specification for precast concrete drainage and pressure pipes	**B1**/VM1, **E1**/AS1, **G13**/AS2, **G14**/VM1
NZS 3109: 1997	Specification for concrete construction	**B1**/AS3
NZS 3112:-	Methods of test for concrete	
Part 2: 1986	Tests relating to the determination of strength of concrete *Amend: 1*	**B1**/AS3
NZS 3114: 1987	Specification for concrete surface finishes *Amend: 1*	**D1**/AS1, **G15**/AS1
NZS 3116: 1991	Interlocking concrete block paving	**D1**/AS1
NZS 3124: 1987	Specification for concrete construction for minor works	**E1**/AS1
NZS 3302: 1983	Specification for ceramic pipes, fittings and joints	**E1**/AS1, **G14**/VM1
NZS 3331: 1972	Specification for quality of vitreous china sanitary appliances	**G1**/AS1
NZS 3402: 1989	Steel bars for the reinforcement of concrete	**B1**/AS3
NZS 3403: 1978	Specification for hot-dip galvanized corrugated steel sheet for building purposes	**E2**/AS1
NZS 3404:-	Steel structures standard	
Part 1: 1997	Steel structures standard	**B1**/VM1
NZS 3421: 1975	Specification for hard drawn mild steel wire for concrete reinforcement	**B1**/AS3
NZS 3422: 1975	Specification for welded fabric of drawn steel wire for concrete reinforcement	**B1**/AS3

		Where quoted
NZS 3441: 1978	Specification for hot-dipped zinc-coated steel coil and cut lengths *Amend: 1, 2* (See also NZS/AS 1397: 1993)	**B1**/AS2/AS3, **E1**/AS1
NZS 3501: 1976	Specification for copper tubes for water, gas, and sanitation	**G10**/AS1, **G12**/AS1
NZS 3502: 1976	Specification for copper and copper alloy tubes for general engineering purposes	**G10**/AS1
NZS 3601: 1973	Metric dimensions for timber *Amend: 1, 2*	**B1**/AS2
NZS/BS 3601: 1987 (1993)	Specification for carbon steel pipes and tubes with specified room temperature properties for pressure purposes *Amend: 1, 2*	**G10**/AS1, **G14**/VM1
NZS 3602:-		
Part 1: 1995	Timber and wood-based products for use in building	**B2**/AS1
Amend 9 Apr 2004 Part 1: 2003	Timber and wood-based products for use in building	**B2**/AS1
NZS 3603: 1993	Timber structures standard *Amend: 1, 2*	**B1**/VM1/VM4
NZS 3604: 1999	Timber framed buildings *Amend: 1*	**B1**/AS1/AS2/AS3, **B2**/AS1, **E1**/AS1, **E2**/VM1/AS1, **G13**/AS2
NZS 3605: 1992	Specification for timber piles and poles for use in building	**B1**/VM4
NZS 3617: 1979	Specification for profiles of weatherboards, fascia boards, and flooring	**E2**/AS1
NZS 3631: 1988	New Zealand timber grading rules	**B1**/AS2
NZMP 3640: 1992	Specification of the minimum requirements of the NZ Timber Preservation Council Inc. *Amend: 1*	**B1**/AS2/VM4, **E2**/AS1
NZS/AS 3725: 1989	Loads on buried concrete pipes	**B1**/VM1
NZS 4121: 2001	Design for access and mobility – Buildings and associated facilities	**D1**/AS1, **G1**/AS1, **G5**/AS1
NZS 4203: 1984	Code of practice for general structural design and design loadings for buildings *Amend: 1*	**B1**/VM1, **G10**/AS1
NZS 4203: 1992	Code of practice for general structural design and design loadings for buildings *Corrigendum: 1*	**B1**/VM1/VM4, **C**/AS1, **E2**/VM1/AS1
NZS 4206: 1992	Concrete interlocking roofing tiles	**E2**/AS1
NZS 4210: 1989	Code of practice for masonry construction: materials and workmanship *Amend: 1, 2*	**B1**/AS3, **E2**/AS1

		Where quoted
NZS 4211: 1985	Specification for performance of windows *Amend: 1, 2, 3*	**B1**/VM1, **E2**/AS1
NZS 4214: 1977	Methods of determining the total thermal resistance of parts of buildings	**E3**/AS1, **G5**/AS1, **H1**/VM1/AS1
NZS 4217:-	Pressed metal tile roofs	
Part 1: 1980	Specification for roofing tiles and their accessories	**E2**/AS1
Part 2: 1980	Code of practice for preparation of the structure and the laying and fixing of metal roofing tiles	**E2**/AS1
NZS 4218: 1996	Energy efficiency – housing and small building envelope	**H1**/VM1/AS1
NZS 4219: 1983	Specification for seismic resistance of engineering systems in buildings *Amend: 1, 2*	**B1**/VM1, **G10**/AS1, **G14**/VM1
NZS 4223:-	Code of practice for glazing in buildings	
Part 1: 1985	The selection and installation of glass in buildings *Amend: 1, 2*	**B1**/AS1
Part 2: 1985	The selection and installation of manufactured sealed insulating glass units *Amend: 1, 2*	**B1**/AS1
Part 3: 1999	Human impact safety requirements	**B1**/AS1, **F2**/AS1
NZS 4229: 1999	Concrete masonry buildings not requiring specific engineering design *Amend: 1*	**B1**/AS1/AS3, **E1**/AS1, **G13**/AS2
NZS 4230:-	Code of practice for the design of masonry structures	
Part 1: 1990	Structures *Amend: 1, 2*	**B1**/VM1
Part 2: 1990	Commentary *Amend: 1, 2*	**B1**/VM1
NZS 4231: 1985	Specification for self-luminous exit signs *Amend: A*	**F8**/AS1
NZS 4232:-	Performance criteria for fire resisting enclosures	
Part 1: 1988	Internal and external fire doorsets	**F3**/AS1, **HB**/CS 2
Part 2: 1988	Fire resisting glazing systems	**C/**AS1, **F3**/AS1
NZS 4239: 1993	Automatic sliding door assemblies *Amend: A*	**HB**/CS 13
NZS 4243: 1996	Energy efficiency – large buildings	**H1**/VM1/AS1
NZS 4251:-	Solid plastering	
Part 1: 1998	Cement plaster for walls, ceilings and soffits	**B1**/AS1, **B2**/AS1, **E2**/AS1
NZS 4297: 1998	Engineering design for earth buildings	**B1**/VM1, **B2**/AS1
NZS 4299: 1998	Earth buildings not requiring specific design *Amend: 1*	**B1**/AS1, **B2**/AS1, **E2**/AS1

		Where quoted
NZS 4302: 1987	Code of practice for the control of hygiene in air and water systems in buildings	**G4**/AS1, **HB**/CS 9
NZS 4303: 1990	Ventilation for acceptable indoor air quality	**G4**/AS1
NZS 4304: 1990	Health care waste management	**G15**/AS1
NZS 4305: 1996	Energy efficiency – domestic type hot water systems	**H1**/AS1
NZS 4332: 1997	Non-domestic passenger and goods lifts	**D2**/AS1, **F6**/AS1, **HB**/CS 8/1
NZS 4402:-	Methods of testing soils for civil engineering purposes	
Part 2:-	Soil classification tests	
Test 2.2: 1986	Determination of the liquid limit	**B1**/Defs
Test 2.6: 1986	Determination of the linear shrinkage	**B1**/Defs
Part 4:-	Soil compaction tests	
Test 4.2.3: 1988	Related densities	**B1**/VM4
NZS 4431: 1989	Code of practice for earth fill for residential development *Amend: 1*	**B1**/VM1
NZS 4442: 1988	Welded steel pipes and fittings for water, sewage and medium pressure gas	**E1**/AS1, **G13**/AS2, **G14**/VM1
NZS 4452: 1986	Code of practice for the construction of underground pipe sewers and drains *Amend: 1*	**B1**/AS1, **E1**/AS1, **G14**/VM1
NZS 4503: 1993	The distribution, installation and maintenance of hand operated fire fighting equipment for use in buildings	**C**/AS1, **HB**/CS 16
NZS/BS 4504:-	Circular flanges for pipes, valves and fittings (PN designated)	
Part 3:-	Steel, cast iron and copper alloy flanges	
Section 3.2: 1989	Specification for cast iron flanges	**G10**/AS1, **G14**/VM1
NZS 4510: 1998	Fire hydrant systems for buildings	**C**/AS1, **HB**/CS 6
NZS 4512: 1997	Fire alarm systems in buildings *Amend: 1, 2*	**C**/AS1, **HB**/CS 3 **F7**/AS1
NZS 4515: 1995	Fire sprinkler systems for residential occupancies *Amend: 1, 2*	**C**/AS1, **F7**/AS1, **HB**/CS 1
NZS 4541: 1996	Automatic fire sprinkler systems	**C**/AS1, **F7**/AS1 **HB**/CS 1
NZS 4602: 1988	Low pressure copper thermal storage electric water heaters *Amend: 1*	**G12**/AS1
NZS 4603: 1985	Installation of low pressure thermal storage electric water heaters with copper cylinders (open vented systems) *Amend: 1*	**G12**/AS1
NZS 4606:-	Storage water heaters	
Part 1: 1989	General requirements *Amend: 1, 2, 3*	**G12**/AS1

			Where quoted
	NZS 4607: 1989	Installation of thermal storage electric water heaters: valve vented systems	**G12**/AS1
	NZS 4608: 1992	Control valves for hot water systems	**G12**/AS1
	NZS 4613: 1986	Domestic solar water heaters	**G12**/AS1
	NZS 4617: 1989	Tempering (3-port mixing) valves	**G12**/AS1
	NZS/BS 5252: 1976	Framework for colour co-ordination for building purposes *Amend: 1*	**F8/**AS1
Amend 9 Apr 2004 |	NZS 5261: 1996	The installation of gas burning appliances and equipment	**G4**/AS1, **G10**/VM1/AS1, **G11**/AS1
Amend 9 Apr 2004 |	NZS 5261: 2003	Gas installation	**C**/AS1
	NZS 5433: 1988	Code of practice for transportation of hazardous substances on land *Amend: 1, 2*	**F3**/AS1
	NZS/BS 5500: 1991	Specification for unfired fusion welded pressure vessels	**G14**/VM1
	NZS/BS 5556: 1978	Specification for general requirements for dimensions and pressure ratings for pipe of thermoplastics materials (metric series)	**G14**/VM1
	NZS 5807:-	Code of practice for industrial identification by colour, wording or other coding	
	Part 2: 1980	Identification of contents of piping, conduit and ducts *Amend: 1, 2*	**G10**/AS1, **G12**/AS1
	NZS 6104: 1981	Specification for emergency electricity supply in buildings	**C**/AS1, **F6**/AS1
	NZS 6214: 1988	Thermostats and thermal cutouts for domestic thermal storage electric water heaters (alternating current only)	**G12**/AS1
	NZS 6335: 1993	Safety of household and similar electrical appliances. Particular requirements for instantaneous water heaters *Amend: 1, 2*	**G12**/AS1
	NZS 6401: 1973	Specification for PVC-insulated cables for electric power and lighting	**G12**/AS1
	NZS 6703: 1984	Code of practice for interior lighting design	**F6**/VM1, **G7**/AS1/VM1,**G8**/VM1
	NZS 6742: 1971	Code of practice for emergency lighting in buildings	**F6**/AS1, **F8**/AS1, **HB**/CS 4
	NZS/BS 6920:-	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water	

			Where quoted
	Part 1: 1990	Specification	**G12**/AS1
	Part 2: 1990	Methods of tests	**G12**/AS1
	Part 3: 1990	High temperature tests	**G12**/AS1
	NZS 7203: 1992	Safety in laboratories – Fume cupboards *Amend: 1, A*	**HB**/CS 10
Amend 9 Apr 2004	NZS 7401: 1985	Specification for solid fuel burning domestic appliances *Amend: 1*	**B1**/AS3
Amend 9 Apr 2004	NZS 7421: 1990	Specification for installation of solid fuel burning domestic appliances	**B1**/AS3
	NZS 7601: 1978	Specification for polyethylene pipe (Type 3) for cold water services	**G12**/AS1, **G14**/VM1
	NZS 7602: 1977	Specification for polyethylene pipe (Type 5) for cold water services *Amend: 1*	**G12**/AS1, **G14**/VM1
	NZS 7604: 1981	Specification for high density polyethylene drain and sewer pipe and fittings	**E1**/AS1, **G14**/VM1
	NZS 7609:-	Acrylonitrile butadiene styrene (ABS) pipes and fittings for pressure applications	
	Part 1: 1990	Pipes *Amend: A*	**E1**/AS1, **G14**/VM1
	Part 2: 1990	Solvent cement fittings *Amend: A*	**E1**/AS1, **G14**/VM1
	NZS 7610: 1991	Blue polyethylene pipes up to nominal size 63 for below ground use for potable water *Amend: 1, 2, 3*	**G12**/AS1, **G14**/VM1
	NZS 7641: 1978	Specification for unplasticized PVC waste and ventilating pipe, fittings and accessories 32 mm, 40 mm and 50 mm	**G14**/VM1
	NZS 7642: 1971	Specification for unplasticized PVC soil and ventilating pipe, fittings and accessories *Amend: A, 1, 1A, 2, 2A*	**E1**/AS1, **G14**/VM1
	NZS 7643: 1979	Code of practice for the installation of unplasticized PVC pipe systems *Amend: 1*	**B1**/AS1, **E1**/AS1, **G12**/AS1, **G13**/AS1/AS2, **G14**/VM1
	NZS 7646: 1978	Specification for polyethylene pipes and fittings for gas reticulation	**G10**/AS1
	NZS 7648: 1987	Unplasticized PVC pipe and fittings for pressure applications	**G14**/VM1
	NZS 7649: 1988	Unplasticized PVC sewer and drain pipe and fittings	**E1**/AS1, **G14**/VM1
	NZS 7652: 1976	Specification for plastics waste traps	**G14**/VM1

		Where quoted
British Standards Institution		
BS 10: 1962	Specification for flanges and bolting for pipes, valves and fittings	**G10**/AS1
BSCP 143:-	Code of practice for sheet roof and wall coverings	
Part 5: 1964	Zinc	**E2**/AS1
Part 12: 1970 (1988)	Copper. Metric units *Amend: 863, 5193*	**E2**/AS1
Part 15: 1973 (1986)	Aluminium. Metric units *Amend: 4473*	**E2**/AS1
BSDD 175: 1988	Code of practice for the identification of potentially contaminated land and its investigation	**F1**/VM1
BS 437: 1978	Specification for cast iron spigot and socket drain pipes and fittings *Amend: 5877*	**G13**/AS2
BS 585:-	Wood stairs	
Part 1: 1989	Specification for stairs with closed risers for domestic use, including straight and winder flights and quarter or half landings	**D1**/AS1
BS 1470: 1987	Specification for wrought aluminium and aluminium alloys for general engineering purposes: plate, sheet and strip *Amend: 6032*	**E1**/AS1
BS 1521: 1972	Specification for waterproof building papers *Amend: 3519*	**E2**/AS1
BS 1600: 1992	Specification for dimensions of steel pipe for the petroleum industry	**G14**/VM1
BS 1640:-	Specification for steel butt-welding pipe fittings for the petroleum industry	
Part 3: 1968	Wrought carbon and ferritic alloy steel fittings. Metric units *Amend: 905*	**G10**/AS1, **G14**/VM1
Part 4: 1968	Wrought and cast austenitic chromium-nickel steel fittings. Metric units	**G10**/AS1, **G14**/VM1
BS 1723:-	Brazing	
Part 1: 1986	Specification for brazing	**G10**/AS1
BS 1845: 1984	Specification for filler metals for brazing	**G10**/AS1
BS 1965:-	Specification for butt-welding pipe fittings for pressure purposes	**G14**/VM1
Part 1: 1963	Carbon steel *Amend: 5474, 4169*	**G14**/VM1
BS 2594: 1975	Specification for carbon steel welded horizontal cylindrical storage tanks	**G14**/VM1
BS 2598:-	Glass plant, pipeline and fittings	
Part 1: 1980	Specification for properties of borosilicate glass 3.3	**G14**/VM1
Part 2: 1980	Specification for testing, handling and use	**G14**/VM1

		Where quoted
Part 3: 1980	Specification for pipeline and fittings of nominal bore 15 to 150 mm: compatibility and interchangeability	**G14**/VM1
Part 4: 1980	Specification for glass plant components	**G14**/VM1
BS 2640: 1982	Specification for Class II oxy-acetylene welding of carbon steel pipework for carrying fluids	**G10**/AS1, **G14**/VM1
BS 2870: 1980	Specification for rolled copper and copper alloys: sheet, strip and foil	**E1**/AS1
BS 3137: 1972 (1995)	Methods for determining the bursting strength of paper and board	**E2**/AS1
BS 3799: 1974 (1994)	Specification for steel pipe fittings, screwed and socket-welding for the petroleum industry	**G10**/AS1,**G14/**VM1
BS 4741: 1971	Specification for vertical cylindrical welded steel storage tanks for low-temperature service: single wall tanks for temperatures down to –50°C	**G10**/AS1, **G14**/VM1
BS 4790: 1996	Method for determination of the effects of a small source of ignition on textile floor coverings (hot metal nut method)	**C**/AS1
BS 4991: 1974	Specification for propylene copolymer pressure pipe	**G14**/VM1
BS 4994: 1987	Specification for design and construction of vessels and tanks in reinforced plastics	**G14**/VM1
BS 5287: 1996	Specification for assessment and labelling of textile floor coverings tested to BS 4790	**C**/AS1
BS 5378:-	Safety signs and colours	
Part 1: 1980	Specification for colour and design	**F8**/AS1
BS 5395:-	Stairs, ladders and walkways	
Part 2: 1984	Code of practice for the design of helical and spiral stairs	**D1**/AS1
Amend 9 Apr 2004		
BS 5446:-	Components of automatic fire alarm systems for residential premises	
Part 1: 1990	Specification for self-contained smoke alarms and point-type smoke detectors *Amends: 6863, 7648, 9628*	**F7**/AS1
Amend 8 Apr 2003		
BS 5572: 1978	Code of practice for sanitary pipework	**G13**/VM1
BS 6037: 1990	Code of practice for permanently installed suspended access equipment *Amend: 6709*	**HB**/CS 11
BS 6283:-	Safety devices for use with hot water systems	
Part 1: 1991	Specification for expansion valves for pressures up to and including 10 bar	**G12**/AS1
Part 3: 1991	Specification for combined temperature and pressure relief valves for pressures up to and including 10 bar	**G12**/AS1
Part 4: 1991	Specification for drop-tight pressure reducing valves of nominal size up to and including DN 54 for supply for pressures up to and including 12 bar	**G12**/AS1

		Where quoted
BS 6374:-	Lining of equipment with polymeric materials for the process industries	
Part 1: 1985	Specification for lining with sheet thermoplastics	**G14**/VM1
Part 2: 1984	Specification for lining with non-sheet applied thermoplastics	**G14**/VM1
Part 3: 1984	Specification for lining with stoved thermosetting resins	**G14**/VM1
Part 4: 1984	Specification for lining with cold curing thermosetting resins	**G14**/VM1
Part 5: 1985	Specification for lining with rubbers	**G14**/VM1
BS 6464: 1984	Specification for reinforced plastics pipes, fittings and joints for process plants	**G14**/VM1
BS 6561: 1985	Specification for zinc alloy sheet and strip for building	**E1**/AS1
BS 6915: 1988	Specification for design and construction of fully supported lead sheet roof and wall coverings	**E2**/AS1
BS 6925: 1988	Specification for mastic asphalt for building and civil engineering (limestone aggregate)	**E2**/AS1
BS 7159: 1989	Code of practice for design and construction of glass-reinforced plastics (GRP) piping systems for individual plants or sites	**G14**/VM1
BS 8004: 1986	Code of practice for foundations	**B1**/VM4

Standards Australia

ASD 26: 1972	Tube fittings with Dryseal American standard taper pipe and unified threads for automotive and industrial use	**G10**/AS1
AS 1159: 1988	Polyethylene pipes for pressure applications	**G14**/VM1
AS 1167:-	Welding and brazing – Filler metals	
Part 1: 1993	Filler metal for brazing and braze welding	**G10**/AS1
AS 1214: 1983	Hot-dip galvanised coatings on threaded fasteners (ISO metric coarse thread series)	**B1**/AS2
AS/NZS 1221: 1997	Fire hose reels	**C**/AS1
AS 1229: 1989	Laundry troughs	**G2**/AS1
AS 1254: 1991	Unplasticised PVC (uPVC) pipes and fittings for storm and surface water applications	**E1**/AS1
AS/NZS 1260: 1999	PVC pipes and fittings for drain, waste and vent applications	**G13**/AS1/AS2
AS 1273: 1991	Unplasticized PVC (uPVC) downpipe and fittings for rainwater	**E1**/AS1
AS 1308: 1987	Electric water heaters – Thermostats and thermal cut-outs *Amend: 1*	**G12**/AS1
AS 1357:-	Water valves for use with unvented water heaters	
Part 1: 1993	Protection valves *Amend: 1*	**G12**/AS1
Part 2: 1998	Control valves	**G12**/AS1

		Where quoted
AS 1366:-	Rigid cellular plastics sheets for thermal insulation	
Part 1: 1992	Rigid cellular polyurethane (RC/PUR) *Amend: 1*	**C**/AS1
Part 2: 1992	Rigid cellular polyisocyanurate (RC/PIR)	**C**/AS1
Part 3: 1992	Rigid cellular polystyrene – moulded (RC/PS-M) *Amend: 1*	**C**/AS1
Part 4: 1989	Rigid cellular polystyrene – extruded (RC/PS-E)	**C**/AS1
AS 1432: 1990	Copper tubes for plumbing, gasfitting and drainage applications	**G10**/AS1
AS 1449: 1994	Wrought alloy steels – Stainless and heat-resisting steel plate, sheet and strip *Amend: 1*	**G1**/AS1
AS 1460:-	Fittings for use with polyethylene pipes	
Part 1: 1989	Mechanical jointing fittings	**G12**/AS1, **G14**/VM1
Part 2: 1989	Electrofusion fittings	**G12**/AS1, **G14**/VM1
AS/NZS 1477: 1999	PVC pipes and fittings for pressure applications	**G12**/AS1
AS 1530:-	Methods for fire tests on building materials, components and structures	
Part 1: 1994	Combustibility test for materials	**C**/AS1, **F3**/Defs
Part 2: 1993	Test for flammability of materials	**C**/AS1
Part 4: 1997	Fire-resistance tests of elements of building construction	**C**/AS1
AS/NZS 1530:-	Methods for fire tests on building materials, components and structures	
Part 3: 1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release	**C**/AS1
AS 1579: 1993	Arc welded steel pipes and fittings for water and waste water	**G13**/AS2
AS 1589: 1994	Copper and copper alloy waste fittings	**G13**/AS1

		Where quoted
AS/NZS 1646: 2000	Elastomeric seals for waterworks purposes	**G13**/AS2
AS/NZS 1664:-	Aluminium structures	
Part 1: 1997	Limit state design *Amend: 1*	**B1**/VM1
Part 2: 1997	Allowable stress design *Amend: 1*	**B1**/VM1
AS/NZS 1668:-	The use of ventilation and air conditioning in buildings	
Part 1: 1998	Fire and smoke control in multi-compartment buildings	**C**/AS1, **F7**/AS1
Part 2: 1991	Mechanical ventilation for acceptable indoor-air quality	**G4**/AS1
AS 1670:-	Fire detection, warning, control and intercom systems – System design, installation and commissioning	
Part 6: 1997	Smoke alarms	**F7**/AS1

Amend 9 Apr 2004	AS 1691: 1985	Domestic oil-fired appliances – installation	**C/**AS1
	AS 1727: 1975	Tank containers (international sizes)	**G14**/VM1
	AS/NZS 1730: 1996	Washbasins	**G1**/AS1
	AS 1741: 1991	Vitrified clay pipes and fittings with flexible joints – Sewerage quality	**E1**/AS1
	AS 1768: 1991	Lightning protection (incorporating Amdt 1)	**F3**/AS1
	AS 1851:-	Maintenance of fire protection equipment	
Amend 9 Apr 2004	Part 6: 1997	Management procedures for maintaining the fire precaution features of air handling systems	**HB**/CS 5/CS 9
	Part 10: 1989	Emergency warning and intercommunication systems	**HB**/CS 3
Amend 8 Apr 2003	AS/NZS 1905:-	Components for the protection of openings in fire-resistant walls	
	Part 1: 1997	Fire-resistant doorsets	**C**/AS1
	AS/NZS 2023: 1995	Baths for ablutionary purposes	**G1**/AS1
	AS 2032: 1997	Installation of uPVC pipe systems	**G13**/AS2
	AS 2050: 1995	Fixing of roofing tiles	**E2**/VM1
	AS 2159: 1995	Rules for the design and installation of piling *Amend: 1*	**B1**/VM4
	AS 2220:-	Emergency warning and intercommunication systems in buildings	**HB**/CS 3
	Part 1: 1989	Equipment design and manufacture	**C**/AS1
	Part 2: 1989	System design, installation and commissioning	**C**/AS1
	AS/NZS 2269: 1994	Plywood – Structural	**E2**/AS1
	AS 2712: 1993	Solar water heaters – Design and construction	**G12**/AS1
	AS 2280: 1991	Ductile iron pressure pipes and fittings	**E1**/AS1
	AS/NZS 2280: 1999	Ductile iron pressure pipes and fittings	**G13**/AS2
	AS/NZS 2293:-	Emergency evacuation lighting for buildings	
	Part 1: 1995	System design, installation and operation	**F6**/AS1
	Part 2: 1995	Inspection and maintenance	**F6**/AS1, **HB**/CS 4
	Part 3: 1995	Emergency luminaires and exit signs	**F6/**AS1
	AS/NZS 2642:-	Polybutylene pipe systems	
	Part 1: 1994	Polybutylene (PB) pipe extrusion compounds	**G12**/AS1
	Part 2: 1994	Polybutylene (PB) pipe for hot and cold water applications	**G12**/AS1
	Part 3: 1994	Mechanical jointing fittings for use with polybutylene (PB) pipes for hot and cold water applications *Amend: 1*	**G12**/AS1
	AS 2845:-	Water supply – Mechanical backflow prevention devices	
Amend 9 Apr 2004	Part 3: 1993	Field testing and maintenance	**G12**/AS1, **HB**/CS 7
Amend 9 Apr 2004	AS/NZS 2845:-	Water supply	
	Part 1: 1998	Materials, design and performance requirements	**G12**/AS1
	AS 2887: 1993	Plastic waste fittings	**G13**/AS1

			Where quoted
	AS 2890:-	Off-street parking	
	Part 1: 1993	Car parking facilities	**D1**/AS1
	Part 2: 1989	Commercial vehicle facilities	**D1**/AS1
Amend 9 Apr 2004	AS/NZS 2918: 2001	Domestic solid fuel burning appliances – installation	**C**/AS1
	AS 3147: 1992	Approval and test specification – Electric cables – Thermoplastic insulated for working voltages up to and including 0.6/1kV *Amend: 1, 2, 3*	**G12**/AS1
	AS 3500:-	National plumbing and drainage code	
	Part 1: 1992	Water supply	**HB**/CS 7
	AS/NZS 3500:-	National plumbing and drainage code	
	Part 1.2: 1998	Water supply Acceptable solutions	**G12**/VM1/AS1
	Part 2.2: 1996	Sanitary plumbing and drainage – Acceptable solutions *Amendment: 1*	**G13**/VM2/AS1/AS2
	Part 4.2: 1997	Hot water supply Acceptable solutions	**G12**/VM1/AS1
	AS 3518:-	Acrylonitrile butadiene styrene (ABS) pipes and fittings for pressure applications	
	Part 1: 1988	Pipes	**G13**/AS2
	Part 2: 1988	Solvent cement fittings	**G13**/AS2
	AS 3571: 1989	Glass filament reinforced thermosetting plastics (GRP) pipes: Polyester based: Water supply, sewerage and drainage applications	**G13/**AS2
	AS 3588: 1989	Shower bases and shower modules	**G1**/AS1
	AS/NZS 3661:-	Slip resistance of pedestrian surfaces	
	Part 1: 1993	Requirements	**D1**/VM1/AS1
	Part 2: 1994	Guide to the reduction of slip hazards	**D1**/AS1
	AS NZS 3666:-	Air-handling and water systems of buildings – Microbial Control	
	Part 1: 2002	Design, installation and commissioning	**HB**/CS 9
	Part 2: 2002	Operation and maintenance	**HB**/CS 9
Amend 9 Apr 2004	Part 3: 2000	Performance-based maintenance of cooling water systems	**HB**/CS 9
	AS 3688: 1994	Water supply – Copper and copper alloy compression and capillary fittings and threaded end connectors	**G10**/AS1
	AS 3706:-	Geotextiles – Methods of test	
	Part 1: 1990	General requirements, sampling, conditioning, basic physical properties and statistical analysis	**E1**/VM1
Amend 8 Apr 2003	AS 3786: 1993	Smoke alarms *Amends: 1, 2, 3*	**F7**/AS1
	AS/NZS 3837: 1998	Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter	**C**/AS1

		Where quoted
Amend 9 Apr 2004	AS NZS 3896: 1998 Waters – examination for legionellae, including Legionella pueumophila	**HB**/CS 9
	AS 4072:- Components for the protection of openings in fire-resistant separating elements	
	Part 1: 1992 Service penetrations and control joints	**C**/AS1
	AS 4085: 1992 Automatic sliding door assemblies	**HB**/CS 13
	AS/NZS 4130: 1997 Polyethylene (PE) pipe for pressure applications	**G12**/AS1, **G13**/AS2
	AS 4139: 1993 Fibre reinforced concrete pipes and fittings	**G13**/AS2
Amend 9 Apr 2004	AS 4276:-	
	Part 3.1: 1995 Water plate microbiology – Pour plate method using plate count agar	**HB**/CS 9
	AS/NZS 4284: 1995 Testing of building facades	**E2**/VM1
	AS/NZS 4401(Int): 1999 High density polyethylene (PE-HD) pipes and fittings for soil and waste discharge (low and high temperature) systems inside buildings	**G13**/AS1
	AS/NZS 4600: 1996 Cold-formed steel structures	**B1**/VM1

Australian Publications

Building Control Commission, State of Victoria, Australia

Smoke management in large spaces in buildings: 1998 Milke and Klote	**C**/AS1

Australia/NZ Publications

Australian and New Zealand Environment and Conservation Council

Guidelines for assessment and management of contaminated sites: 1992	**F1**/VM1

British Publications

Building Research Establishment (UK)

BRE Defect action sheet DAS 131: May 1989 External walls: Combustible external plastics insulation: Horizontal fire barriers	**C**/AS1
BRE Report 135: 1988 Fire performance of external thermal insulation for walls in multi-storey buildings. Rogowski B.F., Ramaprasad R., Southern J.R.	**C**/AS1
BRE Report 186: 1990 Design principles for smoke ventilation in enclosed shopping centres. Morgan and Gardner	**C**/AS1
BRE Report 258: 1992 Design approaches for smoke control in atrium buildings. Hansell and Morgan	**C**/AS1

		Where quoted
Chartered Institution of Building Services Engineers, London		
CIBSE Code Series A: 1971	The commissioning of air distribution systems, high and low velocity	**G4**/VM1
Miscellaneous Publication		
Gas Service Technology Volume 1	Basic science and practice of gas service Ed. George Jasper. London. Published by Benn Technical Books for the British Gas Corporation: 1978	**G11**/AS1
International Publications		
The European Committee for Standardisation		
EN 81:-	Safety rules for the construction and installationof lifts	
Part 1: 1998	Electric lifts	**D2**/AS1
Amend 7 Jan 2002 Part 2: 1998	Hydraulic lifts	**D2**/AS1
EN 115: 1983	Safety rules for the construction of escalators and passenger conveyors	**D2**/AS3
EN 12380: 1999	Air admittance valves for drainage systems – Requirements and test methods	**G13**/AS1
Eurocode DD ENV 1991-2-2: 1996 Eurocode 1: Part 2.2:	Basis of design actions on structures Actions on structures exposed to fire	**C**/AS1
International Standards Organisation, Geneva		
ISO 140/VII: 1978	Field measurements of impact sound insulation of floors	**G6**/VM1
ISO 834: 1975	Fire resistance tests – elements of building construction	**C**/AS1
ISO 3008: 1976	Fire resistance tests – door and shutter assemblies	**C**/AS1
ISO 3009: 1976	Fire resistance tests – glazed elements	**C**/AS1
Underwriters Laboratories Inc		
UL 217: 1997	Single and multiple station smoke alarms	**F7**/AS1
Underwriters' Laboratories of Canada		
Amend 8 Apr 2003 CAN/ULC S531: 1995	Smoke alarms	**F7**/AS1
World Health Organisation/Food and Agriculture Organisation		
Environmental Health Criteria 70		
	"Environment health criteria" for various chemicals	**F1**/VM1
	Evaluation of certain food additives and contaminants, Technical report series 776 Geneva: 1989	**F1**/VM1
	IARC Monographs on the evaluation of carcinogenic risks to humans. Published by the International Agency for Research on Cancer	**F1**/VM1
	Principles for the safety assessment of food additives and contaminants in food, Geneva: 1987	**F1**/VM1

		Where quoted
New Zealand Publications		
Building Research Association of New Zealand		
BRANZ Bulleting 330: 1995	Thin flooring materials – 2. Preparation and laying. Appendix 1	**E2**/AS1
BRANZ House Insulation Guide: 1995		**E3**/AS1, **H1**/VM1/AS1
BRANZ Paper C1: 1978	A construction guide to home insulation (second edition)	**E3**/AS1
BRANZ Technical paper P36: 1983	Food processing floors, a guide to design, materials and construction. W.R. Sharman	**G3/**AS1
ALF Manual: 1990	Annual loss factor design manual. An aid to thermal design of buildings. M.R. Bassett, R.C. Bishop and I.S. van der Werff	**H1**/VM1/Defs
Government Departments and Agencies		
Department of Labour		
Workplace exposure standards and biological indices for New Zealand: 1992		**F1**/VM1, **G4**/VM1
Ministry of Agriculture and Fisheries		
MQ 1: 1988	Qual approvals manual	**G3/**AS1
Ministry of Commerce		
ECP 1: 1993	New Zealand electrical code of practice for electrical installations – caravans and caravan parks	**G9**/VM1
ECP 2: 1993	New Zealand electrical code of practice for electrical installations in damp situations	**G9**/VM1
ECP 3: 1993	New Zealand electrical code of practice for electrical safety of apparatus and material	**G9**/VM1
ECP 4: 1993	New Zealand electrical code of practice for electrical installations – supply and generating systems not exceeding low voltage	**G9**/VM1
ECP 5: 1993	New Zealand electrical code of practice for electrical installations – cold cathode discharge lighting	**G9**/VM1
ECP 7: 1993	New Zealand electrical code of practice for extra-low voltage installations	**G9**/VM1
ECP 11: 1993	New Zealand electrical code of practice for inspection and testing of low voltage installations for certification purposes	**G9**/VM1

		Where quoted
ECP 12: 1993	New Zealand electrical code of practice for electrical installations – the safe use of electricity in medical locations and associated areas	**G9**/VM1
ECP 19: 1994	New Zealand electrical code of practice for determination of maximum demand in electrical installations	**G9**/VM1
ECP 21.2: 1993	New Zealand electrical code of practice for electric security fences	**G9**/VM1
ECP 24: 1993	New Zealand electrical code of practice for the safety of electricity in a hazardous area	**G9**/VM1
ECP 28: 1993	New Zealand electrical code of practice for selection and installation of cables	**G9**/VM1
ECP 29: 1993	New Zealand electrical code of practice for electrical installations of boat marinas and pleasure vessels	**G9**/VM1
ECP 33: 1993	New Zealand electrical code of practice for electrical installations of mineral insulated cables and equipment	**G9**/VM1
ECP 34: 1993	New Zealand electrical code of practice for electrical safety distances	**G9**/VM1
ECP 35: 1993	New Zealand electrical code of practice for power systems earthing	**G9**/VM1
ECP 36: 1993	New Zealand electrical code of practice for harmonic levels	**G9**/VM1
ECP 41: 1993	New Zealand electrical code of practice for single wire earth return systems	**G9**/VM1
ECP 50: 1993	New Zealand electrical code of practice for repair of domestic electrical equipment	**G9**/AS1
ECP 51: 1993	New Zealand electrical code of practice for electrical wiring work in domestic premises	**G9**/AS1
NZECP 54: 2001	Code of practice for the installation of recessed luminaries and auxiliary equipment	**C**/AS1

Amend 9
Apr 2004

Ministry of Transport

Power Lift Rules: 1989	**D2**/AS1/AS2, **HB**/CS 8/1
Rules for power lifts not exceeding 750 watts (one horsepower): 1985	**D2**/AS2, **HB**/CS 8/2

New Zealand Forest Research Institute

Measurement of moisture content of assembled timber framing: 1993	**E2**/AS1

	Where quoted
New Zealand Meteorological Service	
Average degree-day tables – selected NZ stations. (Miscellaneous publication 159, 1978)	**H1**/Defs
COMMENT: This publication is no longer available, but the relevant information is summarised in the Degree-days data sheets of the BRANZ ALF Manual.	
Transit NZ	
Bridge manual: Design and evaluation: 1994 *Amend: 1*	**B1**/VM1
Government Legislation	
Animal Remedies Act: 1967	**F3**/AS1
Animal Remedies Regulations: 1980	**F3**/AS1
Dangerous Goods Act: 1974	**F3**/AS1
Dangerous Goods Order: 1983	**F3**/AS1
Dangerous Goods Regulations	
Gases: 1980	**F3**/AS1
Flammable liquids: 1985	**F3**/AS1
Flammable solids: 1985	**F3**/AS1
Oxidising substances: 1985	**F3**/AS1
Dangerous Goods (licensing fees) Regulations: 1976	**F3**/AS1
Explosives Act: 1957	**F3**/AS1
Explosives Regulations: 1959	**F3**/AS1
Explosives Authorisation Order: 1983	**F3**/AS1
and amendment No. 1 (1987)	**F3**/AS1
Fencing of Swimming Pools Act: 1987	**F4**/AS1, **HB**/CS 14
Fire Safety and Evacuation of Buildings Regulations: 1992	**C**/AS1
Gas Regulations: 1993	**G12**/AS1
Pesticides Act: 1979	**F3**/AS1
Pesticides Regulations: 1983	**F3**/AS1
Pesticides (Vertebrate Pest Control) Regulations: 1983	**F3**/AS1
Radiation Protection Act: 1965	**F3**/AS1
Radiation Protection Regulations: 1982	**F3**/AS1
Toxic Substances Act: 1979	**F3**/AS1
Toxic Substances Regulations: 1983	**F3**/AS1
New Zealand Geomechanics Society	
Guidelines for the field descriptions of soils and rocks in engineering use. Nov 1988	**B1**/VM1

	Where quoted
United States of America Publications	
American Iron and Steel Institute	
Fire-safe structural steel – a design guide: 1983	**C**/AS1
American National Standards Institute and American Society of Mechanical Engineers	
ANSI/ASME B16.1: 1989 Cast iron pipe flanges and flanged fittings, Class 25, 125, 250 and 800	**G10**/AS1
ANSI/ASME B16.3: 1985 Malleable-iron threaded fittings, Classes 150 and 300	**G10**/AS1, **G14**/VM1
ANSI/ASME B16.5: 1988 Pipe flanges and flanged fittings, steel-nickel alloy and other special alloys	**G10**/AS1, **G14**/VM1
ANSI/ASME B16.9: 1990 Factory-made wrought steel butt-welding fittings	**G10**/AS1, **G14**/VM1
ANSI/ASME B31.3: 1990 Chemical plant and petroleum refinery piping	**G14**/VM1
ANSI B2.1: 1968 Screwing and socketing	**G14**/VM1
ANSI B16.11: 1980 Forged steel fittings, socket-welding and threaded	**G10**/AS1, **G14**/VM1
ASME Boiler and pressure vessel code-VIII pressure vessels	**G14**/VM1
American Petroleum Institute	
API SPEC 5L: 1991 Specification for line pipe	**G10**/AS1, **G14**/VM1
API STD 620: 1990 Design and construction of large, welded, low-pressure storage tanks	**G14**/VM1
API STD 650: 1988 Welded steel tanks for oil storage	**G14**/VM1
API STD 1104: 1988 Welding of pipelines and related facilities	**G10**/AS1, **G14**/VM1
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)	
Design of smoke management systems. Klote and Milke 1992	**C**/AS1
American Society of Sanitary Engineers	
ASSE 1050: 1991 Performance requirements for air admittance valves for plumbing DWV systems stack type devices	**G13**/AS1
ASSE 1051: 1992 Performance requirements for air admittance valves for plumbing drainage systems	**G13**/AS1
American Society for Testing and Materials	
ASTM A 53 – 90a Specification for pipe, steel, black and hot-dipped, zinc-coated welded and seamless	**G10**/AS1, **G14**/VM1
ASTM A 106 – 91a Specification for seamless carbon steel pipe for high temperature service	**G10**/AS1

	Where quoted
ASTM C 236: 1987 Standard test method for steady state thermal performance of building assemblies by means of a guarded hot box	**E3**/AS1
ASTM D 1143: 1981 Test method for piles under static axial compressive load	**B1**/VM4
ASTM E 96: 1992 Test methods for water vapour transmission of materials	**E2**/AS1
ASTM E 336: 1990 Method for measurement of airborne sound insulation in buildings	**G6**/VM1
ASTM E 413: 1987 Classification for rating sound insulation	**G6**/VM1
ASTM E 492: 1990 Test method for laboratory measurement of impact sound transmission through floor-ceiling assemblies using a tapping machine	**G6**/VM1
ASTM E 989: 1989 Classification for determination of impact insulation class (IIC)	**G6**/VM1
International Conference of Building Officials, America	
Uniform Building Code Standard 4.1: 1997 Proscenium fire safety curtains	**C/**AS1
Uniform Building Code Standard 26-2: 1997 Test method for the evaluation of thermal barriers	**C**/AS1
National Fire Protection Association of America	
NFPA 92B: 1995 Guide for smoke management systems in malls, atria and large areas	**C**/AS1, **F6**/AS1
NFPA 285: 1998 Standard method of test for the evaluation of flammability characteristics of exterior non load bearing wall assemblies containing components using the intermediate scale, multi-storey test apparatus	**C**/AS1
United States Environmental Protection Agency (EPA)	
USEPA SW 846: 1986 Test methods for evaluating solid waste	**F1**/VM1
EPA/540/1 – 89/002: 1989 Risk assessment guidance for Superfund, Vol 1. Human health evaluation manual (Part A) Interim final. Prepared by USEPA Office of Emergency and Remedial Response	**F1**/VM1
Cross-connection control manual: 1989	**HB**/CS 7

	Where quoted
United States Public Health Service	
Toxicological profiles on individual chemicals. Prepared by the Agency for Toxicological Substances and Disease Registry, in collaboration with the US Environmental Protection Agency	**F1**/VM1
Miscellaneous Publication	
Casarett and Doull's Toxicology. The basic science of poisons. 4th ed. Macmillan. New York 1991. Klassen CD, Amdur MO, Doull J (Eds)	**F1**/VM1

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.*

Amend 6 Jul 2001

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*.

Amend 2 Aug 1994

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.

Amend 6 Jul 2001

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

Amend 1 Dec 1993

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.

Amend 6 Jul 2001

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.

Amend 6 Jul 2001

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*.

Amend 5 Dec 2000

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.

Amend 6 Jul 2001

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.*

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

Amend 1 Dec 1993

(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

Amend 1 Dec 1993

(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

Amend 1 Dec 1993

(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) *Scaffolding* used in the course of the *construction* process; or

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

Amend 1 Dec 1993

(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.

Amend 3 Dec 1995

(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*.

Amend 3 Dec 1995

(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.

Amend 5 Dec 2000

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

Amends 1 and 5

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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:

Amend 5 Dec 2000

(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 m^2 of floor area and 10 kWh for every additional square metre of floor area.

(d) No allowance for: –

(i) carpets, or

Amend 5 Dec 2000

(ii) 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.

Amend 6 Jul 2001

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.

Amend 1 Dec 1993

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.

Amend 6 Jul 2001

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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).

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.

Amend 6 Jul 2001

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.

Amend 5 Dec 2000

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

Amends 1 and 6

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.

Amend 5 Dec 2000

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.)

Amend 5 Dec 2000

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.

Amends 3 and 5

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).

Amend 5 Dec 2000

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.*

Amend 6 Jul 2001

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.

Amend 1 Dec 1993

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.*

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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.*

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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.

Amend 3 Dec 1995

COMMENT:

Requirements for *fire doors* are given in C/AS1 Paragraph 6.19.1 and 6.19.8 and Appendix C Paragraph C8.1.

Amend 5 Dec 2000

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*.

COMMENT:

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

Amend 5 Dec 2000

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.*

COMMENT:

The total *fire load* is converted to *fire load* energy terms in megajoules (MJ) for calculation of the *FLED* (MJ/m^2).

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

COMMENT:

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*.

Amend 5 Dec 2000

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.*

COMMENT:

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.

Amend 5 Dec 2000

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.

COMMENT:

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.

Amend 5 Dec 2000

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.

Amend 1 Dec 1993

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.*

Amend 6 Jul 2001

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.

Amend 5 Dec 2000

2. Refer to Appendix C Paragraph C10.1 for details of the test requirements for *flame barriers.*

Amend 5 Dec 2000

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.*

Amend 6 Jul 2001

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.

Amend 9 Apr 2004

Foamed plastics *Combustible* foamed plastic polymeric materials of low density (typically less than 100 kg/m^3) 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.

Amend 5 Dec 2000

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.*

Amend 5 Dec 2000

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.

Amend 1 Dec 1993

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

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

Amend 5 Dec 2000

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:

The terms 'Habitable Work' and 'Title Boundary' in this document replace the definition 'Protected Work' used in the Dangerous Goods Regulations 1980/46, 1985/188, 1985/170.

Amends 1 and 5

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*.

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

Amend 1 Dec 1993

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.

Impact insulation class (IIC) A single number rating derived from measured values of normalized impact sound pressure levels in accordance with Method ASTM E 492, Annex A1, Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine. It provides an estimate of the impact sound insulating performance of a floor-ceiling assembly.

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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.

Amend 1 Dec 1993

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.

Amend 5 Dec 2000

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.*

Amend 2 Aug 1994

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.

Amend 2 Aug 1994

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

Amend 1 Dec 1993

(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.*

Amend 5 Dec 2000

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

AS 1530 - Part 1.

Amend 2 Aug 1994

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 m^2 (occupant density) for the activity being undertaken, by the total floor area, or

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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.

Amend 6 Jul 2001

Pressure control valve A pressure limiting valve or pressure reducing valve.

Amend 1 Dec 1993

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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*;

Amend 1 Dec 1993

(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*.

Amend 5 Dec 2000

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*.

Amend 5 Dec 2000

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.

Amend 6 Jul 2001

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.

Amend 5 Dec 2000

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

Amend 1 Dec 1993

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.

Amend 2 Aug 1994

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.

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

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*.

Amend 5 Dec 2000

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.

COMMENT:

1. A *smoke control door* may be held closed by use of a door closer. The door need not be latched.
2. Requirements for *smoke control doors* are given in C/AS1 Paragraph 6.19.1 and 6.19.8, and Appendix C Paragraph C8.1.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

COMMENT:

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).

Amend 5 Dec 2000

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.

Amend 6 Jul 2001

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.

COMMENT:

The *fire* design load should be as specified in the limit state loadings code NZS 4203.

Stairway A series of steps or stairs with or without landings, including all necessary *handrails* and giving access between two different levels.

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

COMMENT:

A list of *standard test* methods is given in Appendix C of C/AS1.

Amend 5 Dec 2000

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.

Amend 6 Jul 2001

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

COMMENT:

NZS 4203: 1992 uses the terms ideal strength in place of ultimate strength, and dependable strength in place of design strength.

Amend 2 Aug 1994

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.*

Amend 1 Dec 1993

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.

Amend 5 Dec 2000

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.

Amend 5 Dec 2000

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/m^2) through unit area (m^2) under steady conditions. The units are $°Cm^2/W$.

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

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

COMMENT:

The terms 'Habitable Work' and 'Title Boundary' in this document replace the definition 'Protected Work' used in the Dangerous Goods Regulations 1980/46, 1985/188, 1985/170.

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.

Amend 6 Jul 2001

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.*

Unisex facilities Facilities available for use by either sex.

COMMENT:

Unisex facilities may also be described as both gender facilities.

Amend 5 Dec 2000

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*.

Amend 5 Dec 2000

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.*

Amend 6 Jul 2001

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

Amend 1 Dec 1993

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

Amend 5 Dec 2000

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.*

Amend 1 Dec 1993

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

Amend 6 Jul 2001

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*.

Amend 6 Jul 2001

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.

Amend 5 Dec 2000

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.

Contents

Compliance Schedules

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

Amend 1 Dec 1993

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.

Amend 2 Aug 1994

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

Amend 3 Dec 1995

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.

CS 2 Automatic Fire Doors

A Inspections

Amends 1 and 3

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.

Amend 3 Dec 1995

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.

Amend 3 Dec 1995

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

Amend 3 Dec 1995

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).

Amends 1 and 6

Amend 3 Dec 1995

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

B Maintenance

Amend 3 Dec 1995

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.

Amend 1 Dec 1993

C Persons Responsible

Amend 1 Dec 1993

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.

Amend 3 Dec 1995

CS 3 Emergency Warning Systems

A Inspections

Amend 1 Dec 1993

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:

Amend 3 Dec 1995

i) Automatic and manual fire alarms – monthly, annually – NZS 4512.

Amend 3 Dec 1995

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.

Amend 6 Jul 2001

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.

Amend 3 Dec 1995

CS 4 Emergency Lighting Systems

A Inspections

Amend 1 Dec 1993

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

Amend 1 Dec 1993

Amend 5 Dec 2000

The fortnightly, monthly or six monthly inspection and maintenance shall be underaken 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.

Amend 3 Dec 1995

CS 5 Escape Route Pressurisation Systems

A Inspections

Amend 1 Dec 1993

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

Amend 1
Dec 1993

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

Amend 1 Dec 1993

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.

Amend 3 Dec 1995

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.)

Amends 2 and 3

B Maintenance

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

Amend 3 Dec 1995

C Persons Responsible

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

CS 8/1 Passenger Carrying Lifts

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.

Amend 7 Jan 2002

Amends 3 and 5

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.

Amend 3 Dec 1995

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.

Amend 1 Dec 1993

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.

Amend 7 Jan 2002

Checklists

Amends 3, 5 and 7

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

	For lift designed to D2/AS1 based on reference document:		Initials and comments
	NZS 4332[1]	EN 81[2,3]	
	Inspections and checks required	Checks required	
Machine room			
Amend 5 Dec 2000 — Visual inspection of machine beams and supports.	6.1, 6.3, 7.18	✓	
Check security of machine room door.	7.4.1	6.3.3, 6.3.4	
Check there are no obstructions or rubbish in the machine room.	7.2, 7.7	✓	
Check that lighting in machine room functions.	7.14	6.3.6	
Check ventilation in machine room functions.	7.17	1.6 (7.17)	
Amend 5 Dec 2000 — Check for the presence of circuit diagrams and manual.	24.10	1.6 (24.10)	
Check condition of any emergency hand winding equipment.	8.16	12.5	
Machinery			
Check condition of traction sheave, with special attention to the grooves.	18.1, 18.2	✓	
Check condition of divertor sheave and other sheaves.	18.1, 18.2	✓	
Amend 7 Jan 2002 — Check the operation of the brake.	8.11	12.4	
Check the condition of the brake and the brake linings.	8.11	12.4	
Check the running of machines, gearboxes, motors, generators, their bearings and any commutators.	✓	✓	
Amend 7 Jan 2002 — Check operation of govenor.	30	9.9	
Lift well			
Amends 5 and 7 — Visual check of liftwell enclosure.	12.1, 12.3, 12.4	5.2	
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.	16, 17	9.2.3.1, 9.5.1	
Check for presence and legibility of rope data plates.	16.6	-	
Check that rope retainers are present and correctly fastened.	18.2	9.5.4	
Amend 3 Dec 1995 — Visual check of guide rails for straightness and security.	20	✓	
Lift pit			
Check there are no obstructions or rubbish in the pit.	11.3	1.6 (11.3)	
Check that lighting in the lift pit and lift well functions.	11.6	5.9	
Check dryness of pit.	11.3, 11.9	1.6 (11.3, 11.9)	
Visual check of buffer condition.	10	✓	
Amend 7 Jan 2002 — Check function of lift pit safety switch.	11.7	5.7.3.4 (a)	
Lift car exterior			
Amend 3 Dec 1995 — Check functioning of car external lighting.	22.20.1	13.6	
Check condition of guides or rollers.	19.4, 20.15, 20.16	10.2	
Check function of car top controls.	25.3	8.15	
Lift car			
Amend 7 Jan 2002 — Inspect and test safety gear (car and counterweight).	29, 30, 69	9.8	
Amend 5 Dec 2000 — Visual check of the car construction and linings.	22	8.3	
Amend 7 Jan 2002 — Check door operation, including door protective devices.	23	1.6 (23.6), 8.7	
Check lift rating plate present.	21.3	15.2.1	
Amends 3 and 5 — Check lift controls for correct operation.	25	14.2	
Check correct operation of alarms and emergency telephone.	28.2	1.6 (28.2.1), 14.2.3, 15.12	
Check access to all, if any, emergency trapdoor.	22.15	8.12	

Amend 7 Jan 2002

Amends 3, 5 and 7

List of Inspections and Checks Required for Passenger Carrying Lifts complying with D2/AS1 *(Continued)*

	For lift designed to D2/AS1 based on reference document:		Initials and comments
	NZS 4332[1]	EN 81[2,3]	
	Inspection and checks required	Checks required	
Landings doors			
Check door locks.	14.1, 14.4	7.7	
Check emergency opening facilities on landing doors.	14.5	7.7.3.2, 15.11	
Amend 7 Jan 2002 — Check door operation, including door protective devices.	23.6	1.6 (23.6), 7.5	
Hydraulic systems			
Visual check of the hydraulic system, including hoses, ram and cylinder.	34, 35, 37	✓	
Check caisson for moisture.	34.3.7	✓	
Check condition of flow restriction valve.	36.5	12.5.5	
Check operation of the manual lowering means.	36.6	12.9	
Check operation of device to hold car at lowest floor.	31.6	5.7.3	
Amend 7 Jan 2002 — Check operation of anti-creep device.	60.4	9.5.1	
Operation			
Amend 5 Dec 2000 — Check operation of door locks, limit switches, slack rope switch, stop switches, trapdoor switch and other safety switches.	7.12, 11.7, 22.15(f), 24.1, 26.1, 26.7, 27, 60	14.1, 14.2	
Amend 3 Dec 1995 — Check functioning of lift car emergency lighting.	22.20.2.7, 22.21	1.6 (22.20.2.7)	
Check for correct operation under fire conditions.	25.6, 25.7	1.6 (25.6, 25.7)	
Amend 5 Dec 2000 — Check correct operation of counterweight displacement detector.	25.8	1.6 (25.8)	
Amend 3 Dec 1995 — Check operation of load weighing device.	26.6	✓	
Lifts on access routes for people with disabilities			
Amends 3 and 5 — Check floor levelling.	70.1	1.6 (70.1)	
Check door dwell time.	70.3	1.6 (70.3)	
Amend 7 Jan 2002 — Check controls distinction.	70.4	1.6 (70.4)	
Check correct operation of landing indicators.	70.5	1.6 (70.5)	
Amend 7 Jan 2002 — Check handrails.	70.6	1.6 (70.6)	
General			
Visual check for any repairs or modifications carried out incorrectly.	✓	✓	
Check maintenance records are properly kept.	✓	✓	

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.

Amend 7 Jan 2002

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

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

	Reference	Initials and comments
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.		
Check condition of drive belts.	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

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

Name of independent qualified person:

Address:

Date of Inspection:

CS 8/3 Escalators and Moving Walks

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

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

Name of independent qualified person:

Address:

Date of Inspection:

CS 9 Mechanical Ventilation and Air Conditioning Systems

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.

Amend 9 Apr 2004

Amend 1 Dec 1993

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.

Amend 3 Dec 1995

Amend 9 Apr 2004

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.

Amend 1 Dec 1993

Amend 1 Dec 1993

Amend 9 Apr 2004

Amend 1 Dec 1993

Amend 9 Apr 2004

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.

Amend 9 Apr 2004

Table 1: Cooling tower testing

Cooling tower with automatic chemical dosing	Time	Test method	Test result levels and control strategies[2]
Legionella:	Monthly	AS/NZS 3896[1]	AS/NZS 3666.3[2] Table 3.1
Heterotrophic microorganisms	Monthly	AS 4276.3.1[1]	AS/NZS 3666.3 Table 3.2
Cooling tower without automatic chemical dosing			
In addition to the testing above, cooling towers without automatic chemical dosing must also do the following test.			
Heterotrophic microorganisms	Weekly	Dipslide	AS/NZS 3666.3 Table 3.2

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.

Amend 9 Apr 2004

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.

   Amend 9 Apr 2004

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.

   Amends 3 and 5

CS 10 Other Mechanical, Electrical, Hydraulic or Electronic Systems

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.

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

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.

Amend 3 Dec 1995

CS 11 Building Maintenance Units

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.

Amend 2 Aug 1994

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.

Amend 2 Aug 1994

COMMENT:

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

Amend 2 Aug 1994

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

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

Maintenance shall be undertaken by the owner.

CS 13 Means of Escape

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). Amend 3 Dec 1995
- 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. Amend 3 Dec 1995

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. Amend 1 Dec 1993

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. Amend 1 Dec 1993

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. Amends 1 and 3

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.

CS 14 Safety Barriers

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.

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

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.

Amend 1 Dec 1993

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.

Amend 3
Dec 1995

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
G9	AS1	VM1	Electricity
G10	AS1	VM1	Piped services
G11	AS1		Gas as an energy source
G12	AS1	VM1	Water supplies
G13	Foul water		
	AS1	VM1	Sanitary plumbing
	AS2	VM2	Drainage
G14	AS1	VM1	Industrial liquid waste
G15	AS1		Solid waste

Amend 9 Apr 2004

H ENERGY EFFICIENCY

H1	AS1	VM1	Energy efficiency

Index

(Revised by Amendment 6)

This is a complete index for the New Zealand Building Code and Approved Documents.

C

D

E

F

Amend 9
Apr 2004

G

Amend 9 Apr 2004

Amend 9 Apr 2004

H

I

J

K

L

N

O

P

R

Amend 9
Apr 2004

S

T

Amend 9
Apr 2004

U

V

W

Contents

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.

A2 Interpretation

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.

B Stability

B1 Structure

FIRST SCHEDULE—*continued*

Clause B1—STRUCTURE

Provisions	Limits on application
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,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(d) Earth pressure, (e) Water and other liquids, (f) Earthquake, (g) Snow, (h) Wind, (i) *Fire,* (j) Impact, (k) Explosion, (l) Reversing or fluctuating effects, (m) Differential movement, (n) Vegetation, (o) Adverse effects due to insufficient separation from other *buildings*, (p) Influence of equipment, services, non-structural elements and contents, (q) Time dependent effects including creep and shrinkage, and (r) Removal of support. **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*. **B1.3.5** 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*

Provisions	Limits on application
(a) Provide stability for *construction* on the site, and (b) Avoid the likelihood of damage to *other property*. **B1.3.7** Any *sitework* and associated supports shall take account of the effects of: (a) Changes in ground water level, (b) Water, weather and vegetation, and (c) Ground loss and slumping.	

FIRST SCHEDULE–*continued*

Clause B2–DURABILITY

Provisions	Limits on application
OBJECTIVE **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.	
FUNCTIONAL REQUIREMENT **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*.	
PERFORMANCE **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: (a) The life of the building, being not less than 50 years, if: (i) Those *building elements* (including floors, walls, and fixings) provide structural stability to the *building*, or (ii) Those *building elements* are difficult to access or replace, or (iii) Failure of those *building elements* to comply with the *building code* would go undetected during both normal use and maintenance of the *building*. (b) 15 years if: (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	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*.

Amend 4 Feb 1998

Amend 4 Feb 1998

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(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.	
(c) 5 years if:	
(i) The *building elements* (including services, linings, renewable protective coatings, and *fixtures*) are easy to access and replace, and	
(ii) Failure of those *building elements* to comply with the *building code* would be easily detected during normal use of the *building*.	
B2.3.2 Individual *building elements* which are components of a *building* system and are difficult to access or replace must either:	
(a) All have the same durability, or	
(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.	

Amend 4
Feb 1998

C Fire Safety

C1 Outbreak of Fire

FIRST SCHEDULE—*continued*

Clause C1—OUTBREAK OF FIRE

Provisions	Limits on application
OBJECTIVE **C1.1** The objective of this provision is to safeguard people from injury or illness caused by *fire*.	
FUNCTIONAL REQUIREMENT **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*.	
PERFORMANCE **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. **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.	

FIRST SCHEDULE–*continued*

Clause C2–MEANS OF ESCAPE

Provisions	Limits on application
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,	

Amend 7
Jan 2002

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(b) Free of obstruction in the direction of escape,	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. Amend 7 Jan 2002
(c) Of length appropriate to the mobility of the people using them,	
(d) Resistant to the spread of *fire* as required by Clause C3 "Spread of Fire",	
(e) Easy to find as required by Clause F8 "Signs",	
(f) Provided with *adequate* illumination as required by Clause F6 "Lighting for Emergency", and	
(g) Easy and safe to use as required by Clause D1.3.3 "Access Routes".	

FIRST SCHEDULE–*continued*

Clause C3–SPREAD OF FIRE

Provisions	Limits on application
OBJECTIVE **C3.1** The objective of this provision is to: (a) Safeguard people from injury or illness when evacuating a *building* during *fire*. (b) Provide protection to fire service personnel during firefighting operations. (c) Protect adjacent *household units*, other residential units, and *other property* from the effects of *fire*. (d) Safeguard the environment from adverse effects of *fire*.	
FUNCTIONAL REQUIREMENT **C3.2** *Buildings* shall be provided with safeguards against *fire* spread so that: (a) Occupants have time to escape to a *safe place* without being overcome by the effects of *fire*, (b) Firefighters may undertake rescue operations and protect property, (c) Adjacent *household units*, other residential units, and *other property* are protected from damage, and (d) Significant quantities of *hazardous substances* are not released into the environment during *fire*.	Requirement C3.2(d) applies only to *buildings* where significant quantities of *hazardous substances* are stored and processed.
PERFORMANCE **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: (a) The *travel distance*, (b) The number of occupants,	

Amend 7 Jan 2002

Amend 7 Jan 2002

FIRST SCHEDULE–*continued*

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

Amend 7 Jan 2002

Amend 7 Jan 2002

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(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*.	
C3.3.7 Air conditioning and mechanical ventilation systems shall be constructed to avoid circulation of smoke and *fire* between *firecells*.	
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*.	
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*.	
C3.3.10 Environmental protection systems shall ensure a low probability of *hazardous substances* being released to:	Performance C3.3.10 applies only to *buildings* where significant quantities of *hazardous substances* are stored or processed.
(a) Soils, vegetation or natural waters,	
(b) The atmosphere, and	
(c) *Sewers* or public *drains*.	

C4 Structural Stability During Fire

FIRST SCHEDULE—*continued*

Clause C4—STRUCTURAL STABILITY DURING FIRE

Provisions	Limits on application
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*

Clause D1—ACCESS ROUTES

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

FIRST SCHEDULE—*continued*

Provisions	Limits on application
D1.3.2 At least one *access route* shall have features to enable *people with disabilities* to: (a) Approach the *building* from the street boundary or, where required to be provided, the *building* car park, (b) Have access to the internal space served by the principal access, and (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". **D1.3.3** Access routes shall: (a) Have *adequate* activity space, (b) Be free from dangerous obstructions and from any projections likely to cause an obstruction, (c) Have a safe cross fall, and safe slope in the direction of travel, (d) Have *adequate* slip-resistant walking surfaces under all conditions of normal use, (e) Include stairs to allow access to upper floors irrespective of whether an escalator or lift has been provided, (f) Have stair treads, and ladder treads or rungs which: (i) provide *adequate* footing, and (ii) have uniform rise within each flight and for consecutive flights, (g) Have stair treads with a leading edge that can be easily seen,	Performance D1.3.2 shall not apply to *Housing, Outbuildings, Ancillary buildings,* and to *Industrial buildings* where no more than 10 people are employed.

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(h) Have stair treads which prevent children falling through or becoming held fast between treads, where open risers are used,	Performance D1.3.3 (h) shall not apply within *Industrial buildings, Outbuildings* and *Ancillary buildings.*
(i) Not contain isolated steps,	Performance D1.3.3 (i) shall not apply with *Detached Dwellings* or within *household units* of *Multi-unit Dwellings,* or to *Outbuildings* and *Ancillary buildings.*
(j) Have smooth, reachable and graspable *handrails* to provide support and to assist with movement along a stair or ladder,	Performance D1.3.3 (j) shall not apply to isolated steps.
(k) Have *handrails* of *adequate* strength and rigidity as required by Clause B1 "Structure",	
(l) Have landings of appropriate dimensions and at appropriate intervals along a stair or ramp to prevent undue fatigue,	
(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	
(n) Have any automatically controlled doors *constructed* to avoid the risk of people becoming caught or being struck by moving parts.	
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,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(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	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(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.	
D1.3.5 Vehicle spaces and circulation routes shall have:	
(a) Dimensions appropriate to the *intended use*,	
(b) Appropriate crossfall, and slope in the direction of travel,	
(c) *Adequate* queuing and circulation space, and	
(d) *Adequate* sight distances.	
D1.3.6 Vehicle spaces for use by *people with disabilities*, shall, in addition to the requirements of Clause D1.3.5, be:	
(a) Provided in sufficient numbers,	
(b) Located to avoid conflict between vehicles and people using or moving to or from the space, and	
(c) Easy to find as required by Clause F8 Signs.	

FIRST SCHEDULE–*continued*

Clause D2–MECHANICAL INSTALLATIONS FOR ACCESS

Provisions	Limits on application
OBJECTIVE **D2.1** 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.
FUNCTIONAL REQUIREMENT **D2.2** Mechanical installations for access into, within and out of *buildings* shall provide for the safe and easy movement of people, and for the safety of maintenance personnel.	
PERFORMANCE **D2.3.1** Mechanical installations for access shall: (a) Move people safely, and stop and hold as required for the normal use of the installation, for all loads up to and including 25% in excess of the rated load, (b) Not produce excessive acceleration or deceleration, (c) Be constructed to avoid the likelihood of people falling, tripping, becoming caught, being able to touch or be struck by moving parts, sharp edges or projections, under both normal and reasonably foreseeable abnormal conditions of use,	

Amend 7
Jan 2002

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(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.	
D2.3.2 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.	Performance D2.3.3(d) shall not apply to installations travelling less than 15 m vertically.
D2.3.4 Potentially dangerous equipment shall be located in spaces which:	

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(a) Are secure from unauthorised entry and contain only equipment associated with the installation, (b) Are appropriately sized and suitably guarded to provide *adequate* safe working areas for maintenance personnel, (c) Are provided with *adequate* power and lighting for maintenance, and (d) Have an environment that ensures the safe operation of the equipment under all likely conditions of use. **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	Limits on application
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*.	
Amend 7 Jan 2002 **E1.3.2** *Surface water*, resulting from an event having a 2% probability of occurring annually, shall not enter *buildings*.	Performance E1.3.2 shall apply only to *Housing*, *Communal Residential* and *Communal Non-residential 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,	

Amend 7 Jan 2002

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(d) Provide reasonable access for maintenance and clearing blockages,	
(e) Avoid the likelihood of damage to any *outfall*, in a manner acceptable to the *network utility operator*, and	
(f) Avoid the likelihood of damage from superimposed loads or normal ground movements.	

FIRST SCHEDULE—*continued*

Clause E2—EXTERNAL MOISTURE

Provisions	Limits on application
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.	Requirement E2.2 shall not apply to *buildings* in which moisture from outside would result in effects which are no more harmful than those likely to arise indoors during normal use.
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*.	

FIRST SCHEDULE—*continued*

Clause E3—INTERNAL MOISTURE

Provisions	Limits on application
OBJECTIVE	
E3.1 The objective of this provision is to: (a) Safeguard people against illness or injury which could result from accumulation of internal moisture, and (b) Protect *household units* from damage caused by free water from another occupancy in the same *building*.	
FUNCTIONAL REQUIREMENT	
E3.2 *Buildings* shall be constructed to avoid the likelihood of: (a) Fungal growth or the accumulation of *contaminants* on linings and other *building elements*, (b) Free water overflow penetrating to an adjoining *household unit*, and (c) Damage to *building elements* being caused by use of water.	
PERFORMANCE	
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.	Performance E3.3.1 shall not apply to *Communal Non-residential, Commercial, Industrial, Outbuildings* or *Ancillary buildings*.
E3.3.2 Accidental overflow from *sanitary fixtures* or laundering facilities shall be constrained from penetrating to another occupancy in the same *building*.	
E3.3.3 Floor surfaces of any space containing *sanitary fixtures* or laundering facilities shall be *impervious* and easily cleaned.	
E3.3.4 Wall surfaces adjacent to *sanitary fixtures* or laundering facilities shall be *impervious* and easily cleaned.	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
E3.3.5 Surfaces of *building elements* likely to be splashed or become contaminated in the course of the *intended use* of the *building*, shall be *impervious* and easily cleaned.	
E3.3.6 Water splash shall be prevented from penetrating behind linings or to *concealed spaces*.	

F Safety of Users

F1 Hazardous Agents on Site

FIRST SCHEDULE—*continued*

Clause F1—HAZARDOUS AGENTS ON SITE

Provisions	Limits on application
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.	

FIRST SCHEDULE—*continued*

Clause F2—HAZARDOUS BUILDING MATERIALS

Provisions	Limits on application
OBJECTIVE	
F2.1 The objective of this provision is to safeguard people from injury and illness caused by exposure to *hazardous building* materials.	
FUNCTIONAL REQUIREMENT	
F2.2 *Building* materials which are potentially *hazardous*, shall be used in ways that avoid undue risk to people.	
PERFORMANCE	
F2.3.1 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.	
F2.3.2 Transparent panels capable of being mistaken for an unimpeded path of travel shall be marked to make them visible.	Performance F2.3.2 does not apply to *Housing*
F2.3.3 Glass or other brittle materials with which people are likely to come into contact shall: (a) If broken on impact, break in a way which is unlikely to cause injury, or (b) Resist a reasonably foreseeable impact without breaking, or (c) Be protected from impact.	

F3 Hazardous Substances and Processes

FIRST SCHEDULE—*continued*

Clause F3—HAZARDOUS SUBSTANCES AND PROCESSES

Provisions	Limits on application
OBJECTIVE **F3.1** 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*.	
FUNCTIONAL REQUIREMENT **F3.2** *Buildings* where *hazardous substances* are stored and *hazardous* processes undertaken, shall be constructed to provide *adequate* protection to people and to *other property*.	
PERFORMANCE **F3.3** 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: (a) Means of restricting unauthorised access, (b) Means of preventing *hazardous substances*, or other materials unacceptable to the *network utility operator*, from entering *sewers* or public *drains*, (c) Means of allowing the harmless release of pressure where there is a significant risk of explosion occurring, (d) Protected ignition sources where flammable or explosive goods are stored, (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,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(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	
(g) Signs as required by Clause F8 "Signs".	

F4 Safety from Falling

FIRST SCHEDULE–*continued*

Clause F4–SAFETY FROM FALLING

Provisions	Limits on application
OBJECTIVE **F4.1** The objective of this provision is to safeguard people from injury caused by falling.	
FUNCTIONAL REQUIREMENT **F4.2** *Buildings* shall be constructed to reduce the likelihood of accidental fall.	
PERFORMANCE **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.	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.
F4.3.2 Roofs with permanent access shall have barriers provided.	
F4.3.3 Swimming pools have a depth of water exceeding 400mm, shall have barriers provided.	Performance F4.3.3 shall not apply to any pool exempted under section 5 of the Fencing of Swimming Pools Act 1987.
F4.3.4 Barriers shall: (a) Be continuous and extend for the full extent of the hazard, (b) Be of appropriate height, (c) Be constructed with *adequate* rigidity, (d) Be of *adequate* strength to withstand the foreseeable impact of people and, where appropriate, the static pressure of people pressing against them. (e) Be constructed to prevent people from falling through them, and	

Amend 7
Jan 2002

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(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.	Performance F4.3.4 (f) shall not apply to any pool exempted under section 5 of the Fencing of Swimming Pools Act 1987.
(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.	
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

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

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(e) Contain no projection that would be a hazard to traffic or people, and	
(f) Be clearly marked where the barrier itself may otherwise present a hazard to traffic or passersby.	
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.	

F6 Lighting for Emergency

FIRST SCHEDULE–*continued*

Clause F6–LIGHTING FOR EMERGENCY

Provisions	Limits on application
OBJECTIVE	
F6.1 The objective of this provision is to safeguard people from injury due to inadequate lighting being available during an emergency.	
FUNCTIONAL REQUIREMENT	
F6.2 *Buildings* shall be provided with *adequate* lighting within all *escape routes* in an emergency.	Requirement F6.2 shall not apply to *Detached Dwellings*, *household units* within *Multi-unit Dwellings*, *Outbuildings* or *Ancillary buildings*.
PERFORMANCE	
F6.3.1 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.	Performance F6.3.1 shall not apply to spaces infrequently inhabited such as plant rooms, storage areas and service tunnels.
F6.3.2 Signs to indicate *escape routes* shall be provided as required by Clause F8 "Signs".	

Amend 3
Dec 1995

FIRST SCHEDULE–*continued*

Clause F7–WARNING SYSTEMS

Provisions	Limits on application
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*.	Performance F7.3 does not apply to *Outbuildings* or *Ancillary buildings*.
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.	

Amend 8 Apr 2003

Amend 8 Apr 2003

F8 Signs

FIRST SCHEDULE–*continued*

Clause F8–SIGNS

Provisions	Limits on application
OBJECTIVE **F8.1** The objective of this provision is to: (a) Safeguard people from injury or illness resulting from inadequate identification of *escape routes*, or of hazards within or about the *building*, (b) Safeguard people from loss of *amenity* due to inadequate direction, and (c) Ensure that *people with disabilities* are able to carry out normal activities and processes within *buildings*.	Objective F8.1 (c) shall apply only to those *buildings* to which section 47A of the Act applies.
FUNCTIONAL REQUIREMENT **F8.2** Signs shall be provided in and about *buildings* to identify: (a) *Escape routes*, (b) Emergency related safety features, (c) Potential hazards, and (d) *Accessible routes* and facilities for *people with disabilities*.	Requirement F8.2 shall not apply to *Detached Dwellings*, or within *household units* of *Multi-unit Dwellings*.
PERFORMANCE **F8.3.1** Signs shall be clearly visible and readily understandable under all conditions of foreseeable use. **F8.3.2** Signs indicating potential hazards shall be provided in sufficient locations to notify people before they encounter the hazard. **F8.3.3** Signs to facilitate escape shall: (a) Be provided in sufficient locations to identify *escape routes* and guide people to a *safe place*, and	

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(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". **F8.3.4** Signs shall be provided in sufficient locations to identify *accessible routes* and facilities provided for *people with disabilities*.	

G Services and Facilities

G1 Personal Hygiene

FIRST SCHEDULE—*continued*

Clause G1—PERSONAL HYGIENE

Provisions	Limits on application
OBJECTIVE **G1.1** The objective of this provision is to: (a) Safeguard people from illness caused by infection or contamination, (b) Safeguard people from loss of *amenity* arising from the absence of appropriate personal hygiene facilities, and (c) Ensure *people with disabilities* are able to carry out normal activities and processes within *buildings*.	Objective G1.1 (c) shall apply only to those *buildings* to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.
FUNCTIONAL REQUIREMENT **G1.2** *Buildings* shall be provided with appropriate spaces and facilities for personal hygiene.	
PERFORMANCE **G1.3.1** *Sanitary fixtures* shall be provided in sufficient number and be appropriate for the people who are intended to use them. **G1.3.2** *Sanitary fixtures* shall be located, constructed and installed to: (a) Facilitate *sanitation*, (b) Avoid risk of food contamination, (c) Avoid harbouring dirt or germs, (d) Provide appropriate privacy, (e) Avoid affecting occupants of adjacent spaces from the presence of unpleasant odours, accumulation of offensive matter, or other source of annoyance, (f) Allow effective cleaning,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(g) Discharge to a plumbing and drainage system as required by Clause G13 "Foul Water" when water-borne disposal is used, and	
(h) Provide a healthy safe disposal system when non-water-borne disposal is used.	
G1.3.3 Facilities for personal hygiene shall be provided in convenient locations.	
G1.3.4 Personal hygiene facilities provided for *people with disabilities* shall be *accessible*.	Performance G1.3.4 shall not apply to *Housing*, *Outbuildings*, *Ancillary buildings*, and to *Industrial buildings* where no more than 10 people are employed.

FIRST SCHEDULE—*continued*

Clause G2—LAUNDERING

Provisions	Limits on application
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*.	Objective G2.1 (b) shall apply to those *buildings* to which section 25 of the Disabled Persons Community Welfare 1975 Act applies.
FUNCTIONAL REQUIREMENT	
G2.2 *Buildings* shall be provided with *adequate* space and facilities for laundering.	Requirement G2.2 shall apply only to *Housing*, old people's homes, early childhood centres, camping grounds and work camps.
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*.	Performance G2.3.4 shall apply only to camping grounds.

FIRST SCHEDULE–*continued*

Clause G3–FOOD PREPARATION AND PREVENTION OF CONTAMINATION

Provisions	Limits on application
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*.	Objective G3.1 (c) shall apply only to those *buildings* to which section 47A of the Act applies.
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*.	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.
G3.2.2 *Buildings* used for the storage, manufacture of 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.	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*

Provisions	Limits on application
(b) Means for food rinsing, utensil washing and waste water disposal.	
(c) Means for cooking food, and	Performance G3.3.1 (c) shall apply to *Housing*, work camps, old people's homes and early childhood centres.
(d) Space and a surface for food preparation.	Performance G3.3.1 (d) shall apply to *Housing*, work camps, old people's homes and early childhood centres.
G3.3.2 Spaces for food preparation and utensil washing shall have:	
(a) Interior linings and work surfaces shall be *impervious* and easily cleaned,	
(b) All *building elements* constructed with materials which are free from *hazardous substances* which could cause contamination to the *building* contents, and	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.
(c) Exposed *building elements* located and shaped to avoid the accumulation of dirt.	Performance G3.3.2 (c) shall not apply to *Housing*.
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*

Provisions	Limits on application
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.

G4 Ventilation

FIRST SCHEDULE–*continued*

Clause G4–VENTILATION

Provisions	Limits on application
OBJECTIVE **G4.1** 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*. (Sec. ed. Feb 1998)	
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, (Sec. ed. Feb 1998) (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.	

FIRST SCHEDULE–*continued*

Provisions	Limits on application
G4.3.4 Contaminated air shall be disposed of in a way which avoids creating a nuisance or hazard to people and *other property*.	
G4.3.5 The quantities of air supplied for ventilation shall meet the additional demands of any fixed *combustion appliances*.	

G5 Interior Environment

FIRST SCHEDULE–*continued*

Clause G5–INTERIOR ENVIRONMENT

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

FIRST SCHEDULE–*continued*

Provisions	Limits on application
G5.3.2 Heating appliances, and any attached cables, pipes or other fittings shall be securely fixed in place.	Performance G5.3.2 shall apply only to old people's homes and early childhood centres.
G5.3.3 *Habitable spaces* shall have sufficient space for activity, furniture, and sanitary and mobility aids.	Performance G5.3.3 shall apply only to old people's homes.
G5.3.4 Where reception counters or desks are provided for public use, at least one counter or desk shall be *accessible*.	Performance G5.3.4 applies only to *Communal Residential*, *Communal Non-Residential*, and *Commercial buildings*.
G5.3.5 *Buildings* shall be provided with listening systems which enable enhanced hearing by people with hearing aids.	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.
G5.3.6 Enhanced listening systems shall be identified by signs complying the Clause F8 "Signs".	

G6 Airborne and Impact Sound

FIRST SCHEDULE—*continued*

Clause G6—AIRBORNE AND IMPACT SOUND

Provisions	Limits on application
OBJECTIVE **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.	
FUNCTIONAL REQUIREMENT **G6.2** *Building elements* 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*.	
PERFORMANCE **G6.3.1** The *Sound Transmission Class* of walls, floors and ceilings, shall be no less than 55. **G6.3.2** The *Impact Insulation Class* of floors shall be no less than 55.	

FIRST SCHEDULE—*continued*

Clause G7—NATURAL LIGHT

Provisions	Limits on application
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.	Requirement G7.2 shall apply only to *Housing*, old people's homes and early childhood centres.
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.	

FIRST SCHEDULE—*continued*

Clause G8—ARTIFICIAL LIGHT

Provisions	Limits on application
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.	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 *Illuminance* at floor level shall be no less than 20 lux.	Performance G8.3 shall not apply in emergencies, for which *Illuminance* requirements are given in Clause F6 "Lighting for Emergency".

FIRST SCHEDULE—*continued*

Clause G9—ELECTRICITY

Provisions	Limits on application
OBJECTIVE	
G9.1 The objective of this provision is to ensure that:	
(a) In *buildings* supplied with electricity, the *electrical installation* has safeguards against outbreak of *fire* and personal injury, and	
(b) *People with disabilities* are able to carry out normal activities and processes within *buildings*.	Objective G9.1 (b) shall apply only to those *buildings* to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.
FUNCTIONAL REQUIREMENT	
G9.2 Where provided in a *building, electrical installations* shall be safe for their *intended use*.	
PERFORMANCE	
G9.3.1 The *electrical installation* shall incorporate systems to:	
(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,	
(b) Permit the safe isolation of the installation and of electrical fittings and appliances,	
(c) Safeguard people from excessive temperatures resulting from either normal operation of electrical equipment, or from currents which could exceed the installation rating,	
(d) Safeguard people from injury which may result from electromechanical stress in electrical components caused by currents in excess of the installation rating,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(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,	
(f) Operate safely in its intended environment, and	
(g) Safeguard against ignition of the surrounding atmosphere where it is potentially flammable or explosive.	
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.	Performance G9.3.4 shall not apply to Housing, *Outbuildings, Ancillary buildings,* and to *Industrial buildings* where no more than 10 people are employed.

FIRST SCHEDULE—*continued*

Clause G10—PIPED SERVICES

Provisions	Limits on application
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.	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
G10.3.5 Enclosed spaces shall be constructed to avoid the likelihood of accumulating vented or leaking gas.	
G10.3.6 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.	

FIRST SCHEDULE—*continued*

Clause G11—GAS AS AN ENERGY SOURCE

Provisions	Limits on application
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.	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
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*.	

Schedule
New clause G12 substituted in First Schedule of principal regulations

Clause G12–Water Supplies

Provisions	Limits on application
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*.	Objective G12.1(d) shall apply only to those *buildings* to which section 47A of the Act applies.
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.	

Provisions	Limits on application
Performance–continued	
G12.3.5 *Sanitary fixtures* and *sanitary appliances* must be provided with hot water when intended to be used for– (a) utensil washing; and (b) personal washing, showering, or bathing.	Performance G12.3.5(b) shall apply only to *housing*, retirement homes and early childhood centres.
G12.3.6 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.	
G12.3.7 *Water supply systems* must be installed in a manner that– (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 (b) avoids the likelihood of leakage; and (c) allows reasonable access to components likely to need maintenance; and (d) allows the system and any backflow prevention devices to be isolated for testing and maintenance.	
G12.3.8 Vessels used for producing or storing hot water must be provided with safety features that– (a) relieve excessive pressure during both normal and abnormal conditions; and (b) limit temperatures to avoid the likelihood of flash steam production in the event of rupture.	
G12.3.9 A *hot water system* must be capable of being controlled to prevent the growth of legionella bacteria.	
G12.3.10 Water supply taps must be *accessible* and usable for *people with disabilities*.	Performance G12.3.10 applies only to those *buildings* to which section 47A of the Act applies.

Clerk of the Executive Council.

FIRST SCHEDULE—*continued*

Clause G13—FOUL WATER

Provisions	Limits on application
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,	

FIRST SCHEDULE—*continued*

Provisions	Limits on application
(c) Be supported, jointed and protected in a way that will avoid the likelihood of penetration of roots or the entry of ground water, (d) Be provided with reasonable access for maintenance and clearing blockages, (e) Be ventilated to avoid the likelihood of foul air and gases accumulating in the drainage system and *sewer*, and (f) Be constructed to avoid the likelihood of damage from superimposed loads or normal ground movement. **G13.3.3** 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*. **G13.3.4** 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".	

G14 Industrial Liquid Waste

FIRST SCHEDULE–*continued*

Clause G14–INDUSTRIAL LIQUID WASTE

Provisions	Limits on application
OBJECTIVE **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",	

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(d) To avoid the likelihood of contamination of soils, ground water and waterways except as permitted under the Resource Management Act 1991.	
(e) From materials which are impervious both to the waste for which disposal is required, and to water,	
(f) To avoid the likelihood of foul air and gases accumulating within or entering into *buildings*,	
(g) To avoid the likelihood of unauthorised access by people, and	
(h) To permit easy cleaning and maintenance.	

Amend 2
Dec 1995

G15 Solid Waste

FIRST SCHEDULE–*continued*

Clause G15–SOLID WASTE

Provisions	Limits on application
OBJECTIVE **G15.1** The objective of this provision is to safeguard people from injury or illness caused by infection or contamination from solid waste.	
FUNCTIONAL REQUIREMENT **G15.2** *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*.	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.
PERFORMANCE **G15.3.1** Where provision is made within *buildings* for the collection and temporary holding of solid waste, the spaces provided shall be: (a) Of sufficient size for the volume of waste and frequency of disposal, (b) Provided with reasonable access for the depositing and collection of the waste, (c) Capable of maintaining sanitary conditions having regard to the types of waste and storage containers, and (d) Capable of maintaining the appropriate temperature for the type of waste stored. **G15.3.2** Where a rubbish chute is provided, it shall be located and constructed to: (a) Convey the solid waste to an appropriate storage container, (b) Avoid the likelihood of blockage or leakage, (c) Permit easy cleaning and maintenance,	

FIRST SCHEDULE–*continued*

Provisions	Limits on application
(d) Avoid the likelihood of foul air or gases accumulating or entering the *building*, (e) Avoid the likelihood of the spread of *fire* beyond the refuse chute, (f) Have openings that allow waste to be safely deposited in the chute, and (g) Restrict access by children, animals and vermin. **G15.3.3** 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".	

H Energy Efficiency

H1 Energy Efficiency Provisions

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

Provisions	Limits on application
Objective	
H1.1 The objective of this provision is to facilitate efficient use of energy.	Objective H1.1 applies only when the energy is sourced from a *network utility operator* or a depletable energy resource.
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	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.
(b) providing hot water to *sanitary fixtures* or *sanitary appliances*, or both; or	
(c) providing artificial lighting	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:	Performance H1.3.2 applies only to *housing*.
(a) 0.13 kWh in a *warm location*; and	
(b) 0.12 kWh in a *cool location*.	

Provisions	Limits on application
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.	Performance H1.3.4(b) applies only where individual storage vessels are 700 litres or less in capacity.
H.1.3.5 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 H1.3.5 does not apply to lighting provided solely to meet the requirements of clause F6.

Marie Shroff,
Clerk of the Executive Council.