BUILDING INDUSTRY AUTHORITY

The New Zealand Building Code Handbook and Approved Documents have been prepared and will be maintained by the Building Industry Authority which is a statutory body established by the Building Act 1991.

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STANDARDS NEW ZEALAND

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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:

- All buildings including Crown buildings, except for certain defence works. (Act s.5)
- All components of each building including plumbing, electrical and mechanical installations. (Act s.3)

1.1.2 The Act applies to:

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

1.1.3 The Act does not cover:

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

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

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

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

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

1.2 The New Zealand Building Code

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

1.3 The Building Industry Authority

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

1.4 Territorial authorities

1.4.1 Territorial authorities are responsible within Act s.24 their districts for the day-to-day administration of the building control legislation.
2.0 SPECIAL TERMS

2.1 Building certifier

Act Part VII

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

2.2 Building certificate

Act s.50(1)(a)

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

2.3 Project information memorandum

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 a 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.

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 Building Industry Authority may issue an accreditation certificate for materials, components and construction methods used in building. A territorial authority may issue an accreditation certificate to the owner for a determination is made that a particular material, component or construction method conforms with one already acceptable under the New Zealand Building Code.

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

2.7 Determination

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

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

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

2.8 Notice to rectify

Act s.42

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

2.9 Code compliance certificate

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

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

2.10 Compliance schedule

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

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

2.11 Building warrant of fitness

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

3.0 MEANS OF CODE COMPLIANCE

3.1 Owner’s choice

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

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

3.2 Approved Documents

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

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

3.3 Acceptable solutions

3.3.1 Acceptable solutions given in Approved Documents are examples of materials, components and construction methods which, if used, will result in compliance with the New Zealand Building Code. They serve also as guide-lines 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 Building Industry Authority under section 17 of the Act.

3.5 Verification methods

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

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

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

c) Tests in-situ - which may involve examination of plans and verification by inspection, where compliance with specified numbers (e.g. fittings), dimensions or locations is required. Non-destructive tests (e.g. pipe pressure tests) are also included.

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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:


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

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

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

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

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

4.0 INTERPRETATION

4.1 Building Code

4.1.1 This schedule to the Building Act 1991 is divided under eight main categories into a total of 37 clauses of which the first two are general provisions, and the remainder specifically applicable to different aspects of building construction.

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

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

1 is the Objective
2 is the Functional Requirement
3 is the Performance

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

4.1.5 For example in Clause F4.3.2:

1 indicates the main category, "Safety of Users".

2 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, comments and tables, defined words and classified uses are indicated by italics.

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

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

4.2 Approved Documents

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

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

For example:

C2/AS1 Indicates that the topic is C2, Means of Escape, and the document is acceptable solution number 1.

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

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 italicised smaller print immediately following the paragraph to which they refer.
PUBLICATIONS REFERENCED IN APPROVED DOCUMENTS

Referenced documents shall be deemed to include any amendments issued prior to the date displayed and the foot of the page on which they appear in this list.

Approved Documents in which the specific 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.

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

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| NZS 4607:1989 | Installation of thermal storage electric water heaters: valve vented systems. | G12/AS1 |
| NZS 4616:1990 | Washbasins. | G1/AS1 |
| NZS 4617:1989 | Tempering (3-port mixing) valves. | G12/AS1 |
| NZS 5433:1988 | Code of practice for transportation of hazardous substances on land. | G14/VM1 |
| NZS/BS 5500:1991 | Specification for unfired fusion welded pressure vessels. | G14/VM1 |
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- Part 2:1982 Specification for temperature relief valves for pressures up to and including 10 bar. G12/AS1
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G9/VM1

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DEFINITIONS
**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.

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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>Access chamber</td>
<td>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.</td>
</tr>
<tr>
<td>Accessible</td>
<td>Having features to permit use by people with disabilities.</td>
</tr>
<tr>
<td>Access point</td>
<td>A place where access may be made to a drain for inspection, cleaning or maintenance; and may include an inspection point, rodding point, inspection chamber, or access chamber.</td>
</tr>
<tr>
<td>Access route</td>
<td>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.</td>
</tr>
<tr>
<td>Accessible route</td>
<td>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 carparking 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.</td>
</tr>
<tr>
<td>Accreditation certificate</td>
<td>Means an accreditation certificate issued under Part III of the Act.</td>
</tr>
<tr>
<td>Active conductor</td>
<td>Any electrical conductor in which the electrical potential differs from that of a neutral conductor or earth.</td>
</tr>
<tr>
<td>Adequate</td>
<td>Adequate to achieve the objectives of the building code.</td>
</tr>
<tr>
<td>Adjacent building</td>
<td>A nearby building, including an adjoining building, whether or not erected on other property.</td>
</tr>
<tr>
<td>Air gap</td>
<td>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.</td>
</tr>
<tr>
<td>Alter</td>
<td>In relation to a building, includes to rebuild, re-erect, repair, enlarge and extend; and alteration has a corresponding meaning.</td>
</tr>
<tr>
<td>Amenity</td>
<td>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.</td>
</tr>
<tr>
<td>Appliance hearth</td>
<td>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.</td>
</tr>
<tr>
<td>Asbestos</td>
<td>As defined by the Asbestos Regulations 1983 means:</td>
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<td></td>
<td>a) Actinolite, amosite, chrysotile, crocidolite, fibrous anthophyllite, or tremolite; or</td>
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<td></td>
<td>b) A mixture containing a mineral specified in paragraph (a) of this definition; or</td>
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<tr>
<td></td>
<td>c) A material that is composed wholly or partly of any such mineral; or</td>
</tr>
<tr>
<td></td>
<td>d) A material or article that is contaminated by any such material.</td>
</tr>
<tr>
<td>Atmospheric burner</td>
<td>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.</td>
</tr>
<tr>
<td>Authority</td>
<td>Means the Building Industry Authority established under Part III of the Act.</td>
</tr>
<tr>
<td>Backflow</td>
<td>A flowing back or reversal of the normal direction of the flow caused by back pressure and includes back-siphonage.</td>
</tr>
<tr>
<td>Backflow prevention device</td>
<td>A device that prevents backflow.</td>
</tr>
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</table>
**Back pressure** A condition where the downstream pressure is greater than the supply pressure.

**Back-siphonage** Backflow caused by the supply pressure being less than atmospheric 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.

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

**Branch discharge pipe** A discharge pipe which serves one or more fixture discharge pipes from any one floor and discharges to a discharge stack.

**Branch vent pipe** A vent pipe which serves two or more fixture vent pipes and is connected at its upper end to a discharge vent stack.

**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 chatt(e)s); 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 section 2(1) of the Boilers, Lifts, and Cranes Act 1950, whether or not attached to any other structure; or

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

(d) Ships as defined in section 2 (1) of the Shipping and Seaman Act 1952, other than permanently moored houseboats; or

(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

(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.

(2) For the purposes of a building consent, a code compliance certificate, and a compliance schedule the term building also includes -

(a) Any part of a building; and

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

(3) For the purposes of subsection (2) of this section, where any utility system or any part of any utility system -

(a) Is external to the building; and

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

(i) A network under the control of a network utility operator; or
(ii) Some other facility which is able to provide for the successful functioning of the utility system in accordance with its intended design - that utility system or that part of the utility system shall be deemed to be part of a building.

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

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

Building code means the building code made under Part VI of the Act.

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

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

Building height The vertical distance between the floor level of the lowest final exit from the building; and the highest 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 The energy from a depletable resource needed to maintain a building at a constant internal temperature, measured per m² of floor area and per degree-day, for the period 1st of May to 31st of August under standard conditions. The standard conditions are:

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

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

c) A heat emission contribution arising from internal heat sources for the period being considered of 1000 kWh for the first 50 m² of floor area and 10 kWh per m² of floor area thereafter.

d) No allowance for curtains, blinds, or drapes on windows.

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

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

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

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

Check valve (or non-return valve) A valve that permits flow in one direction but prevents a return flow.

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 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.

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

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 Act.

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

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

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

Damp-proof course (DPC) A layer of durable vapour barrier placed between building elements to prevent the passage of moisture from one element to another.

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 when 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 The number of °C by which a given base temperature exceeds the mean outdoor temperature measured daily. The degree-day total for a season is derived by summing these values for the period. For the purposes of the New Zealand Building Code the base temperature shall be 15 °C.

Comment: Results are ignored for days where the mean outdoor temperature exceeds the base temperature. Tables produced by the NZ Meteorological Service give total degree-days for stated periods in different locations, and for different bases.

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 which is intended to convey discharge from sanitary fixtures or sanitary appliances and includes a waste pipe, combined waste pipe, branch discharge pipe and discharge stack.

Discharge stack A main vertical discharge pipe having two or more branch discharge pipe connections, and which is vented to the atmosphere at one end via a discharge stack vent.

Discharge stack vent A vertical vent pipe connected to the top of the discharge stack at
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one end and open to the atmosphere at the other.

**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 of 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.

**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 C2/AS1, C3/AS1 and D1/AS1.

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

**Estimated value** The value of building work shall be the aggregate of the values, determined in accordance with section 10 of the Goods and Services Tax Act 1985, of all goods and services to be supplied for that building work.

**Evacuation time** The time taken by the occupants of the building to evacuate the building to a final exit.

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

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

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

**External wall rating (E)** The time in minutes for which it is intended that a fire in a building should not spread due to failure of any primary or secondary element in an external wall:

a) Across a relevant boundary to other property, or

b) To an adjacent building containing purpose groups SC, SD, SA, SR or CM, or

c) Vertically outside the wall to higher firecells in the same building containing purpose groups SC, SD, SA, SR or CM.

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

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

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

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

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

Comment:
1. The purpose of the firecell rating is to prevent premature collapse of elements of structure in order to protect:

a) The occupants, some of whom may have to remain in the building for some time while evacuation proceeds, particularly if the building is a large one.

b) Adjacent household units and sleeping areas in the building of fire origin.

c) Fire fighters engaged on rescue and fire fighting operations (although this is limited because property protection in the building of origin is not a matter covered by the New Zealand Building Code except as required by (b) above).

2. The use of the F rating to determine the FRR of a primary or secondary element is discussed in C3/AS1.

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.

Comment:
Requirements for fire doors are given in C3/AS1 Paragraph 5.0 and Appendix E.

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 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 C3/AS1, Appendix A Table A1.

Fire intensity The rate release 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).
Fireplace  A space formed by the chimney back, the chimney jamb, 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 classify 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.

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 C3/AS1 Paragraph 3.5.

2. C3/AS1 Paragraph 3.0 gives more information on FRRs.

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

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

Fire resisting glazing  Fixed glazing, complete with frame and fixings, mullions, transoms and glazing beads, with a specified FRR.

Comment:
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 resistant glazing. Note that heat radiation is not measured, but is empirically taken to be 50% of that through an opening of the same size and shape.

Fire safety system  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.

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

Fixture vent pipe  A vent pipe which is connected to a fixture discharge pipe or the sanitary fixture itself.

Flame barrier  A protective cover which is either non-combustible and arranged and fixed to prevent ready access of air or flame to the material it is protecting; or is able to limit the temperature rise to no more than 140K on the unexposed face of the flame barrier after 10 minutes exposure in the standard test for fire resistance.

Comment:
1. The principal use of flame barriers is to delay ignition of combustible foam plastics, but the definition covers situations such as protection applied to the underside of timber floors, and the protection provided by lining materials to building papers and combustible insulation located in cavities in building elements.

2. The fire resistance test specimen should include an assembly comprising both the flame barrier and the material it is protecting.
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 A discharge pipe with a graded inlet located at the lowest point within a graded floor, and which conveys accidental overflows of waste water to either the outside of the building or to the foul water drainage or the plumbing system.

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

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

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.

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 4403 Test 2.2, and a linear shrinkage of more than 15 % when tested in accordance with NZS 4402 Test 2.6, and

c) Any ground which could forseeably experience movement of 25 mm or greater for any reason including one or a combination of:

land instability, ground creep, subsidence, seasonal swelling and shrinking, frost heave, changing ground water level, erosion, dissolution of soil in water, and effects of tree roots.

Comment:

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

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

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

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

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

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

Habitable space A space used for activities normally associated with domestic living, but excludes any bathroom, laundry, water-closet, pantry, walk-in wardrobe, corridor, hallway, lobby, clothes-drying room, or other space of a specialised nature occupied neither frequently nor for extended periods.
Habitable work Any building where people live, work or may assemble, but does not include buildings associated with the storage or use of dangerous goods on the same site.

Comment:

Handrail A rail to provide both 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.

Hold open device A device which holds a fire door open during normal use, but is released by deactivating the device by an alarm sensing element, 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 air conditioning.

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

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


Impervious That which does not allow the passage of moisture.

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

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

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

Insulating material A material that has a thermal conductivity of less than 0.07 W/mK.

Insulation In the context of fire protection, the time in minutes for which a prototype specimen of a fire separation when subjected to the standard test for fire resistance, has limited the transmission of heat through the specimen.

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

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 which because of its configuration provides an opening allowing smoke to spread from a lower to an upper level within the firecell.

**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.

**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.

**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.

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

**Network utility operator** means a person who:

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

b) Is an electricity operator or electrical supply authority as defined by the Electricity Act 1968 for the purpose of an electric line as defined by that Act; or

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

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

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

**Non-bulk** See in bulk.

**Non-combustible** Materials shall be classified as non-combustible or combustible when tested to: AS 1530 Methods for Fire Tests on Building Materials and Structures - Part 1: Combustibility Test for Materials, or BS 476 Fire Tests on Building Materials and Structures - Part 4 Non-combustibility test for materials.

**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.

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

**Network utility operator** means a person who:

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

b) Is an electricity operator or electrical supply authority as defined by the Electricity Act 1968 for the purpose of an electric line as 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.
unprotected area permitted in each building. Locating it closer to one building than the other, may be an advantage where it is planned for a rear wall without windows to face the front wall of the other building requiring windows.

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

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

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

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

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

**Open path** That part of an escape route (including dead ends) not protected by fire or smoke separations, and which terminates at a final exit or exitway.

**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** People whose ability to use buildings is affected by mental, physical, hearing or sight impairment.

**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.

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

Primary element A building element providing the basic load bearing capacity to the structure, and which if affected by fire may initiate instability or premature structural collapse.

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.

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 A line from which space separation requirements are measured. It may be:

a) The boundary between 2 property titles,

b) The property boundary on the far side of an abutting street, right of way, railway or public place, or

c) A notional boundary.

Comment:
Separation requirements are related to the potential threat from the effects of a fire emanating from the exterior wall of a building. A boundary is not a relevant boundary, if lines drawn parallel to the face of the building and to the boundary, intersect at an angle of more than 80°.

Relief vent A vent pipe which is connected to a discharge stack below the lowest branch connection.

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

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

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

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.

Security 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.

Comment: The purpose of the security rating is to minimise the danger to people and buildings on other property and adjacent buildings in which people sleep. The danger may be caused by radiation, falling debris or by impact from the collapsing structure onto other buildings.

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

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

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.

Smoke baffle Part of the floor structure, or a screen attached to the underside of an intermediate floor, which extends downwards.
to create a smoke reservoir and obstruct the lateral flow of smoke. Smoke baffles are either non-combustible or have a FRR.

Comment:

1. This traps hot smoke around smoke detectors, and is regarded as essential for ensuring early detection of the presence of smoke. If a ceiling is perforated so that smoke can pass into the space below the floor above, and penetration through the ceiling by water spray from sprinkler heads located above the ceiling is not impeded, then the ceiling may be taken as non-existent for the purposes of this definition.

2. Control of smoke spread in large open floor areas (e.g. shopping malls and supermarkets) is aided by dividing underfloor or roof areas into reservoirs with smoke baffles, and providing smoke extraction or venting to each.

Smokecell A space within a building which is enclosed by an envelope of smoke separations, or external walls, roots, 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 forming a part of a smoke separation.

Comment:

Requirements for smoke control doors are given in C3/AS1 Paragraph 5.0.

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 vertical, horizontal or inclined building element with known smoke-stopping or smoke-leakage characteristics.

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 a bedpan disposal unit, slop sink, urinal, water closet pan, bidet and water-flushed sanitary towel disposal unit.

Sound transmission class, (STC) A single number rating derived from measured values of transmission loss in accordance with classification ASTM E413, 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 from 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 E of the Annex to Fire Safety Documents attached to Approved Document C4.

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

Storage water heater A water heater with an integral hot water tank.

Sump A chamber which is installed in the drain and incorporates features to intercept and retain silt, gravel and other debris.
Surface finish The material on surfaces normally exposed to view, on either interior or exterior building elements. It can be a decorative coating or the uncoated lining or cladding itself.

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

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

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

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

Thermal resistance The resistance to heat flow of a given component of a building element. It is equal to the temperature difference (°C) needed to produce unit heat flux (W/m²) through unit area (m²) under steady conditions. The units are °Cm²/W.

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

Title boundary A boundary with other property.


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.

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.

Unprotected area - In relation to an external wall of a building means:

a) Any part of the external wall which has less than the required FRR. For example, a non fire rated window, door or other opening, or sheet metal.

b) Any part of the external wall which has combustible material more than 1.0 mm thick attached or applied to its outermost external face, whether for cladding or any other purpose.

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 which is open to the atmosphere at one end and acts as a pressure limiting device.

Vent stack A main vertical vent pipe, to which two or more combined vent pipes are connected.
**Waste pipe** A discharge pipe which 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 seal** The depth of water that can be retained in a water trap.

**Water storage tank** A covered water tank generally used for reserve water storage in case of failure of the water main.

**Water supply system** Pipes, fittings and tanks used or 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 supply tank (or cistern)** A covered water tank generally used for the supply to sanitary fixtures or to storage water heaters. The water supply to the tank is normally regulated by a float control valve.

**Water tank** A fixed container for storing water.

**Water trap** A fitting designed to prevent foul air escaping from the plumbing system or foul water drainage system and entering a building.

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

**Working day** means any day except:

a) 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; and

b) Any day in the period commencing on the 20th day of December in any year and ending with the 10th day of January in the following year.
COMPLIANCE SCHEDULES
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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 no necessarily satisfy the essential requirements for all installations.

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

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

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

1.1 Inspection and maintenance

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

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

1.2 Reporting

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

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

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

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

1.3 Existing buildings

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

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

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

A. Inspections

Automatic sprinkler systems shall be inspected for compliance with New Zealand Building Code C3. Content of the inspections shall be in accordance with NZS 4541 or NZS 4515 as is appropriate for the installation.

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

B. Maintenance

Automatic sprinkler systems and fire alarms 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

Automatic fire doors shall be inspected for compliance with New Zealand Building Code C3. Inspections shall be monthly and annually and in particular shall check that:

i) Doors are not damaged or obstructed.

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

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

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

v) Hardware is securely fixed.

vi) No unauthorised hardware is attached.

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

viii) Door to frame clearances comply with NZS 4232.

ix) Manufacturer’s label is on door leaf or shutter and frame complies with C3/AS1.

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

B. Maintenance

Automatic fire doors shall be maintained to ensure continued compliance with New Zealand Building Code C3 and in particular with the requirements (i) to (x) above.

C. Persons responsible

Monthly inspection and maintenance including items (i) to (viii) 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.
A. Inspections

Emergency warning systems shall be inspected for compliance with New Zealand Building Code F7 and C3. Content of the inspections for the different inspection frequencies shall be in accordance with the following referenced Standards:

i) Automatic fire alarms - monthly, annually - NZS 4512.


iii) Emergency intercommunication 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.
CS 4 EMERGENCY LIGHTING SYSTEMS

A. Inspections

Emergency lighting systems shall be inspected to ensure compliance with New Zealand Building Code F6. Inspections shall be fortnightly or monthly (depending on type of installation), and annually, with inspection content being in accordance with NZS 6742 for the inspection frequency.

B. Maintenance

Emergency lighting systems shall be maintained in accordance with NZS 6742.

C. Persons responsible

The fortnightly or monthly inspection and maintenance shall be undertaken by the owner. Annual inspection and maintenance shall be undertaken by independent qualified persons.
CS 5 ESCAPE ROUTE PRESSURISATION SYSTEMS

A. Inspections

Escape route pressurisation systems shall be inspected for compliance with New Zealand Building Code C3. Inspections shall be monthly, 6 monthly, and 2 yearly. Inspection content shall be in accordance with AS 1851.6 or the designer’s recommendations as is appropriate for the installation.

B. Maintenance

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

C. Persons responsible

All inspection and maintenance shall be undertaken by independent qualified persons.
CS 6 RISER MAINS

A. Inspections

Riser mains for Fire Service use shall be inspected for compliance with New Zealand Building Code C3. 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 BACK-FLOW PREVENTERS

A. Inspections

Automatic back-flow preventers shall be repaired or replaced if they fail the inspection test.

B. Maintenance

Automatic back-flow preventers shall be repaired or replaced if they fail the inspection test.

C. Persons responsible

The above inspection and maintenance procedures shall be undertaken by independent qualified persons.
CS 8/1 PASSENGER CARRYING LIFTS

A. Inspections

Passenger carrying lift installations shall be inspected annually. Installations in existing buildings shall comply with the Power Lift Rules applicable at the time of installation. Where the installation complies with D2/AS1 the attached check list is a suitable basis for the inspection. If D2/AS1 has not been used the owner should provide and work to a similar check list, approved by the territorial authority.

Glazed liftwells shall be inspected in accordance with Power Lift Rule 12.6.2(g).

B. Maintenance

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

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

C. Persons responsible

The above inspection and maintenance procedures shall be undertaken by independent qualified persons.
## CHECK LIST SUITABLE FOR PASSENGER CARRYING Lifts COMPLYING WITH D2/AS1

References are to rules in the Power Lift Rules 1989
* Indicates that the rule has been modified by D2/AS1

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<tr>
<th>Machine room</th>
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<th>Initials and comments</th>
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<td>Visual inspection of machine beams and supports.</td>
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</tr>
<tr>
<td>Check security of machine room door.</td>
<td>7.4.1*</td>
<td></td>
</tr>
<tr>
<td>Check there are no obstructions or rubbish in the machine room.</td>
<td>7.2, 7.7*</td>
<td></td>
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<tr>
<td>Check that lighting in machine room functions.</td>
<td>7.14</td>
<td></td>
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<tr>
<td>Check ventilation in machine room functions.</td>
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<td></td>
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<tr>
<td>Check for the presence of circuit diagrams and manual.</td>
<td>24.25</td>
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<tr>
<td>Check for presence and condition of any emergency hand winding equipment.</td>
<td>8.16</td>
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<tbody>
<tr>
<td>Check condition of traction sheave, with special attention to the grooves.</td>
<td>18.1, 18.2</td>
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<tr>
<td>Check condition of divertor sheave and other sheaves.</td>
<td>18.1, 18.2</td>
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<td>Check the condition and operation of the brake and the condition of brake linings.</td>
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<tr>
<td>Check the running of machines, gearboxes, motors, generators, their bearings and any commutators.</td>
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<thead>
<tr>
<th>Lift well</th>
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<td>Inspect and test safety gear.</td>
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<tr>
<td>Visual check of liftwell enclosure.</td>
<td>12.1*, 12.4, 12.5</td>
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<tr>
<td>Check hoisting ropes for equal tension, attachments and terminations correct and in good condition, number of broken wires within acceptable limits, fillings not being shed, all ropes of similar condition.</td>
<td>16, 17*</td>
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<tr>
<td>Check for presence and legibility of rope data plates.</td>
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<tr>
<td>Check that rope retainers are present and correctly fastened.</td>
<td>18.2</td>
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<tr>
<td>Visual check of guide rails for straightness and security.</td>
<td>20*</td>
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</table>

**Lift pit**

- Check there are no obstructions or rubbish in the pit. | 11.3 |
- Check lighting in the pit functions. | 11.6 |
- Check dryness of pit. | 11.3, 11.9 |
- Visual check of buffer condition. | 10 |

**Lift car exterior**

- Check functioning of car external lighting. | 22.20.1* |
- Check condition of guides or rollers. | 19.4, 20.15, 20.16 |
- Check function of car top controls. | 25.3 |

**Lift car**

- Observe door operation. | 23 |
- Check operation of door protective devices. | 23.6 |
- Check lift rating plate present. | 21.3 |
- Check lift controls for correct operation. | 25* |
- Check correct operation of alarms and emergency telephone. | 28.3* |
- Check access to emergency trapdoor. | 22.15 |

**Landings doors**

- Check door locks | 14.1, 14.4 |
- Check emergency opening facilities on landing doors. | 14.5 |

**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 |
Check operation of the manual lowering means.  

### Operation

- Check operation of door locks, limit switches, slack rope switch, stop switches, trapdoor switch and other safety switches.  
  
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<td>7.12, 11.7, 22.15(f), 24.7, 26.1*, 26.7*, 27, 61*</td>
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- Check functioning of lift car emergency lighting.  
  
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- Check for correct operation under fire conditions.  
  
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- Check correct operation of counterweight displacement detector.  
  
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<td>25.9</td>
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- Check operation of load weighing device.  
  
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<td>26.6*</td>
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### Lifts on access routes for people with disabilities

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- Check door dwell time.  
  
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- Check controls position and distinction.  
  
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<td>71.4*</td>
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- Check correct operation of landing indicators.  
  
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- Check handrails.  
  
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<tr>
<th>Reference</th>
<th>Initials and comments</th>
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<tr>
<td>71.6*</td>
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### General

- Visual check for any repairs or modifications carried out incorrectly.  
  
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- Check maintenance records are properly kept.  
  
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<tbody>
<tr>
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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.
### CHECK LIST SUITABLE FOR SERVICE LIFTS COMPLYING WITH D2/AS2

**References are rules in The Rules For Power Lifts Not Exceeding 750 Watts (1.H.P)**  
* Indicates that the rule has been modified by D2/AS2

<table>
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<tr>
<th>Machinery spaces</th>
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<th>Initials and comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual inspection of machine beams and supports.</td>
<td>3.1(a)</td>
<td></td>
</tr>
<tr>
<td>Check security of machine room door.</td>
<td>3.2(f)*</td>
<td></td>
</tr>
<tr>
<td>Clean the machinery space and clear out any rubbish.</td>
<td>3.2(f)*</td>
<td></td>
</tr>
<tr>
<td>Check lighting in the machinery space functions.</td>
<td>3.2(d)</td>
<td></td>
</tr>
<tr>
<td>Check the condition of the controller.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the governor and any position devices.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check for the presence of circuit diagrams, manual and log book.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Machinery**

<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Check sheaves, pulleys and drums with special attention to the grooves.</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>Check the condition and operation of the brake and the condition of brake linings.</td>
<td>3.1(b)</td>
<td></td>
</tr>
<tr>
<td>Check the running of the lift machinery.</td>
<td></td>
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<tr>
<td>Check condition of drive belts.</td>
<td>3.1(c)</td>
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**Lift well**

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>Inspect and test any safety gear.</td>
<td>1.5</td>
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<tr>
<td>Visual check of liftwell enclosure.</td>
<td>5</td>
<td></td>
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<tr>
<td>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.</td>
<td>6.1.1</td>
<td></td>
</tr>
<tr>
<td>Visual check of guide rails for integrity, straightness and security.</td>
<td>9.2*</td>
<td></td>
</tr>
<tr>
<td>Check condition of guide shoes or rollers.</td>
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# 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.

## 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:**

---

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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.
# CHECK LIST SUITABLE FOR ESCALATORS AND MOVING WALKS

References are to clauses in EN115
* Indicates that the rule has been modified by D2/AS3

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

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 to ensure compliance with New Zealand Building Code C3 and G4. Inspection content and frequency shall be as follows:

i) Mechanical ventilation and air conditioning systems, in accordance with the designer's recommendations for functional operation.

To ensure adequate chemical control is being achieved in cooling towers, bacteriological tests shall be performed for:

- Legionella - six monthly.
- Total bacterial count by dip slide methods - weekly; and by pour plate, spread plate or other approved method - monthly.

The total bacterial count shall not exceed $10^5$ organisms/ml for safe operation.

ii) Smoke control systems, monthly; six monthly and two yearly, as required by AS 1851.6, or in accordance with the designer's recommendations as is appropriate.

B. Maintenance

Mechanical ventilation and air conditioning systems shall be maintained in accordance with AS 1851.6 or the designer's recommended maintenance procedures as is appropriate to the installation. Specific design in accordance with G4/AS1 shall include a maintenance manual.

C. Persons responsible

All inspection and maintenance shall be undertaken by independent qualified persons.
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 New Zealand Building Code, shall have inspection and maintenance procedures determined by the designer.

The information shall be contained in a maintenance manual and include the nature and frequencies of inspection and the required maintenance procedures, and identify which activities may be undertaken by the owner, and which must be undertaken by independent qualified persons.
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 BS 6037:1981. The annual inspection shall include testing as described in Clause 19.3 of that document.

B. Maintenance

Building maintenance units shall be maintained in accordance with Clause 21 of BS 6037:1981, together with any additional requirements of the manufacturer.

C. Persons responsible

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

**A. Inspections**

Signs shall be inspected to confirm compliance with New Zealand Building Code F8, 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 inspection and maintenance procedures shall be undertaken by the building 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 CL, CO and CM).

* Monthly in other occupancies.

* Annually for all occupancies.

Inspections shall check for compliance with New Zealand Building Code C2.

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.

C. Persons responsible

Daily and monthly inspections shall be undertaken by the building owner, and annual inspections by independently qualified persons. Maintenance shall be undertaken by the owner.
CS 14 SAFETY BARRIERS

A. Inspections
Safety barriers shall be inspected quarterly to confirm that they are located as required, and are serviceable. The inspection shall check where applicable, for compliance with the Fencing of Swimming Pools Act 1987.

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 above inspection and maintenance procedures shall be undertaken by the owner.
CS 15 ACCESS AND FACILITIES FOR PEOPLE WITH DISABILITIES

A. Inspections

Access or facilities for people with disabilities shall be inspected 6 monthly and annually to ensure compliance with New Zealand Building Code D1. 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 and the maintenance procedures shall be undertaken by the owner. The annual inspections shall be undertaken by independent qualified persons.
CS 16 FIRE HOSE REELS

A. Inspections

Fire hose reels shall be inspected monthly and annually to ensure compliance with NZS 4503.

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.
LIST OF APPROVED DOCUMENTS
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).

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<thead>
<tr>
<th>Topic</th>
<th>AS</th>
<th>VM</th>
<th>Description</th>
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<tbody>
<tr>
<td>B1 Structure</td>
<td></td>
<td></td>
<td>General, Timber barriers, Small chimneys, Foundations</td>
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<tr>
<td>B2 Durability</td>
<td>AS1</td>
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### C  FIRE SAFETY

<table>
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<tbody>
<tr>
<td>C1 Outbreak of fire</td>
<td>AS1</td>
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<tr>
<td>C2 Means of escape</td>
<td>AS1</td>
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<tr>
<td>C3 Spread of fire</td>
<td>AS1</td>
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<tr>
<td>C4 Structural stability</td>
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### D  ACCESS

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<tr>
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<tr>
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<td>E1 Surface water</td>
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<td>VM1</td>
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<td>E2 External moisture</td>
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<tr>
<td>E3 Internal moisture</td>
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### F  SAFETY OF USERS

<table>
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<tbody>
<tr>
<td>F1 VM1 Hazardous agents on site</td>
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<tr>
<td>F2 AS2 Hazardous building materials</td>
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<td>F3 AS1 Hazardous substances and processes</td>
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<td>F4 AS1 Safety from falling</td>
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<td>F5 AS1 Construction and demolition hazards</td>
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<tr>
<td>F6 AS1 VM1 Lighting for emergency</td>
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<tr>
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<tr>
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<td>G4 AS1 VM1 Ventilation</td>
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<td>G5 AS1 Interior environment</td>
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<tr>
<td>G6 AS1 VM1 Airborne and impact sound</td>
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<td>G7 AS1 VM1 Natural light</td>
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<tr>
<td>G8 AS1 VM1 Artificial light</td>
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<td>G14 AS1 VM1 Industrial liquid waste</td>
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<td>G15 AS1 Solid waste</td>
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A GENERAL PROVISIONS

A1 CLASSIFIED USES

1.0 EXPLANATION

1.0.1 For the purposes of this New Zealand 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, nurse's 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 mental 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 hangar, 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 words or terms used in the Approved Documents are included in the section on definitions in this Handbook.
B STABILITY

B1 STRUCTURE

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,
Provisions

(c) Temperature,
(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.
Provisions

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:

(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.
B2 DURABILITY

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 From the time a code compliance certificate is issued, building elements shall with only normal maintenance continue to satisfy the performances of this code for the lesser of; the specified intended life of the building, if any, or:

(a) For the structure, including building elements such as floors and walls which provide structural stability: the life of the building being not less than 50 years.

(b) For services to which access is difficult, and for hidden fixings of the external envelope and attached structures of a building: the life of the building being not less than 50 years.

(c) For other fixings of the building envelope and attached structures, the building envelope, lining supports and other building elements having moderate ease of access but which are difficult to replace: 15 years.

(d) For linings, renewable protective coatings, fittings and other building elements to which there is ready access: 5 years.
## C FIRE SAFETY

### C1 OUTBREAK OF FIRE

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#### 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.
C2 MEANS OF ESCAPE

**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 escape routes 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,
Provisions

(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,
(b) Free of obstruction in the direction of escape,
(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”.

Limits on applications

...
C3 SPREAD OF FIRE

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 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 and other property are protected from damage, and

d) Significant quantities of hazardous substances are not released to the environment during fire.

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,
Provisions

b) The number of occupants,

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

c) Household units within the same building or adjacent buildings.

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.

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 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,

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

Limitations on applications

Performance C3.3.2 shall not apply to Detached Dwellings, or within household units of Multi-unit Dwellings.

Performance C3.3.4 shall not apply to Detached Dwellings.
Provisions

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:

a) Soils, vegetation or natural waters,

b) The atmosphere, and

c) Sewers or public drains.

Limits on applications

Performance C3.3.10 applies only to buildings where significant quantities of hazardous substances are stored or processed.
C4 STRUCTURAL STABILITY

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<td>(a) Safeguard people from injury due to loss of structural stability during fire, and</td>
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<td>(b) Protect household units and other property from damage due to structural instability caused by fire.</td>
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<td>(b) Allow fire service personnel adequate time to undertake rescue and firefighting operations, and</td>
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<td>(c) Avoid collapse and consequential damage to adjacent household units or other property.</td>
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<td>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.</td>
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<td>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.</td>
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<td>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.</td>
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# D ACCESS

## D1 ACCESS ROUTES

### OBJECTIVE

**D1.1** The objective of this provision is to:

(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.

### FUNCTIONAL REQUIREMENT

**D1.2.1** Buildings shall be provided with reasonable and adequate access to enable safe and easy movement of people.

**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.

### Limits on application

Objective D1.1(c) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.

Requirement D1.2.1 shall not apply to Ancillary buildings or Outbuildings.
Provisions

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,
(h) Have stair treads which prevent children falling through or becoming held fast between treads, where open risers are used,
(i) Not contain isolated steps,

Limits on application

Performance D1.3.2 shall not apply to Housing, Outbuildings, Ancillary buildings, and to Industrial buildings where no more than 10 people are employed.

Performance D1.3.3 (h) shall not apply within Industrial buildings, Outbuildings and Ancillary buildings.

Performance D1.3.3 (i) shall not apply within Detached Dwellings or within household units of Multi-unit Dwellings, or to Outbuildings and Ancillary buildings.
Provisions

(j) Have smooth, reachable and graspable handrails to provide support and to assist with movement along a stair or ladder,

(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.

Limits on application

Performance D1.3.3(j) shall not apply to isolated steps.

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

(a) Be easy to find, as required by Clause F8 “Signs”,

(b) Have adequate activity space to enable a person in a wheelchair to negotiate the route while permitting an ambulant person to pass,

(c) Include a lift complying with Clause D2 “Mechanical Installations for Access” to upper floors where:

(i) buildings are four or more storeys high,

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

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

(iv) an upper floor, irrespective of design occupancy, is to be used for the purposes of public reception areas of banks, central, regional and local government offices and facilities, hospitals, medical and dental surgeries, and medical, paramedical and other primary health care centres,
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<tbody>
<tr>
<td>(d) Contain no thresholds or upstands forming a barrier to an unaided wheelchair user,</td>
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<tr>
<td>(e) Have means to prevent the wheel of a wheelchair dropping over the side of the accessible route,</td>
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<tr>
<td>(f) Have doors and related hardware which are easily used,</td>
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<tr>
<td>(g) Not include spiral stairs, or stairs having open risers,</td>
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</tr>
<tr>
<td>(h) Have stair treads with a leading edge which is rounded,</td>
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</tr>
<tr>
<td>(i) Have handrails on both sides of the accessible route when the slope of the route exceeds 1 in 20. The handrails shall be continuous along both sides of the stair, ramp and landing except where the handrail is interrupted by a doorway.</td>
<td></td>
</tr>
</tbody>
</table>

**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."
# D2 MECHANICAL INSTALLATIONS FOR ACCESS

## 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.

## 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.

## Limits on application

Objective D2.1(c) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.
Provisions

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

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

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

D2.3.2 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.

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

(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,

Limits on application

Performance D2.3.3 (d) shall not apply to installations travelling less than 15 m vertically.
Provisions

(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

### Provisions

**OBJECTIVE**

**E1.1** The objective of this provision is to:

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

(b) Protect the *outfalls* of drainage systems.

**FUNCTIONAL REQUIREMENT**

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

**PERFORMANCE**

**E1.3.1** *Surface water*, resulting from a storm having a 10% probability of occurring annually and which is collected or concentrated by *buildings* or *sitework*, shall be disposed of in a way that avoids the likelihood of damage or nuisance to *other property*.

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

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

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

(b) Avoid the likelihood of blockages,

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

(d) Provide reasonable access for maintenance and clearing blockages.

### Limits on application

Performance **E1.3.2** shall apply only to *Housing, Communal Residential* and *Communal Non-residential buildings*.
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<tr>
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<tr>
<td>(e) Avoid the likelihood of damage to any outfall, in a manner acceptable to the network utility operator, and</td>
<td></td>
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<tr>
<td>(f) Avoid the likelihood of damage from superimposed loads or normal ground movements.</td>
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</tbody>
</table>
E2 EXTERNAL MOISTURE

Provisions

OBJECTIVE

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

FUNCTIONAL REQUIREMENT

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

PERFORMANCE

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

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

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

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

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

E2.3.6 Excess moisture present at the completion of construction, shall be capable of being dissipated without permanent damage to building elements.

Limits on application

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.
E3 INTERNAL MOISTURE

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.

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.

Performance E3.3.1 shall not apply to Communal Non-residential, Commercial, Industrial, Outbuildings or Ancillary buildings.
### Provisions

<table>
<thead>
<tr>
<th>Provision</th>
<th>Description</th>
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<tbody>
<tr>
<td>E3.3.4</td>
<td>Wall surfaces adjacent to sanitary fixtures or laundering facilities shall be <em>impervious</em> and easily cleaned.</td>
</tr>
<tr>
<td>E3.3.5</td>
<td>Surfaces of building elements likely to be splashed or become contaminated in the course of the intended use of the building, shall be <em>impervious</em> and easily cleaned.</td>
</tr>
<tr>
<td>E3.3.6</td>
<td>Water splash shall be prevented from penetrating behind linings or to concealed spaces.</td>
</tr>
</tbody>
</table>
# F SAFETY OF USERS

## F1 HAZARDOUS AGENTS ON SITE

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<th>Provisions</th>
<th>Limits on application</th>
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</thead>
</table>

### OBJECTIVE

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

### FUNCTIONAL REQUIREMENT

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

### PERFORMANCE

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

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

(a) The *intended use* of the *building*,

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

(c) The protection afforded by the *building* envelope and *building* systems.
F2 HAZARDOUS BUILDING MATERIALS

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.

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.

Performance F2.3.2 does not apply to Housing.
F3 HAZARDOUS SUBSTANCES AND PROCESSES

Provisions

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,

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<tr>
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<tbody>
<tr>
<td>(f) Impervious, easily cleaned surface finishes on building elements likely to be splashed or become contaminated in the course of the intended use of the building, and</td>
<td></td>
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<tr>
<td>(g) Signs as required by Clause F8 &quot;Signs&quot;.</td>
<td></td>
</tr>
</tbody>
</table>
F4 SAFETY FROM FALLING

Provisions

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.

F4.3.2 Roofs with permanent access shall have barriers provided.

F4.3.3 Swimming pools having a depth of water exceeding 400 mm, shall be constructed with a barrier to restrict access to the pool or the immediate pool area, by children under 6 years of age.

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

Limits on application

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.

Performance F4.3.3 shall not apply to any pool exempted under section 5 of the Fencing of Swimming Pools Act 1987.
Provisions

(f) Restrict the entry of children under 6 years of age, when located 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 constructed so that they close, and latch automatically with latching devices not readily operated by children, and

(b) No permanent objects on the outside of the barrier that could provide a climbing step.

Limits on application
### F5 CONSTRUCTION AND DEMOLITION HAZARDS

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

**Limits on application**
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<tr>
<td>(d) Have no gates or doors which project beyond the site when opened,</td>
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<tr>
<td>(e) Contain no projection that would be a hazard to traffic or people,</td>
<td></td>
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<tr>
<td>(f) Be clearly marked where the barrier itself may otherwise present a</td>
<td></td>
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<tr>
<td>hazard to traffic or passersby.</td>
<td></td>
</tr>
<tr>
<td><strong>F5.3.3</strong> Where a <em>construction</em> or demolition site contains any hazard</td>
<td></td>
</tr>
<tr>
<td>which might be expected to attract the unauthorised entry of children,</td>
<td></td>
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<tr>
<td>the hazard shall be enclosed to restrict access by children.</td>
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</tr>
<tr>
<td><strong>F5.3.4</strong> Suitable barriers shall be constructed to provide a safe route</td>
<td></td>
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<tr>
<td>for people where lifting equipment creates a risk of accident from objects</td>
<td></td>
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<tr>
<td>falling on a place of public access, or where a similar risk results</td>
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<tr>
<td>from the height at which <em>construction</em> or demolition work is being</td>
<td></td>
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<tr>
<td>carried out.</td>
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</tbody>
</table>
F6 LIGHTING FOR EMERGENCY

Provisions

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.

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.

F6.3.2 Signs to indicate escape routes shall be provided as required by Clause F8 "Signs".

Limits on application

Requirement F6.2 shall not apply to Detached Dwellings, household units within Multi-unit Dwellings, Outbuildings or Ancillary buildings.

Performance F6.3.1 shall not apply to spaces infrequently inhabited such as plant rooms, storage areas and service tunnels.
## F7 WARNING SYSTEMS

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<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>F7.1 The objective of this provision is to safeguard people from injury</td>
<td>Performance F7.3 shall not apply to Detached Dwellings, Outbuildings or Ancillary buildings.</td>
</tr>
<tr>
<td>or illness due to lack of awareness of an emergency.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>F7.2 Buildings shall be provided with appropriate means of warning people</td>
<td></td>
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<tr>
<td>to escape to a safe place.</td>
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<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
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<tr>
<td>F7.3 A warning system shall consist of a combined fire detection and</td>
<td></td>
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<tr>
<td>warning system that will alert people in adequate time for them to reach</td>
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<tr>
<td>a safe place.</td>
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</tbody>
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F8 SIGNS

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.

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.

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.

Limits on application

Objective F8.1(c) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.

Requirement F8.2 shall not apply to Detached Dwellings, or within household units of Multi-unit Dwellings.
<table>
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<tbody>
<tr>
<td><strong>F8.3.3</strong> Signs to facilitate escape shall:</td>
</tr>
<tr>
<td>(a) Be provided in sufficient locations to identify <em>escape routes</em> and guide people to a <em>safe place</em>, and</td>
</tr>
<tr>
<td>(b) Remain visible in the event of a power failure of the main lighting supply, for the same duration as required by Clause F6 'Lighting for Emergency'.</td>
</tr>
<tr>
<td><strong>F8.3.4</strong> Signs shall be provided in sufficient locations to identify <em>accessible routes</em> and facilities provided for <em>people with disabilities</em>.</td>
</tr>
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| Limits on application |
## G SERVICES AND FACILITIES

### G1 PERSONAL HYGIENE

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

(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.

### Limits on application

Performance G1.3.4 shall not apply to Housing, Outbuildings, Ancillary buildings, and to Industrial buildings where no more than 10 people are employed.
## G2 LAUNDERING

**Provisions**

**OBJECTIVE**

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

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

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

**FUNCTIONAL REQUIREMENT**

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

**PERFORMANCE**

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

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

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

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

**Limits on application**

Objective G2.1(b) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare 1975 Act applies.

Requirement G2.2 shall apply only to Housing, old people's homes, early childhood centres, camping grounds and work camps.

Performance G2.3.4 shall apply only to camping grounds.
G3 FOOD PREPARATION AND PREVENTION OF CONTAMINATION

OBJECTIVE

G3.1 The objective of this provision is to:

(a) Safeguard people from illness due to contamination,

(b) Enable hygienic food preparation without loss of amenity, and

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

FUNCTIONAL REQUIREMENT

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

G3.2.2 Buildings used for the storage, manufacture or processing of food, including animal products, shall be constructed to safeguard the contents from contamination.

G3.2.3 Buildings used for the medical treatment of humans or animals, or the reception of dead bodies, shall be constructed to avoid the spread of contamination from the building contents.

PERFORMANCE

G3.3.1 Food preparation facilities shall be hygienic and include:

a) Space for a refrigerator, or a perishable food storage area capable of being cooled and protected from vermin and insects.

Limits on application

Objective G3.1(c) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.

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

Performance G3.3.1 (a) and (b) shall apply to Housing, work camps, old people's homes, early childhood centres and Commercial or Industrial buildings whose intended uses include the handling of perishable food.
<table>
<thead>
<tr>
<th>Provisions</th>
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<tbody>
<tr>
<td>(b) Means for food rinsing, utensil washing and waste water disposal.</td>
</tr>
<tr>
<td>(c) Means for cooking food, and</td>
</tr>
<tr>
<td>(d) Space and a surface for food preparation.</td>
</tr>
<tr>
<td>G3.3.2 Spaces for food preparation and utensil washing shall have:</td>
</tr>
<tr>
<td>(a) Interior linings and work surfaces shall be impervious and easily cleaned,</td>
</tr>
<tr>
<td>(b) All building elements constructed with materials which are free from hazardous substances which could cause contamination to the building contents, and</td>
</tr>
<tr>
<td>(c) Exposed building elements located and shaped to avoid the accumulation of dirt.</td>
</tr>
<tr>
<td>G3.3.3 An adequate energy supply shall be provided, appropriately located for use by cooking and refrigeration appliances.</td>
</tr>
<tr>
<td>G3.3.4 Space and facilities shall be provided within each household unit, or grouped elsewhere in a convenient location.</td>
</tr>
<tr>
<td>G3.3.5 Where facilities are provided for people with disabilities they shall be accessible.</td>
</tr>
<tr>
<td>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.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Limits on application</th>
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<tbody>
<tr>
<td>Performance G3.3.1 (c) shall apply to Housing, work camps, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>Performance G3.3.1 (d) shall apply to Housing, work camps, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>Performance G3.3.2 (b) shall apply to Housing, work camps, old people's homes and early childhood centres, and where appropriate shall also apply to Commercial and Industrial buildings whose intended uses include the manufacture, preparation, packaging or storage of food.</td>
</tr>
<tr>
<td>Performance G3.3.2 (c) shall not apply to Housing.</td>
</tr>
<tr>
<td>Performance G3.3.5 shall apply only to camping grounds and accessible accommodation units in Communal Residential buildings.</td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>
G4 VENTILATION

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.

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) Steam from laundering, utensil washing, bathing and showering,
(c) Odours from sanitary and waste storage spaces,
(d) Gaseous by-products and excessive moisture from commercial or industrial processes,
(e) Poisonous fumes and gases,
(f) Flammable fumes and gases,
(g) Airborne particles,
<table>
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<tr>
<th>Provisions</th>
<th>Limits on application</th>
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<tbody>
<tr>
<td>(h) Bacteria, viruses or other pathogens, or</td>
<td></td>
</tr>
<tr>
<td>(i) Products of combustion.</td>
<td></td>
</tr>
<tr>
<td><strong>G4.3.4</strong> Contaminated air shall be disposed of in a way which avoids creating a nuisance or hazard to people and <em>other property</em>.</td>
<td></td>
</tr>
<tr>
<td><strong>G4.3.5</strong> The quantities of air supplied for ventilation shall meet the additional demands of any fixed <em>combustion appliances</em>.</td>
<td></td>
</tr>
</tbody>
</table>
NEW ZEALAND BUILDING CODE HANDBOOK

G5 INTERIOR ENVIRONMENT

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.

FUNCTIONAL REQUIREMENT

G5.2.1 Buildings shall be constructed to provide:

(a) An adequate, controlled interior temperature,
(b) Adequate activity space for the intended use, and
(c) Accessible spaces and facilities.

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 provision for maintaining the internal temperature at no less than 16°C measured at 750 mm above floor level, while the space is adequately ventilated.

Limits on application

Objective G5.1(d) shall apply to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.

Requirement G5.2.1 (a) shall apply only to habitable spaces, bathrooms and recreation rooms in old people's homes and early childhood centres.

Requirement G5.2.1 (b) shall apply only to old people's homes.

Requirement G5.2.1 (c) shall apply only to Communal Residential, Communal Non-residential, and Commercial buildings.

Performance G5.3.1 shall apply only to old people's homes and early childhood centres.
<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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<tbody>
<tr>
<td><strong>G5.3.2</strong> Heating appliances, and any attached cables, pipes or other</td>
<td>Performance G5.3.2 shall apply only to old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>fittings shall be securely fixed in place.</td>
<td></td>
</tr>
<tr>
<td><strong>G5.3.3</strong> Habitable spaces shall have sufficient space for activity,</td>
<td>Performance G5.3.3 shall apply only to old people's homes.</td>
</tr>
<tr>
<td>furniture, and sanitary and mobility aids.</td>
<td></td>
</tr>
<tr>
<td><strong>G5.3.4</strong> Where reception counters or desks are provided for public use,</td>
<td>Performance G5.3.4 applies only to Communal Residential, Communal Non-Residential,</td>
</tr>
<tr>
<td>at least one counter or desk shall be accessible.</td>
<td>and Commercial buildings.</td>
</tr>
<tr>
<td><strong>G5.3.5</strong> Buildings shall be provided with listening systems which</td>
<td>Performance G5.3.5 applies only to:</td>
</tr>
<tr>
<td>enable enhanced hearing by people with hearing aids.</td>
<td>(a) Communal Non-residential assembly spaces occupied by more than 250 people, and</td>
</tr>
<tr>
<td></td>
<td>(b) Any theatre, cinema, or public hall, and</td>
</tr>
<tr>
<td></td>
<td>(c) Assembly spaces in old people's homes occupied by more than 20 people.</td>
</tr>
<tr>
<td><strong>G5.3.6</strong> Enhanced listening systems shall be identified by signs</td>
<td></td>
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<tr>
<td>complying with Clause F8 &quot;Signs&quot;.</td>
<td></td>
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</tbody>
</table>
G6 AIRBORNE AND IMPACT SOUND

Provisions

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.
## G7 NATURAL LIGHT

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>G7.2 Habitable spaces shall provide adequate openings for natural light and for a visual awareness of the outside environment.</td>
<td>Requirement G7.2 shall apply only to Housing, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>G7.3.1 Natural light shall provide an illuminance of no less than 30 lux at floor level for 75% of the standard year.</td>
<td></td>
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<tr>
<td>G7.3.2 Openings to give awareness of the outside shall be transparent and provided in suitable locations.</td>
<td></td>
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</tbody>
</table>
G8 ARTIFICIAL LIGHT

Provisions

OBJECTIVE

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

FUNCTIONAL REQUIREMENT

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

PERFORMANCE

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

Limits on application

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

Performance G8.3 shall not apply in emergencies, for which Illuminance requirements are given in Clause F6 "Lighting for Emergency".
# G9 ELECTRICITY

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
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</thead>
<tbody>
<tr>
<td><strong>OBJECTIVE</strong></td>
<td></td>
</tr>
<tr>
<td>G9.1 The objective of this provision is to ensure that:</td>
<td></td>
</tr>
<tr>
<td>(a) In <em>buildings</em> supplied with electricity, the <em>electrical installation</em> has safeguards against outbreak of fire and personal injury, and</td>
<td></td>
</tr>
<tr>
<td>(b) <em>People with disabilities</em> are able to carry out normal activities and processes within <em>buildings</em>.</td>
<td></td>
</tr>
<tr>
<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
<td></td>
</tr>
<tr>
<td>G9.2 Where provided in a <em>building</em>, <em>electrical installations</em> shall be safe for their <em>intended use</em>.</td>
<td></td>
</tr>
<tr>
<td><strong>PERFORMANCE</strong></td>
<td></td>
</tr>
<tr>
<td>G9.3.1 The <em>electrical installation</em> shall incorporate systems to:</td>
<td></td>
</tr>
<tr>
<td>(a) Protect people from contact with parts of the installation which are live during normal operation, and to prevent parts of the installation or other <em>building elements</em> becoming live during fault conditions,</td>
<td></td>
</tr>
<tr>
<td>(b) Permit the safe isolation of the installation and of electrical fittings and appliances,</td>
<td></td>
</tr>
<tr>
<td>(c) Safeguard people from excessive temperatures resulting from either normal operation of electrical equipment, or from currents which could exceed the installation rating,</td>
<td></td>
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<tr>
<td>(d) Safeguard people from injury which may result from electromechanical stress in electrical components caused by currents in excess of the installation rating,</td>
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<tr>
<td>Provisions</td>
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<tr>
<td>(e) Protect building elements from risk of ignition, impairment of their physical or mechanical properties, or function, due to temperature increases resulting from heat transfer or electric arc,</td>
<td></td>
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<tr>
<td>(f) Operate safely in its intended environment, and</td>
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<tr>
<td>(g) Safeguard against ignition of the surrounding atmosphere where it is potentially flammable or explosive.</td>
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</table>

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<thead>
<tr>
<th>Limits on applications</th>
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</thead>
<tbody>
<tr>
<td>G9.3.2 An electrical installation supplying an essential service shall:</td>
</tr>
<tr>
<td>(a) Maintain the supply for a time appropriate to that service, and</td>
</tr>
<tr>
<td>(b) Be capable of being isolated from the supply system, independently of the remainder of the installation.</td>
</tr>
</tbody>
</table>

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 Industrial buildings where no more than 10 people are employed.
G10 PIPED SERVICES

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.
Provisions

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.
# G11 GAS AS AN ENERGY SOURCE

## Provisions

### 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.
<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G11.3.5</strong> Where gas is supplied from an external source, the supply system within buildings shall be constructed to avoid the likelihood of:</td>
<td></td>
</tr>
<tr>
<td>(a) Contamination of the external supply from other gas sources within the building,</td>
<td></td>
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<tr>
<td>(b) Adverse effects on the pressure of the external supply, and</td>
<td></td>
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<tr>
<td>(c) The external supply pipe acting as an earthing conductor.</td>
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</tr>
<tr>
<td><strong>G11.3.6</strong> The location and installation of meters and service risers shall meet the requirements of the network utility operator.</td>
<td></td>
</tr>
</tbody>
</table>
# G12 WATER SUPPLIES

## OBJECTIVE

G12.1 The objective of this provision is to:

(a) Safeguard people from illness caused by infection from contaminated water or food,

(b) Safeguard people from injury due to the explosion of a pressure vessel or from contact with excessively hot water,

(c) Safeguard people from loss of amenity arising from a lack of hot water for personal hygiene, or from a water supply which is offensive in appearance or odour, and

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

## FUNCTIONAL REQUIREMENT

G12.2 Buildings, provided with drinking water outlets, sanitary fixtures or sanitary appliances, shall have a safe and adequate piped water supply.

## PERFORMANCE

G12.3.1 Piped water supplies intended for human consumption, food preparation, utensil washing or oral hygiene shall be potable.

G12.3.2 Piped water supply and outlets provided with non-potable water shall be clearly identified.

G12.3.3 Sanitary fixtures and sanitary appliances shall be provided with hot water when intended to be used for:

(a) Utensil washing, and

(b) Personal washing, showering or bathing.

<table>
<thead>
<tr>
<th>Provisions</th>
<th>Limits on application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective G12.1(d) shall apply only to those buildings to which section 25 of the Disabled Persons Community Welfare Act 1975 applies.</td>
<td>Performance G12.3.3(b) shall apply only to Housing, old people's homes and early childhood centres.</td>
</tr>
<tr>
<td>Provisions</td>
<td>Limits on application</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td><strong>G12.3.4</strong> Where hot water is provided to <em>sanitary fixtures</em> and <em>sanitary appliances</em>, used for personal hygiene, it shall be delivered at a temperature which avoids the likelihood of scalding.</td>
<td><strong>Performance</strong> G12.3.8 shall not apply to <em>Housing, Outbuildings, Ancillary buildings</em>, and to <em>Industrial buildings</em> where no more than 10 people are employed.</td>
</tr>
<tr>
<td><strong>G12.3.5</strong> <em>Water supply systems</em> shall be installed in a manner which:</td>
<td></td>
</tr>
<tr>
<td>(a) Avoids the likelihood of potable water contamination within both the system and the <em>water main</em>,</td>
<td></td>
</tr>
<tr>
<td>(b) Provides water to <em>sanitary fixtures</em> and <em>sanitary appliances</em> at flow rates which are <em>adequate</em> for the correct functioning of those fixtures and appliances under normal conditions,</td>
<td></td>
</tr>
<tr>
<td>(c) Avoids the likelihood of leakage,</td>
<td></td>
</tr>
<tr>
<td>(d) Allows reasonable access for maintenance of mechanical components,</td>
<td></td>
</tr>
<tr>
<td>(e) Allows the system and any backflow prevention devices to be isolated for testing and maintenance.</td>
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</tr>
<tr>
<td><strong>G12.3.6</strong> Vessels used for producing or storing hot water shall be provided with safety devices which:</td>
<td></td>
</tr>
<tr>
<td>(a) Relieve excessive pressure during both normal and abnormal conditions, and</td>
<td></td>
</tr>
<tr>
<td>(b) Limit temperatures to avoid the likelihood of flash steam production in the event of rupture.</td>
<td></td>
</tr>
<tr>
<td><strong>G12.3.7</strong> <em>Storage water heaters</em> shall be capable of being controlled to produce, at the outlet of the <em>storage water heater</em>, an <em>adequate</em> daily water temperature to prevent the growth of legionella bacteria.</td>
<td></td>
</tr>
<tr>
<td><strong>G12.3.8</strong> Water supply taps shall be <em>accessible</em> and usable for <em>people with disabilities</em>.</td>
<td></td>
</tr>
</tbody>
</table>
G13 FOUL WATER

OBJECTIVE

G13.1 The objective of this provision is to:

(a) Safeguard people from illness due to infection or contamination resulting from personal hygiene activities, and

(b) Safeguard people from loss of amenity due to the presence of unpleasant odours or the accumulation of offensive matter resulting from foul water disposal.

FUNCTIONAL REQUIREMENT

G13.2 Buildings, in which sanitary fixtures and sanitary appliances using water-borne waste disposal are installed, shall be provided with an adequate plumbing and drainage system to carry foul water to appropriate outfalls.

PERFORMANCE

G13.3.1 The plumbing system shall be constructed to:

(a) Convey foul water from buildings to a drainage system,

(b) Avoid the likelihood of blockage and leakage,

(c) Avoid the likelihood of foul air and gases entering buildings, and

(d) Provide reasonable access for maintenance and clearing blockages.

G13.3.2 The drainage system shall:

(a) Convey foul water to an appropriate outfall,

(b) Be constructed to avoid the likelihood of blockage,
Provisions

(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

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".
Provisions

(d) To avoid the likelihood of contamination of soils, ground water and waterways except as permitted by a resource consent given 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.

Limits on application
G15 SOLID WASTE

Provisions

OBJECTIVE

G15.1 The object 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.

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,

(d) Avoid the likelihood of foul air or gases accumulating or entering the building.

Limits on application

Requirement G15.2 shall not apply to Detached Dwellings, household units of Multi-unit Dwellings, Outbuildings or Ancillary buildings if there is independent access or private open space at ground level.
Provisions

(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”.

Limits on application
H ENERGY EFFICIENCY

H1 ENERGY EFFICIENCY

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<td><strong>OBJECTIVE</strong></td>
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<td>H1.1 The objective of this provision is to facilitate efficient use of energy.</td>
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<td><strong>FUNCTIONAL REQUIREMENT</strong></td>
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<td>H1.2 Buildings, throughout their lives, shall have provision for ensuring efficient energy use in controlling indoor temperature when that energy is sourced from a public electricity supply, or any other depletable energy resource.</td>
<td>Performance H1.3.1 applies only to Housing.</td>
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<td><strong>PERFORMANCE</strong></td>
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<td>H1.3.1 The building envelope shall be constructed to ensure that the building performance index shall not exceed 0.13 kWh.</td>
<td>Performance H1.3.2 shall not apply to Housing, Outbuildings, Ancillary buildings, or buildings with a floor area of less than 50 m².</td>
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<td>H1.3.2 Where any space within a building is intended to have a controlled temperature, construction of building elements affecting energy use shall take account of:</td>
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<td>(a) Thermal resistance to heat loss through the building envelope,</td>
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<td>(b) Heat gains (including solar radiation) through the building envelope,</td>
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<tr>
<td>(c) Airtightness,</td>
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<tr>
<td>(d) The contribution to space heating of heat losses from building services (including hot water systems, and lighting),</td>
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<tr>
<td>(e) Control systems for heating and ventilating, and for other services, and</td>
<td></td>
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<tr>
<td>(f) Utilisation of waste heat from internal processes.</td>
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The New Zealand Building Code

Publications associated with the New Zealand Building Code consist of a Handbook and 35 Approved Documents. These documents identify requirements to ensure a building is safe, durable, healthy, accessible and energy efficient, and contain:

- Acceptable solutions – approved ways of meeting the requirements of the Code.
- Verification methods – acceptable test and calculation methods to establish compliance with the Code.

Developed by the Building Industry Authority and published by Standards New Zealand, the documents are available in both looseleaf and bound editions. Each document is available separately and the New Zealand Building Code Handbook and Approved Documents may also be purchased as a full set in two binders.

New Zealand Building Code Handbook and Approved Documents:

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