



MINISTRY OF BUSINESS,  
INNOVATION & EMPLOYMENT  
HĪKINA WHAKATUTUKI

## **Acceptable Solutions and Verification Methods**

For New Zealand Building Code Clause  
**F8 Signs**

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Second Edition



## Status of Verification Methods and Acceptable Solutions

Verification Methods and Acceptable Solutions are prepared by the Ministry of Business, Innovation and Employment in accordance with section 22 of the Building Act 2004. Verification Methods and Acceptable Solutions are for use in establishing compliance with the New Zealand Building Code.

A person who complies with a Verification Method or Acceptable Solution will be treated as having complied with the provisions of the Building Code to which the Verification Method or Acceptable Solution relates. However, using a Verification Method or Acceptable Solution is only one method of complying with the Building Code. There may be alternative ways to comply.

Users should make themselves familiar with the preface to the New Zealand Building Code Handbook, which describes the status of Verification Methods and Acceptable Solutions and explains alternative methods of achieving compliance.

Defined words (italicised in the text) and classified uses are explained in Clauses A1 and A2 of the Building Code and in the Definitions at the start of this document.

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are available from [www.dbh.govt.nz](http://www.dbh.govt.nz)**

**New Zealand Government**

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## Document Status

The most recent version of this document (Amendment 3), as detailed in the Document History, is approved by the Chief Executive of the Ministry of Business, Innovation and Employment. It is effective from 14 February 2014 and supersedes all previous versions of this document.

The previous version of this document (Amendment 2) will cease to have effect on 14 August 2014.

People using this document should check for amendments on a regular basis. The Ministry of Business, Innovation and Employment may amend any part of any Verification Method or Acceptable Solution at any time. Up-to-date versions of Verification Methods and Acceptable Solutions are available from [www.dbh.govt.nz](http://www.dbh.govt.nz)

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	<b>Date</b>	<b>Alterations</b>	
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<b>Note:</b> Page numbers relate to the document at the time of Amendment and may not match page numbers in current document.			

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# New Zealand Building Code

## Clause F8 Signs

This Clause is extracted from the New Zealand Building Code contained in the First Schedule of the Building Regulations 1992.

CLAUSE F8—SIGNS	Limits on application
<p><b>Provision</b></p> <p><b>OBJECTIVE</b></p> <p><b>F8.1</b> The objective of this provision is to:</p> <ul style="list-style-type: none"> <li>(a) safeguard people from injury or illness resulting from inadequate identification of <i>escape routes</i>, or of hazards within or about the <i>building</i>,</li> <li>(b) safeguard people from loss of <i>amenity</i> due to inadequate direction, and</li> <li>(c) ensure that <i>people with disabilities</i> are able to carry out normal activities and processes within <i>buildings</i>.</li> </ul> <p><b>FUNCTIONAL REQUIREMENT</b></p> <p><b>F8.2</b> Signs must be provided in and about <i>buildings</i> to identify:</p> <ul style="list-style-type: none"> <li>(a) <i>escape routes</i>,</li> <li>(b) emergency-related safety features,</li> <li>(c) potential hazards, and</li> <li>(d) <i>accessible routes</i> and facilities for <i>people with disabilities</i>.</li> </ul> <p><b>PERFORMANCE</b></p> <p><b>F8.3.1</b> Signs must be <i>clearly visible</i> and readily understandable under all conditions of foreseeable use, including emergency conditions.</p> <p><b>F8.3.2</b> Signs identifying potential hazards must be provided and located so that people encounter the signs before encountering the potential hazard.</p> <p><b>F8.3.3</b> Signs to facilitate escape to a <i>place of safety</i> must be provided and</p> <ul style="list-style-type: none"> <li>(a) be located to identify the <i>escape routes</i>, and</li> <li>(b) continue to meet the performance requirements in clause F8.3.1 during failure of the main lighting for the period required by performance F6.3.4 and performance F6.3.5.</li> </ul>	<p>Objective F8.1(c) applies only to those <i>buildings</i> to which section 118 of the Building Act 2004 applies.</p> <p>Requirement F8.2 does not apply to <i>detached dwellings</i>, or within <i>household units</i> in <i>multi-unit dwellings</i>.</p>

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**CLAUSE F8—SIGNS** (continued)

**Provisions**

**Limits on application**

**F8.3.4** Signs must be provided and located to identify *accessible routes* and facilities provided for *people with disabilities*.

**F8.3.5** *Accessible routes* must be identified with the International Symbol of Access.

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# References

For the purposes of New Zealand Building Code compliance, the Standards and documents referred in this Acceptable Solution (primary reference documents), which in turn may also refer to other Standards or documents, and so on (lower order reference documents) must be the editions, along with their specific amendments, listed below. Where the primary reference documents refer to other Standards or other documents, (secondary reference documents), then the version in effect at the date this Acceptable Solution was published must be used.

Amend 3  
Feb 2014

	<b>Where quoted</b>
<b>Standards Australia</b>	
AS 2293: 2005 Emergency escape lighting and exit signs for buildings Part 1: System design, installation and operation Part 3: Emergency escape luminaires and exit signs <i>Amend: 1</i>	AS1 4.5.5 AS1 2.4, 4.5.3 a) i), 4.5.5, Appendix A
AS/NZS 2293: 1995 Emergency escape lighting and exit signs for buildings Part 2: Inspection and maintenance	AS1 4.5.5
<b>British Standards Institution</b>	
BS 5252: 1976 Framework for colour co-ordination for building purposes <i>Amend: 1</i>	AS1 Table 2
<b>International Organization for Standardization</b>	
ISO 3864: 2002 Safety colours and safety signs Part 1: Design principles for safety signs in workplaces and public areas	AS1 2.4
ISO 7000: 2004 Graphic symbols for use on equipment	AS1 2.4
ISO 7010: 2003 Graphical symbols – safety colours and safety signs – Safety signs used in workplaces and public areas	AS1 2.4, 3.2.4
<b>German Institute for Standardisation</b>	
DIN 5381: 1985 Identification colours	AS1 Table 2
DIN 6164: 1980 DIN colour chart Part 2: Specification of colour samples	AS1 Table 2
<b>Chemical Industry Council Incorporated</b>	
HSNO Code of Practice 2-1 09-04 Signage for premises storing hazardous substances and dangerous goods	AS1 2.4, 7.1
<b>Royal New Zealand Foundation of the Blind</b>	
Accessible Signage Guidelines: 2010	AS1 2.3

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# Definitions

This is an abbreviated list of definitions for words or terms particularly relevant to this Verification Method and Acceptable Solution. The definitions for any other italicised words may be found in the New Zealand Building Code Handbook.

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

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

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

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

**Building** has the meaning ascribed to it by sections 8 and 9 of the *Building Act 2004*.

**Clearly visible** for the purposes of Clause F8 and in relation to a sign means the nearest such sign is visible and readable at the maximum distance from which it needs to be viewed, to a person who either does not have a visual impairment, or uses corrective lenses.

**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 fixing to the wall and, for a sliding door or tilting door, all guides and their respective fixings to the lintel, wall or sill.

**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*, *smoke lobbies* and *safe paths*.

**Comment:**

Doors are not obstructions in an *escape route* provided they comply with C/AS1 and D1/AS1.

**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*.

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

**Comment:**

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

**Fire door** A *doorset*, single or multi-leaf, having a specific *fire resistance rating*, and in certain situations a smoke control capability, and forming part of a *fire separation*. The door, in the event of *fire*, if not already closed, will close automatically and be self latching.

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

**Illuminance** The luminous flux falling on to a unit area of surface (lumen/m<sup>2</sup>).

**Luminance** The luminous intensity of a surface in a given direction per unit projected area (candela/m<sup>2</sup>).

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

- dividing the total floor area by the m<sup>2</sup> per person (occupant density) for the activity being undertaken, or

- b) for sleeping areas, counting the number of sleeping (or care) spaces, or
- c) for fixed seating areas, counting the number of seats.

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

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

**Person with a disability** Means a person who has an impairment or a combination of impairments that limits the extent to which the person can engage in activities, pursuits and processes of everyday life, including, without limitation, any of the following:

- a) a physical, sensory, neurological, or intellectual impairment:
- b) a mental illness.

**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, outside of and in the vicinity of a single *building* unit, 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* unit.

**Comment:**

The Fire Safety and Evacuation of Buildings Regulations 2006 use the term '*place of safety*' and allow the *place of safety* to be within the *building* provided that it is protected with a sprinkler system.

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

**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*.

**Smoke control door** A *doorset* that complies with Appendix C, C6.1.2 of C/AS6.

**Smoke lobby** That portion of an *escape route* within a *firecell* that precedes a *safe path* or an *escape route* through an adjoining *building* which is protected from the effects of smoke by *smoke separations*.

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

- a) Be a smoke barrier complying with BS EN 12101 Part 1, or
- b) Consist of rigid *building elements* capable of resisting without collapse:
  - i) a pressure of 0.1 kPa applied from either side, and
  - ii) self weight plus the intended vertically applied live loads, and
- c) Form an imperforate barrier to the spread of smoke, and
- d) Be of *non-combustible construction*, or achieve a *Fl/R<sub>w</sub>* of 10/10/10, except that *non-fire resisting glazing* may be used if it is toughened or laminated *safety glass*.

**Comment:**

The pressure requirement is to ensure rigidity and is not a smoke leakage requirement.

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

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

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

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

# Verification Method F8/VM1

No specific test methods have been adopted for verifying compliance with the Performances of NZBC Clause F8.

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# Acceptable Solution F8/AS1

## 1.0 Scope

This *Acceptable Solution* describes one way of meeting the requirements of NZBC Clause F8 for the design and provision of signage in and around *buildings*. Included are *safety signs*, exit signs, *fire* related safety feature signs, hazard signs, and signs for access and facilities for *people with disabilities*.

Signs are not required for detached dwellings, within *household units* in *multi-unit dwellings* or within hotel and motel *suites*.

Signs for *persons with disabilities* are only required in *buildings* to which section 118 of the *Building Act 2004* applies.

Comments in the grey boxes do not form part of the *Acceptable Solution*. These comments are included in the *Acceptable Solution* for guidance only.

## 2.0 Typography and pictograms

### 2.1 Language

Signs shall be one of the following:

- a) A pictogram alone, or
- b) English text with or without a pictogram, or
- c) Māori text plus English text or a pictogram, or both, or
- d) Any other language, including Braille, plus one of a), b) or c).

Where pictograms are used in combination with text, the text shall follow the pictogram.

#### Comment:

Text on signs illustrated in this *Acceptable Solution* is shown in English only.

## 2.2 Lettering

**2.2.1** Lettering shall be vertical block type using full strokes.

**2.2.2** The letter proportions shall be as set out in Table 1.

**2.2.3** The thickness (d) of the letter shall be between 15% and 30% of the height (h) of the letter.

Suitable fonts are Helvetica, Univers, Frutiger, Sills Sans, Rotis Sans, Bookman, Arial and other fonts with at least equal readability.

**2.2.4** Letter heights shall be as given in Paragraph 4.3.1 and Table 4.

**2.2.5** Upper and lower case lettering may be used.

## 2.3 Braille

Braille shall be uncontracted Unified English Braille.

The 'Accessible Signage Guidelines', published by the Royal New Zealand Foundation of the Blind, provide information on the details of Braille signage ([www.rnzfb.org.nz](http://www.rnzfb.org.nz)).

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Table 1: Proportioning of lettering Paragraph 2.2									
Dimensions	Ratio	Examples of dimensions (mm)							
<i>h</i>	$(10/10) h$	10	20	25	40	50	75	100	125
<i>c</i>	$(7/10) h$	7	14	17.5	28	35	52.5	70	87.5
<i>a</i>	$(2/10) h$	2	4	5	8	10	15	20	25
<i>b</i>	$(14/10) h$	14	28	35	56	70	105	140	175
<i>e</i>	$(6/10) h$	6	12	15	24	30	45	60	75

**2.4 Pictograms**

Pictograms shall be as shown in ISO 3864.1, AS 2293.3, HSNO CoP 2-1 0904, ISO 7010 and ISO 7000 for the International Symbol of Access.

The height of the symbol in the pictogram shall be as given in Paragraph 4.3.2 and Table 5.



### 3.0 Safety signs

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#### 3.1 Safety colours

The colours for *safety signs* shall comply with one of the appropriate specifications listed in Table 2. Contrasting colours shall be as described in Table 3.

The use of *safety colours* must comply with Table 3.

Table 2 Safety colours Paragraph 3.1		
Safety colour	Specification reference Standard BS 5252 colour number	Specification reference DIN 5381 DIN 6164
Safety red	04 E 55	7.5 : 8.5 : 3
Safety yellow	08 E 51	2.5 : 6.5 : 1
Safety green	14 E 53	21.7 : 6.5 : 4
Safety blue	18 E 53	16.7 : 7.2 : 3.8

Table 3 Safety colours and contrasting colours Paragraph 3.1				
Safety colour	Meaning or purpose	Use	Contrasting colour if required	Safety symbol colour
Safety red	Stop Prohibition	Stop signs Prohibition signs Paragraph 3.2.1	White <sup>(1)</sup>	Black
Safety yellow	Caution, risk of danger	Indication of hazards (fire, explosion, radiation, chemical etc) Warning signs Paragraph 3.2.2	Black	Black
Safety green	Safe condition	Emergency exit signs Paragraphs 3.2.3 and 4.0	White <sup>(1)</sup>	White
Safety blue	Instruction	Escalators and moving walks Paragraph 7.5	White <sup>(1)</sup>	Safety red (cross)

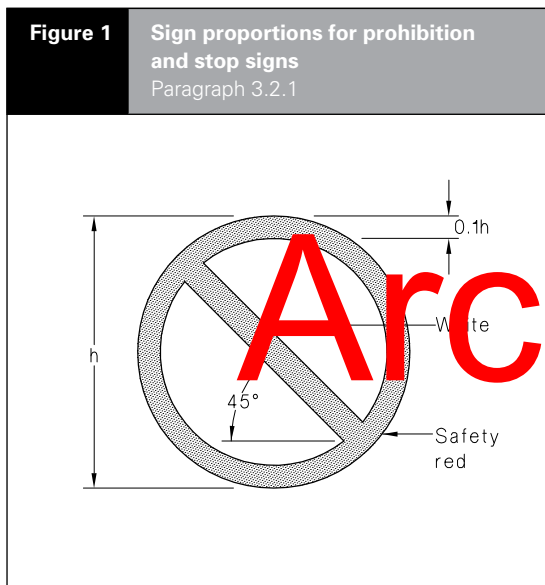
1. For photoluminescent signs, substitute 'the natural colour of photoluminescent material' (pale yellow) for 'white'.

**3.2 Sign layout**

**3.2.1 Prohibition signs**

Prohibition and stop signs shall:

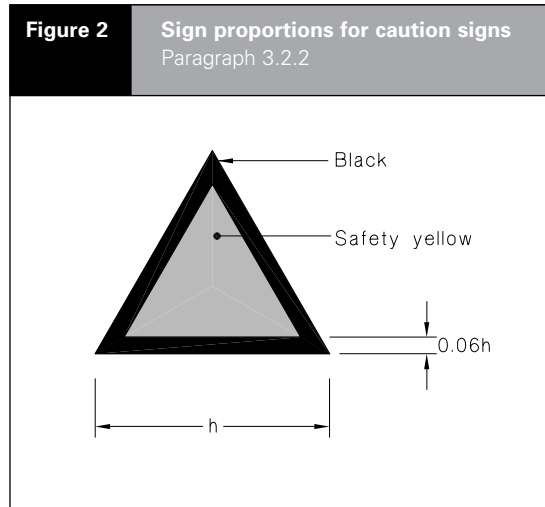
- a) Be circular with a white background, a circular band and crossbar of *safety red*, and
- b) Have a black *safety symbol* centrally placed on the background without obliterating the crossbar, and
- c) Have the background colour displayed over no less than 33% of the sign face, and
- d) Have the proportions given in Figure 1. (The *safety symbol* is omitted.)



**3.2.2 Caution signs**

Caution signs shall:

- a) Be of an equilateral triangle with a background of *safety yellow*, a black perimeter and have a black *safety symbol* or text located centrally on the background, and
- b) Have the background colour displayed over no less than 50% of the sign face, and
- c) Have the proportions given in Figure 2. (The *safety symbol* is omitted.)



**3.2.3 Safe condition signs**

Safe condition signs shall:

- a) Be rectangular or square with a background of *safety green*, and a white *safety symbol* or text placed centrally on the background, and
- b) Have the background displayed over 50% of the sign face.

**Comment:**  
The choice of square or rectangular shape will generally relate to requirements of the *safety symbol* or text.

**3.2.4 Acceptable safety signs**

Acceptable safety signs are given in ISO 7010.

**4.0 Exit signs**

**4.1 Sign locations**

**4.1.1** *Escape routes* shall be identified by exit signs which are *clearly visible* and shall be located:

- a) At each point in the *open path* where a door giving access to a *final exit* or an *exitway* is not visible in normal use
- b) To clearly indicate each door giving access to a *final exit* or an *exitway*, and
- c) To clearly identify the route of travel through the *exitway*.

**Comment:**

The rapid identification of the nearest *escape routes* is particularly important in *buildings* such as shopping malls and supermarkets, where occupants tend automatically to escape via the familiar route used for entry.

**4.1.2** Where exit signs are provided to identify a door on an *escape route*, the sign shall be positioned on the leaf at or above handle height, or on a vertical surface within 600 mm of the door. The sign shall be positioned where it is least likely to be obscured from view and where it cannot be obscured when the door is open.

**4.2 Wording for exit signs**

Where exit signs contain text they shall comply with Paragraphs 4.2.1 to 4.2.3.

**4.2.1** Exit signs shall be *safety signs* complying with Tables 2 and 3 and shall display the word(s) '**Exit**' or '**Emergency Exit**' plus a direction arrow if necessary, to identify the *escape route*, or use another language plus English. (Refer to Paragraph 2.1.)

**4.2.2** Where a direction arrow is incorporated as part of the exit sign, a clearance of at least 25 mm shall be provided between the word(s) and the arrow.

**4.2.3** In addition the following signs shall be provided:

- a) Where any door leads to an upper or lower level from an *exitway* and not to a *final exit*, that door shall be identified by a sign reading '**No Exit**'. (Refer to Paragraph 4.4.2.)
- b) Where any door in a *safe path* is a *smoke control door* and that door leads to an alternative *exitway*, it shall be identified by signs on both sides reading '**Exit**'.
- c) Where delayed action unlocking devices are fitted to an exit door, a sign describing the method of operation shall be installed adjacent to the door lock. The sign shall read 'There is a (x) second time delay on this door before it unlocks except when activated by the fire alarm'.

**4.3 Sign details**

**4.3.1 Height of lettering**

Sign lettering heights shall comply with Table 4, except that no lettering shall be less than 100 mm high on signs located in the following areas:

- a) *Theatres*, cinemas and public halls
- b) Shopping spaces that have an *occupant load* of more than 100 people.

<b>Table 4</b>	
<b>Height of lettering</b> Paragraph 4.3.1	
<b>Maximum viewing distance (m)</b>	<b>Minimum letter height 'h' (mm)</b>
16	75
24	100
32	150
'h' is the letter height shown in Table 1. For photoluminescent signs, the minimum height dimension shall be multiplied by 1.3 and the maximum viewing distance shall be 24 m.	

For viewing distances greater than 32 m, the minimum letter height shall be determined in accordance with the following equation:

$$\text{Minimum letter height, h, mm} = \frac{\text{Maximum viewing distance, mm}}{210} \text{ and rounded up to the nearest 50 mm.}$$

**4.3.2 Pictogram elements including directional arrows**

The minimum height of pictogram elements for exit signs shall be determined by the maximum viewing distance. The minimum element height shall be as given in Table 5.

<b>Table 5</b>	
<b>Pictogram height</b> Paragraph 4.3.2	
<b>Maximum viewing distance (m)</b>	<b>Minimum pictogram element height (mm)</b>
16	100
24	150
32	200
Element height is as shown in Figures 1, 2 and 3. For photoluminescent signs, the minimum height dimension shall be multiplied by 1.3 and the maximum viewing distance shall be 24 m.	

For viewing distances greater than 32 m, the minimum element height shall be determined in accordance with the following equation:

$$\begin{aligned} \text{Minimum element height, mm} &= \\ &\text{Maximum viewing distance, mm} \div 160 \\ &\text{and rounded up to the nearest 50 mm.} \end{aligned}$$

**4.3.3 Background**

The background shall extend at least 15 mm beyond the words (and pictorial element if incorporated) displayed on the sign.

**4.4 Colour**

**4.4.1** Except for photoluminescent signs and signs described in Paragraphs 4.4.2 and 4.4.3, the text and/or pictogram of an exit sign, and the direction arrow where incorporated, shall be white on a *safety green* background.

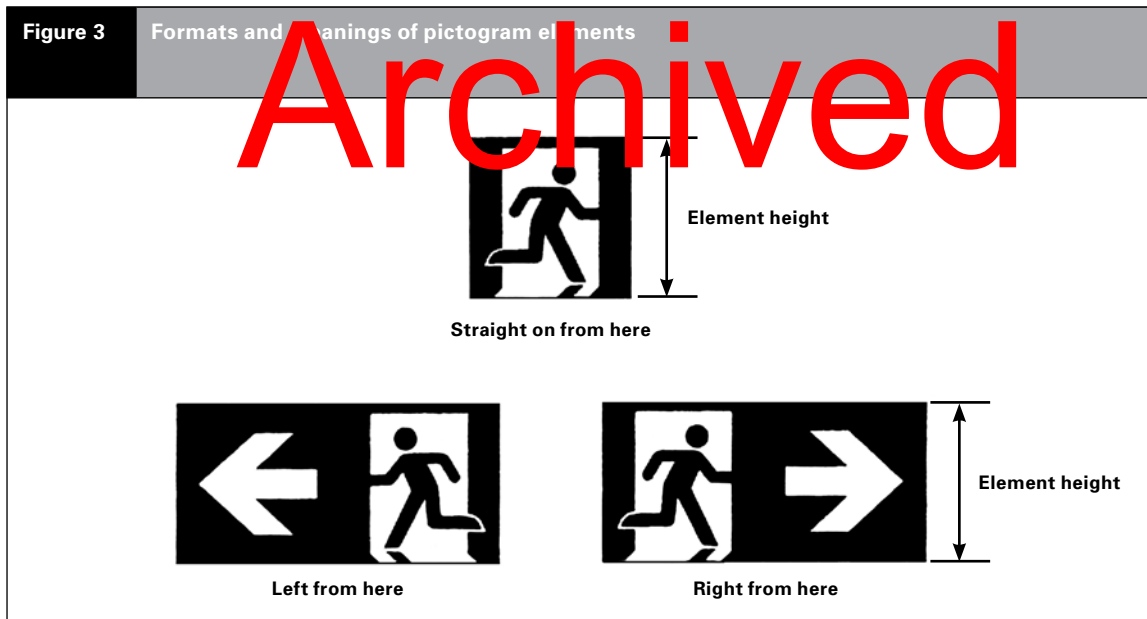
Text or pictograms in photoluminescent signs shall be in *safety green* and the rest of the sign shall be photoluminescent.

**4.4.2** The sign described in Paragraph 4.2.3 a) (No Exit) shall comprise white text on a *safety red* background.

**4.4.3** Where an exit sign is internally illuminated and normally viewed in low illuminance areas, such as in *theatres* and auditoriums, the text or pictogram of the sign and direction arrow, if any, may be *safety green* on a black (opaque) background. In the case of signs described in Paragraph 4.2.3 a), these may have text or a pictogram in *safety red* on a black (opaque) background.

**4.5 Exit sign illumination**

**4.5.1** Exit signs in *escape routes* shall be illuminated in *buildings* required to have emergency lighting systems for providing visibility in *escape routes* as required by NZBC Clause F6. The sign lighting shall be external or internal, or the sign may be photoluminescent.



The words under these pictograms indicate the meaning of the pictogram and are not part of the pictogram. Arrows are aligned to reflect the direction to be followed.

#### 4.5.2 Externally illuminated exit signs

Signs which rely for their visibility on illumination from an exterior source shall have:

- a) An *illuminance* of no less than 200 lux provided at the face of the sign
- b) A variation of *illuminance* of no greater than 3:1 across the face of the sign
- c) Luminaires positioned so that the clarity of the sign message is not reduced at the required viewing positions by reflections on the sign face
- d) The light source used to illuminate the sign not more than 1.5 m from the face of the sign, and
- e) The light source screened from the view of people passing through the areas to avoid glare.

#### 4.5.3 Internally illuminated exit signs

Signs which rely for their visibility on internal illumination shall comply with the following requirements:

- a) For exit signs with a white text or pictogram and safety green background:
  - i) the *luminance* of the background within 25 mm of the text or pictogram shall be no less than 8 cd/m<sup>2</sup> when measured in accordance with AS 2293: Part 3 Clause 3.4.2, and
  - ii) the ratio of the *luminance* of the text to that of the background shall be no less than 4:1, and
  - iii) the variation in *luminance* within the text and within the background shall be no more than 5:1.
- b) For low *illuminance* area exit signs with a safety green legend and a black (opaque) background:
  - i) the *luminance* of the text shall lie within the range 2cd/m<sup>2</sup> to 25 cd/m<sup>2</sup>, and
  - ii) the variation in *luminance* within the text shall be no more than 5:1.

#### Comment:

Internally illuminated signs are preferred to externally illuminated ones as they are self-contained units and are more easily seen in smoke conditions.

#### 4.5.4 Photoluminescent signs

Photoluminescent signs shall, in the event of a power failure, continue to provide a minimum *luminance* of 30 mcd/m<sup>2</sup> for the duration prescribed in NZBC Clause F6 whenever the *building* is occupied.

Photoluminescent signs shall be maintained in a charged state such that in the event of an emergency when the *building* is occupied, the exit signs will be at full operational charge and will continue to operate at the prescribed level and for the prescribed time (refer to NZBC Clause F6). Illumination for charging the photoluminescent signage shall be not less than 100 lux and suitable for charging photoluminescent material.

Charging requirements and circuits and maintenance requirements shall be specified on the plans and specifications submitted for *building consent* application. LED lighting shall not be used for charging photoluminescent material.

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**4.5.5 Lighting supply**

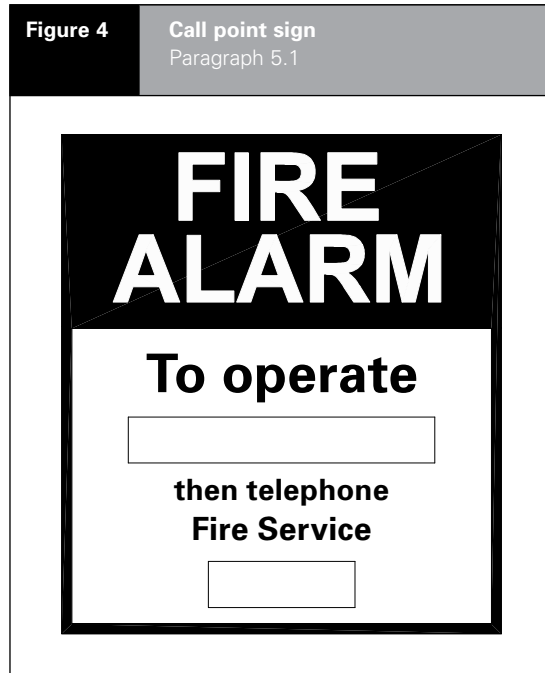
The lighting installation providing illumination to exit signs shall comply with NZBC Clause G9. Alternative supplies providing energy for the illumination of exit signs during interruption of the normal lighting supply shall comply with AS 2293: Parts 1 and 3 and AS/NZS 2293: Part 2 and maintain energy supply for the duration required by NZBC Clause F6.

For exit signs that are not continuously powered on (non-maintained), the emergency condition power supply shall be connected to both the loss of normal supply sensor and to the smoke detection circuit, if present, to ensure that the signs are provided with emergency power when either the normal power supply is tripped off or smoke activates the smoke detector circuit.

Where there are no hardwired smoke detectors installed, the exit sign shall be continuously powered (maintained).

**Comment:**

Often the normal power supply is not tripped until well after smoke development is significant and if non-maintained signs are not connected to the smoke detector circuit they may not be switched on.



**5.2 Fire and smoke control doors**

**5.2.1** Fire doors and smoke control doors required by NZBC Clause C10 (Protection from Fire) shall have a sign fixed to both sides of the door leaf adjacent to the handle or push plate, stating '**Fire Door, keep closed**' or '**Smoke Control Door, keep closed**', except that door leaves fitted with *hold-open devices* shall have a sign stating only '**Fire Door**' or '**Smoke Control Door**'.

**5.2.2** Fire doors and smoke control doors that have an automatic door closer shall have a sign fixed to the exposed side of the door stating '**Fire Door (automatic closing) do not obstruct**' or '**Smoke Control Door (automatic closing) do not obstruct**' as appropriate.

**5.2.3** Safe condition signs on fire doors and smoke control doors shall measure no less than 90 mm x 50 mm and shall be in white letters no less than 8 mm high on a safety green background. (Refer to Paragraph 3.2.3.)

**5.0 Fire related safety features**

**5.1 Call points**

Signs as shown in Figure 4 shall be provided on, or adjacent to, each call point. The method of operation and the appropriate emergency telephone number, including any outside line access number, shall be inserted in the spaces provided. The sign colours must be white and *safety red*.

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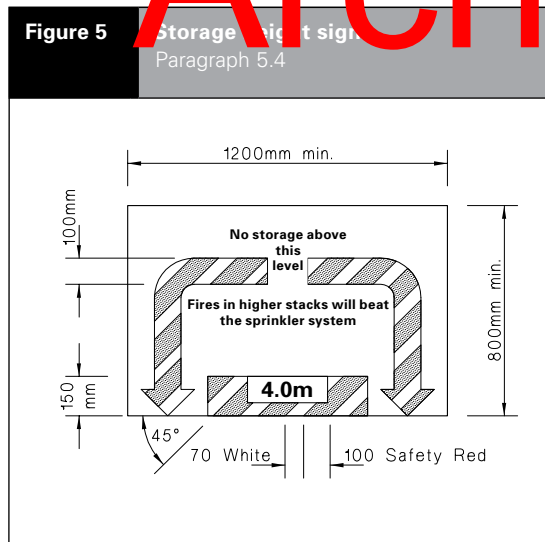
**5.3 Lifts**

A sign shall be provided on, or adjacent to, each landing call button plate with letters at least 8 mm high reading 'In the event of fire use the stairs'. Signs shall be *safety red* on a white background.

**5.4 Sprinklered buildings**

- a) Warning signs shall be provided to indicate the maximum height at which goods may be stacked in accordance with the *building consent*.
- b) Signs shall be positioned so that the bottom of the sign is at the highest level to which storage is permitted.
- c) Signs shall be visible from 90% of all locations within aisles.
- d) The sign shall comprise lettering, arrows and 45° lines in *safety red* on a white background and be sized as shown in Figure 5.

**Comment:**  
The height limitation of 4.0 m shown in Figure 5 is an example only.

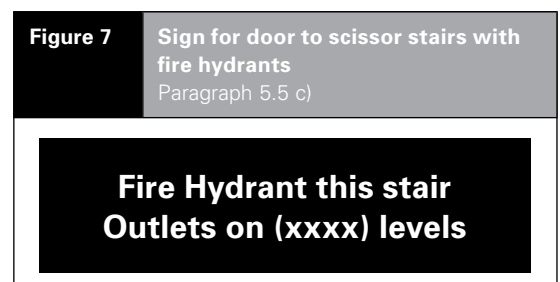
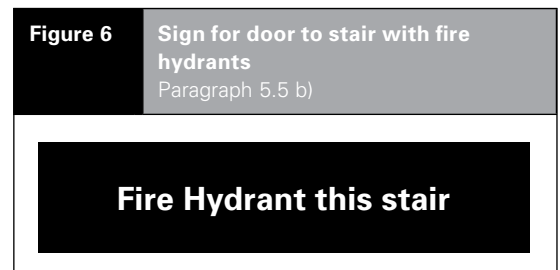


**5.5 Signage in stairwells**

- a) Stairs shall be provided with signs to identify the floor level. The sign shall be *clearly visible* from each floor level landing.
- b) Where fire hydrants are located in spaces containing a *stairway*, stair doors which give access to those hydrants shall be identified. This requirement applies only to those doors located on floors to which Fire Service personnel have direct access from the street and where more than one stair leads away from those floors. Signs shall be as shown in Figure 6.
- c) Where fire hydrants are located in spaces containing scissor stairs, the *stairway* doors at each level providing direct access from the street for Fire Service personnel shall display a sign indicating the floor level location of hydrants which can be accessed from that particular door. Signs shall be as shown in Figure 7.

**Comment:**  
In Figure 7, replace (xxxx) with 'odd' or 'even' as appropriate.

- d) Signs required by this paragraph shall have lettering of no less than 25 mm in height. Signs required by sub-paragraphs (b) and (c) above shall comprise white lettering on a *safety red* background.



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**6.0 Access and facilities for people with disabilities**

**6.1** Signs shall be provided to identify facilities provided specifically for *people with disabilities*. Such facilities are:

- a) Accessible car parks
- b) Accessible entrances
- c) Accessible routes through the *building*
- d) Accessible services available in the *building*.

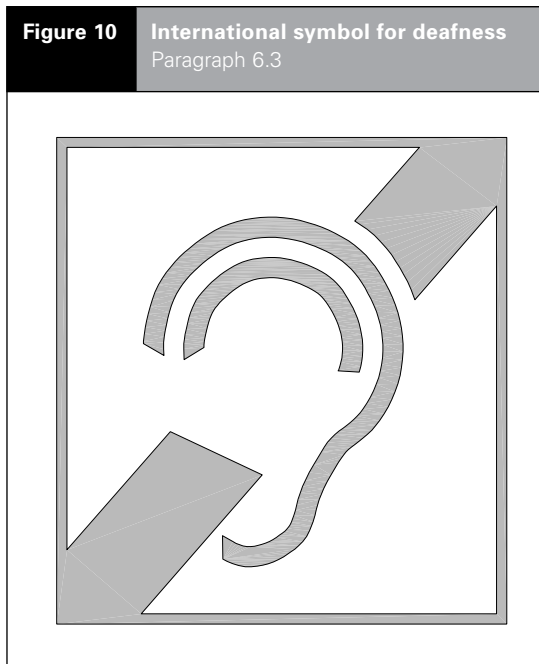
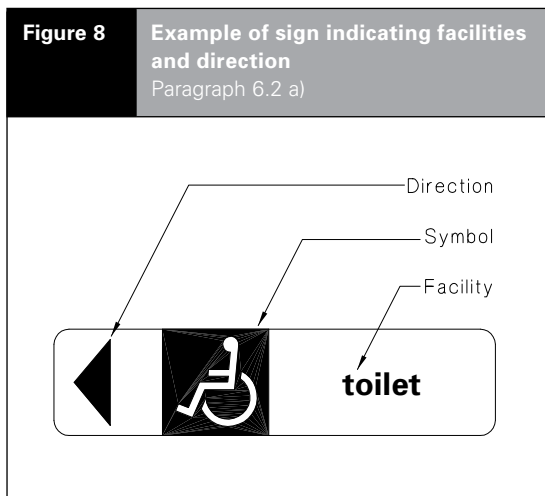
**6.2** All signs, except as required by Paragraph 6.3, shall:

- a) Display the International Symbol of Access, include the direction of travel (if appropriate) and name of, or symbol for, the facility as shown in Figure 8
- b) Use lettering and symbols in a colour that contrasts clearly with the sign background
- c) Use the proportional layout of the International Symbol of Access as shown in Figure 9
- d) Be positioned consistently throughout the *building* between 1400 mm and 1700 mm above floor level
- e) For carparks, be ground marked with the International Symbol of Access and may have additional signage positioned as in d) above.



**6.3** Where an assistive listening system is installed, a sign displaying the international symbol for deafness, as shown in Figure 10, shall be provided within 600 mm of the door to the room in which the assistive listening system is to be located, and shall comply with Paragraph 6.2 a) and d).

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**7.0 Hazards**

**7.1 Hazardous substances and processes**

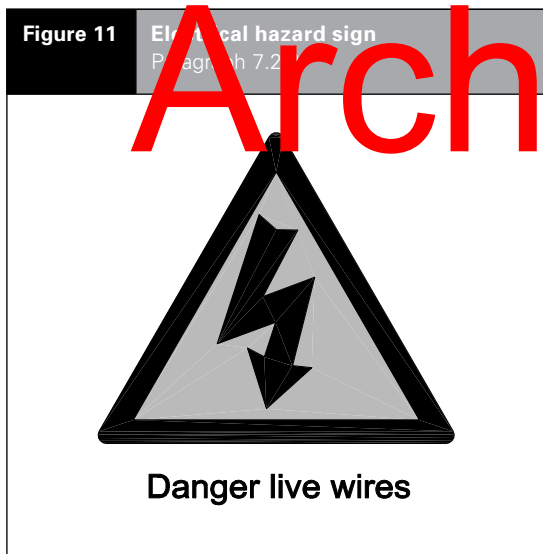
Signs for hazardous substances and processes shall comply with HSNO CoP 2-1 09-04 which identifies *buildings* where such signage is required, what signage is to be provided and where the signage is to be located.

**7.2 Electrical hazards**

**7.2.1** Bare *active conductors* that are exposed shall be identified by the sign described in Paragraph 7.2.2:

- a) At each termination
- b) At intervals of no more than 15 m, and
- c) In each room through which they pass.

**7.2.2** The caution *safety sign* shall comply with Figure 11 and Paragraph 3.2.2.



The text is part of the sign.

**7.3 Lifts**

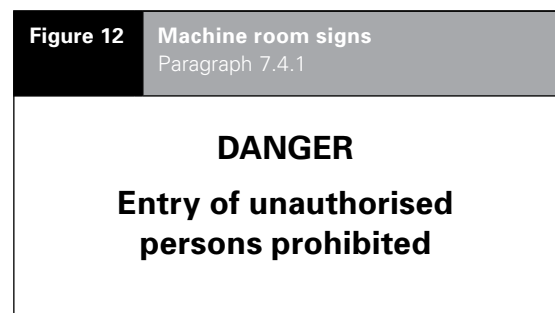
a) **Passenger lifts**

A sign shall be fitted to each lift car and display, in lettering at least 6 mm high, the lift's rated load in people and kilograms.

b) **Goods lifts**

A sign shall be fitted at each landing and display, in lettering at least 6 mm high, the rated load in kilograms.

Signs shall have *safety red* text on a white or stainless steel background.



**7.4 Machine rooms**

**7.4.1** The sign shown in Figure 12 shall be provided adjacent to the door of every machine room.

**7.4.2** The word 'DANGER' shall be printed in 50 mm high letters and the remainder of the notice in letters at least 25 mm high. The text shall be *safety red* on a white background.

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**7.4.3** The sign shall be placed where it is not obscured when the door is open.

**7.5 Escalators and moving walks**

**7.5.1** Signs shall be displayed at the entrance to escalators and moving walks.

**7.5.2** If the signs comprise words only, they shall contain the following instructions, where appropriate, in letters at least 8 mm high:

- a) Small children must be held firmly by adults
- b) Hold the handrail
- c) Stand facing the direction of travel
- d) Keep feet away from sides.

Text shall contrast the background in accordance with Paragraph 6.2 b).

Signs shall have a minimum size of 80 mm x 80 mm.

**7.5.3** If pictogram are used, they shall be as shown in Figure 13 with a minimum size of 80 mm x 80 mm, of colour *safety blue* on a white background with the cross (X) in *safety red*.

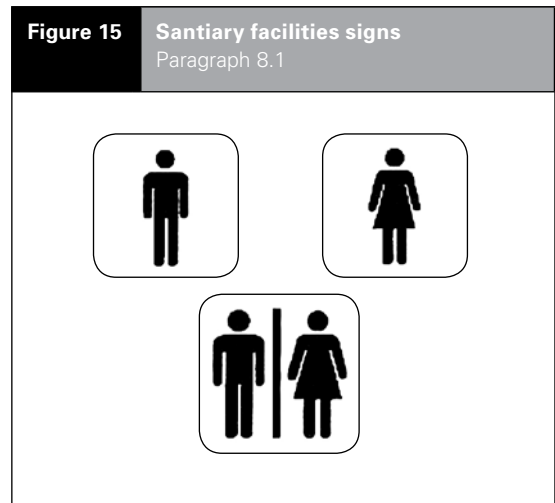
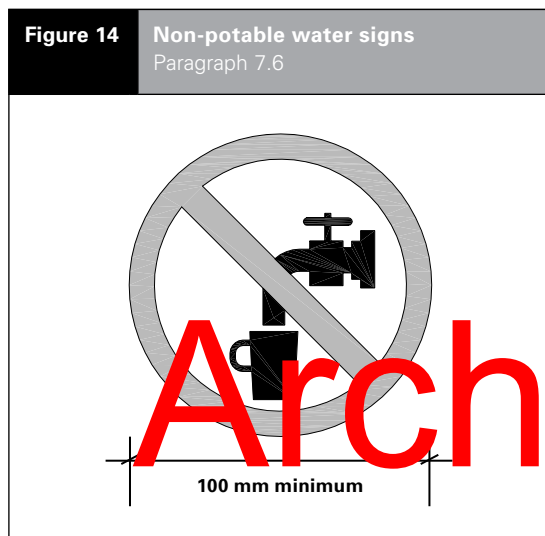
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**7.5.4** Signs identifying emergency stop buttons shall have a minimum size of 80 mm x 80 mm, be *safety red* and be marked with the inscription 'STOP' in white.

**7.6 Water supplies**

Outlets of non-potable water shall be identified as not suitable for drinking by using the prohibition *safety sign* shown in Figure 14. The pictogram shall be a minimum of 100 mm high and located adjacent to the outlet in a position that will not be obscured when the outlet is used.



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**8.0 Sanitary facilities**

**8.1** All facilities for personal hygiene shall be identified by a sign indicating location and whether for male, female, unisex or *accessible* use. Pictograms depicting whether for male, female or both shall be as shown in Figure 15. These shall be used in accordance with Paragraph 2.4. *Accessible* facilities shall be identified with the International Symbol for Access shown in Figure 9.

**Comment:**  
Figure 8 shows a sign indicating an *accessible route* and direction to an *accessible* toilet.

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# Appendix A

## **Amendments to AS 2293.3: 2005**

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### **1.5 Electromagnetic Compatibility**

Replace sentence with:

'Electromagnetic compatibility (EMC) requirements are specified by Radio Spectrum Management, Ministry of Economic Development.'

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# Index F8/VM1 & AS1

All references to Verification Methods and Acceptable Solutions are preceded by **VM** or **AS** respectively.

<b>Escape routes</b> .....	<b>AS1</b> 4.0
exitways .....	<b>AS1</b> 4.1.1 a), b), c)
final exits .....	<b>AS1</b> 4.1.1 a), b), 4.2.3 a)
open paths .....	<b>AS1</b> 4.1.1 a)
safe paths .....	<b>AS1</b> 4.2.3 b)
<b>People with disabilities</b> .....	<b>AS1</b> 6.0
access route identification .....	<b>AS1</b> 6.1 a), b), c), Figure 9
facility identification .....	<b>AS1</b> 6.1 d), Figure 8
listening system identification .....	<b>AS1</b> 6.1 d), 6.3, Figure 10
<b>Signs</b> .....	<b>AS1</b> 2.0, 3.0, 4.0, 5.0, 6.0, 7.0
exit signs .....	<b>AS1</b> 4.0, Table 4, Table 5, Figure 3
alternative exit signs .....	<b>AS1</b> 4.2.3
arrows .....	<b>AS1</b> 4.3.2, Table 5
colours .....	<b>AS1</b> 3.1, 4.4, Table 2, Table 3
illumination .....	<b>AS1</b> 4.5
externally illuminated .....	<b>AS1</b> 4.5.2
internally illuminated .....	<b>AS1</b> 4.5.3
photoluminescent .....	<b>AS1</b> 4.5.4
lighting supply .....	<b>AS1</b> 4.5.5
lettering .....	<b>AS1</b> 2.0, Table 4
location .....	<b>AS1</b> 4.0
number exit signs .....	<b>AS1</b> 4.1.2, 4.1.3
wording .....	<b>AS1</b> 2.3, 4.2
fire safety signs .....	<b>AS1</b> 5.0
call points .....	<b>AS1</b> 5.1, Figure 4
colours .....	<b>AS1</b> 5.1, 5.2.3, 5.4, 5.5 d)
fire and smoke control doors .....	<b>AS1</b> 5.2
stairs for Fire Service personnel .....	<b>AS1</b> 5.5, Figure 6, Figure 7
storage heights .....	<b>AS1</b> 5.4, Figure 5
hazard signs .....	<b>AS1</b> 7.0
hazardous substances and processes .....	<b>AS1</b> 7.1
electrical hazards .....	<b>AS1</b> 7.2, Figure 11
escalators and moving walks .....	<b>AS1</b> 7.5, Figure 13
lifts .....	<b>AS1</b> 7.3
passenger lifts .....	<b>AS1</b> 7.3 a)
service lifts .....	<b>AS1</b> 7.3 b)
lettering type and proportions .....	<b>AS1</b> 2.1, Table 1
machine rooms .....	<b>AS1</b> 7.4, Figure 12
non-potable water .....	<b>AS1</b> 7.6, Figure 14
people with disabilities signs .....	<b>AS1</b> 6.1
international symbol for access .....	<b>AS1</b> 6.2, Figure 9
layout .....	<b>AS1</b> 6.2, Figure 8
listening systems .....	<b>AS1</b> 6.3, Figure 10

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safety signs . . . . .	<b>AS1</b> 3.0
caution signs . . . . .	<b>AS1</b> 3.2.2, Figure 2
colours . . . . .	<b>AS1</b> 3.1, Table 2, Table 3
layout . . . . .	<b>AS1</b> 3.2, Figure 1, Figure 2
prohibition and stop signs . . . . .	<b>AS1</b> 3.2.1, Figure 1
safe condition signs . . . . .	<b>AS1</b> 3.2.3
safety symbols . . . . .	<b>AS1</b> 3.2.4

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