

Dear Customer

Please find enclosed Amendment 5, effective 10 October 2011, to the Compliance Document for Clause D1 Access Routes of the New Zealand Building Code.

| Section | Old D1 | October 2011 Amendments to D1 |
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| Title page | Remove title page and document history | Replace with new title page and document history |
| Code Clause D1 | Remove page 3/4 | Replace with new page 3/4 |
| Contents | Remove page 9/10 | Replace with new page 9/10 |
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Compliance Document for New Zealand Building Code Clause D1 Access Routes – Second Edition

Prepared by the Department of Building and Housing

This Compliance Document is prepared by the Department of Building and Housing. The Department of Building and Housing is a Government Department established under the State Sector Act 1988.

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New Zealand Government

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Status of Compliance Documents

Compliance Documents are prepared by the Department of Building and Housing in accordance with section 22 of the Building Act 2004. A Compliance Document is for use in establishing compliance with the New Zealand Building Code.

A person who complies with a Compliance Document will be treated as having complied with the provisions of the Building Code to which the Compliance Document relates. However, a Compliance Document 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 Compliance Documents 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 Compliance Document.

| D1: Document History | | | | |
|----------------------|------------------|--|---|--|
| | Date | Alterations | | |
| First published | July 1992 | | | |
| Amendment 1 | December 1993 | p. 12, Table 5 p. 15, 4.4.2, 4.5.2 | p. 30, 12.0, 12.1 | |
| Amendment 2 | 19 August 1994 | pp. i and ii, Document History p. vii, Contents p. viii, References pp. ix and x, Definitions p. 1, 1.0, 1.0.1, 1.0.2 p. 3, 1.2.1 p. 4, Figure 2 p. 6, 1.7.1 p. 6A, 2.1.1, 2.1.2, 2.1.3, 2.1.4 pp. 6B, 6C, 6D, Table 1A p. 6D, 2.2.1 | p. 7, 3.1.4 p. 10, Figure 11 p. 11, 4.1.3 p. 12, Table 5, 4.1.4, 4.1.8 p. 13, 4.4, 4.4.1 p. 14, Figure 17 p. 15, 4.4.3 deleted, Figure 18, 4.5, 4.5.1, 4.5.2, 4.6, 4.6.1, 4.6.2 p. 10, Table 1A pp. 33 to 35, Index | |
| Amendment 3 | 1 December 1995 | p. ii, Document History p. viii, References | p. 15, 5.1.1 | |
| Second edition | 28 February 1998 | Document revised – second edit | ion issued | |
| Amendment 4 | 1 July 2001 | p. 2, Document History, Status p. 11, References p. 13, Definitions | p. 25, Figure 8 p. 30, 4.2.1 Comment p. 41, 6.0.7 Comment p. 46, 12.0.1 | |
| Amendment 5 | 10 October 2011 | p. 2, Document History, Status pp. 3–4, Code Clause D1 p. 9, Contents p. 11, References | p. 13, Definitions p. 41, D1/AS1 6.0.7 p. 46, D1/AS1 11.0 pp. 47–49, Index | |

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

Document Status

The most recent version of this document, as detailed in the Document History, is approved by the Chief Executive of the Department of Building and Housing. It is effective from 10 October 2011 and supersedes all previous versions of this document.

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

Clause D1 ACCESS ROUTES

New Zealand Building Code Clause D1 Access Routes

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

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Building Regulations 1992

1992/150

FIRST SCHEDULE—continued

Clause D1—ACCESS ROUTES

Provisions

OBJECTIVE

D1.1 The objective of this provision is:

- (a) Safeguard people from injury during movement into, within and out of *buildings*,
- (b) Safeguard people from injury resulting from the movement of vehicles into, within and out of buildings, and
- (c) Ensure that people with disabilities are able to enter and carry out normal activities and functions within buildings.

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 47A of the Act applies.

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

Note: Section 47A is in the Building Act 1991. The equivalent section in the Building Act 2004 is section 118.

Effective from 29 December 2000 ACCESS ROUTES Clause D1

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FIRST SCHEDULE—continued

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,

Limits on application

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

Effective from 31 October 2008



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References

Amend 4 Jul 2001

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

| | NZS/AS 1657: 1992 | Fixed platforms, walkways, stairways and ladders – Design, construction and installation (known as the SAA Code for fixed platforms, walkways, stairways, and ladders) | AS1 11.0.3 |
|---------------------|---------------------------|--|--|
| | NZS 3114: 1987 | Specification for concrete surface finishes Amend: 1 | AS1 Table 2 |
| Amend 5 Oct 2011 | NZS 3116: 2002 | Concrete segmental and flagstone paving Amend: 1 | AS1 Table 2 |
| Amend 4 Jul 2001 | NZS 4121: 2001 | Design for access and mobility – Buildings and associated facilities | AS1 11.0.1, 12.0.2 |
| | Standards Australia | а | |
| | AS 2890:- Part 1: 2004 | Parking facilities Off street parking Amend: 1 | AS1 10.1, 10.2 |
| Amend 5 Oct 2011 | Part 2: 2002 | Off street commercial facilities Amend: 1 | AS1 11.0.2 |
| | AS/NZS 3661:- | Slip resistance of pedestrian surfaces | |
| | Part 1: 1993 | Requirements | VM1 1.0.2, AS1 2.1.1, 3.1.4, Table 2 |
| | Part 2: 1994 | Guide to the reduction of slip hazards | AS1 2.1.3 |
| | British Standards II | nstitution | |
| | BS 585:- Part 1: 1989 | Wood stairs. Specification for stairs with closed risers for domestic use, including straight and winder flights and quarter or half landings | AS1 4.5.3 |
| | BS 5395:- Part 2: 1984 | Stairs, ladders and walkways Code of practice for the design of helical and spiral stairs | AS1 4.4.1 |

Definitions

Amend 5 Oct 2011 This is an abbreviated list of definitions for words or terms particularly relevant to this Compliance Document. The definitions for any other italicised words may be found in the New Zealand Building Code Handbook.

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

Accessible Having features to permit use by people with disabilities.

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

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

Adequate Adequate to achieve the objectives of the building code.

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

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*.

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

Household unit

- (a) means a *building* or group of *buildings*, or part of a *building* or group of *buildings*, that is—
 - (i) used, or intended to be used, only or mainly for residential purposes; and
 - (ii) occupied, or intended to be occupied, exclusively as the home or residence of not more than 1 household; but
- (b) does not include a hostel, boarding house, or other specialised accommodation.

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

Main private stairway A *private stairway* intended to provide access to and between frequently used spaces such as living areas, kitchens and garages, and includes all exterior *private stairways*.

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

Nosing The rounded projecting edge of a stair tread.

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 the 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.

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

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

Amend 4 Jul 2001

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- **Secondary private stairway** A *private*stairway other than a main or minor private

 stairway, intended to provide access to
 another floor containing only bedrooms,
 bathroom or similar accommodation
- **Service ramp** means a ramp that is used, or intended to be used, infrequently by service personnel to gain access to spaces for the purposes of maintenance and the movement of goods.
- **Service stairway** means a *stairway* that is used, or intended to be used, infrequently by service personnel to gain access to spaces for the purposes of maintenance and the movement of goods.
- **Stairway** A series of steps or stairs with or without landings, including all necessary *handrails* and giving access between two different levels.
- **Threshold** A sill to an external door, or the floor under an internal door.

- **6.0.2** Any *stairway* which exceeds 2.0 m in width shall:
- a) Have handrails on both sides and, where the width exceeds 4.0 m, shall also have an intermediate handrail provided at the centre of the stairway, or
- b) If the stairway is essentially an outdoor architectural feature and not required to be an accessible stairway, have at least one handrail.
 Examples of such stairways are those leading to civic areas, or to decks on Housing.

COMMENT:

A central rail gives all users a rail to use for safety purposes. On *stairways* in public *buildings*, such as sports stadia, intermediate rails are also effective for crowd control. The 2.0 m width is a comfortable width for three people, two of whom can grasp a rail if anyone trips.

- **6.0.3** Accessible stairways and accessible ramps Handrails shall be provided on both sides of accessible stairways and on both sides of accessible ramps where the ramp slope is steeper than 1 in 20. The handrails shall be continuous except where doors are located on landings (see Figures 9 and 25).
- 6.0.4 Slope of handrails Handrails shall have the same slope as the pitch line, begin no further than the second riser from the lower end of the stairway, and extend the full length of the stairway they serve. Except that, where the handrail serves an accessible stairway or accessible ramp, a 300 mm (minimum) horizontal extension shall be provided at each end of the handrail, as shown in Figures 9 and 25.
- **6.0.5** The first riser shall be located a sufficient distance back from the corner where the two walls meet, to accommodate the extended *handrail*, as shown in Figure 25.
- **6.0.6 Height of handrails** *Handrails* shall be positioned between 900 mm and 1 m above the *pitchline* (see Figure 25).
- **6.0.7 Handrail profiles** *Handrails* shall have a profile which can be readily grasped by an adult hand and shall be installed in a way that avoids the likelihood of personal injury. An acceptable *handrail* shall be shaped and

located to ensure that, under normal usage, a person's hand will not contact adjacent walls, supporting brackets or fixings, or any other obstruction.

COMMENT:

It is important that in the event of stumbling on a *stairway* or ramp an adult, even with a small hand, can firmly grasp the *handrail* to prevent a fall.

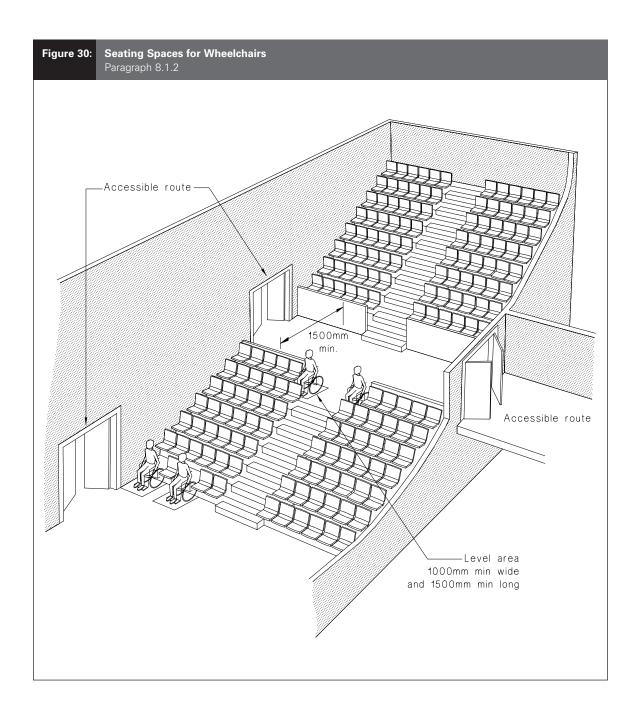
Amends 4 and 5

- **6.0.8** A graspable *handrail* profile shall have:
- a) A flat or convex upper surface,
- b) Arrised or radiused edges,
- c) A minimum cross section width of 20 mm, and
- d) A "relevant width" (as illustrated in Figure 26 (a)) across the top surface of no greater than 80 mm. Figure 26 (a) and (b) indicates some acceptable profiles but others may also be acceptable.
- **6.0.9** Acceptable *handrail* profiles for *accessible stairways* and *accessible* ramps are shown in Figure 26 (b).

COMMENT:

In most circumstances a *handrail* is used with a light grip to steady the user of a *stairway* or ramp. Ambulant *people with disabilities* use *handrails* for both leverage and support, and wheelchair users often need to firmly grip the rails to pull themselves along, particularly on ramps. In those circumstances a profile offering an adequate grip is important.

Figure 26: **Handrail Profiles and Clearances** Paragraphs 6.0.8 and 6.0.9 Index RW RW finger RW(i) (iii) RW shall not exceed 80 mm. Relevant width RW RW (relevant width) is measured around the upper surface perimeter of the handrail section between the vertical tangents on either side. Variations in shape are acceptable provided the effective grip is not reduced. For example, the side faces shown as vertical in details (iii) and (iv) are still acceptable even if slightly curved or sloped up to 5° from vertical. • See fig. 26 (b) for wall clearances. (a) Determination of relevant width for private and common stairways 45 to 32 to 60mm 50mm 45 to 60mm 32 to 50mm 45 to 50mm 45 to 60mm 100mm than 25mm Smooth wall surface The profiles shown comply with the provisions for accessible handrails. The clearances apply to all handrails and the maximum dimension must be used for rough textured wall surfaces. (b) Acceptable profiles and clearances for accessible stairways



| Table 9: | Accessible Accommodation Units Paragraph 9.1.1 | | |
|---|--|---|--|
| Total num | | Number of accessible units to be provided | |
| 0 – 9 | | 1 | |
| 10 – 2 | 5 | 2 | |
| Plus 1 unit for every additional 25 guest units provided. | | | |

9.2 Facilities to be provided

- **9.2.1** *Accessible* accommodation units shall have:
- a) Toilet and bathroom facilities complying with G1/AS1.
- b) Kitchen facilities complying with G3/AS1.
- c) Bedrooms, sitting and dining areas with sufficient floor area for a 1500 mm diameter wheelchair turning circle.

10.0 Movement of Vehicles

10.1 Car parking areas

10.1.1 AS 2890: Part 1 as modified by Paragraph 10.2 is an acceptable solution for car parking areas and circulation routes.

COMMENT:

The width of an *accessible* car park is given in AS 2890.1 Figure 2.2 as 3.2 m, but it is noted in 2.4.1 (b) (ii) of the Standard that if there is an adjacent obstruction the width of all car parks should be increased by 300 mm. In the case of an *accessible* car park an obstruction would include a kerb or garden which would prevent the movement of a wheelchair.

10.2 Modifications to AS 2890

10.2.1 AS 2890: Part 1 is modified as follows:

Clause 4.7 Lighting: After final sentence add a new sentence – "These lighting provisions may exceed the performance criteria of NZBC D1 and G8."

Appendix C: Delete and replace with:

"Accessible car parking spaces shall be provided on the scale of:

1 for up to 10 total spaces provided 2 for up to 100 total spaces provided plus 1 more for every additional 50 spaces when car parks are provided in or associated with a *building* which is *accessible*."

Amend 5 Oct 2011

11.0 Other Acceptable Solutions

11.0.1 Accessible routes – The access provisions of NZS 4121 are an acceptable solution for *accessible routes*, but may exceed the requirements of NZBC D1.

11.0.2 Commercial vehicles - AS 2890:

Part 2 is an acceptable solution for loading spaces and circulation routes for commercial vehicles, but may exceed the requirements of NZBC D1.

11.0.3 Access routes for service and maintenance personnel – NZS/AS 1657 is an acceptable solution for fixed platforms, walkways, *stairways*, and ladders, but provisions may exceed the requirements of NZBC D1.

12.0 Lifts

12.0.1 For the purposes of determining whether a lift must be provided for *people with disabilities* to access upper floors, the design occupancy shall be determined using C/AS1 Paragraph 2.3.7 and Table 2.2.

Amend 4 Jul 2001

COMMENT:

Alternative design occupancies being less than derived from Table 2.2, must be justified with clear supporting information. Table 2.2 already takes account of effective floor area reductions for normal furnishings associated with a given activity, such as desks or workstations in offices. However, in a factory situation with fixed machinery, actual operator numbers may be acceptable as the *occupant load*.

Amend 4 Jul 2001

12.0.2 *Building* size may also be used to determine the need for a lift for *people with disabilities*. NZS 4121 is an acceptable solution based on gross floor area.

Index D1/VM1 & AS1 ACCESS ROUTES

Index D1/VM1 & AS1

All references to Verification Methods and Acceptable Solutions are preceded by ${\bf VM}$ or ${\bf AS}$ respectively.

| | Access routes | AS1 1.1.5, 1.2.2, 1.4.1, 1.5.1 |
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| | | 1.5.3 a), 1.5.4, 1.5.5 |
| | | 1.6.1, 1.7.1, 1.8.1, 2.0, 5.1.3 |
| | | 10.1.4, Figure 27 |
| | see also Level access routes | |
| | service and maintenance personne | 1 AS1 11.0.2 |
| | Accessible accommodation units | |
| | | 9.2.1, Table 9 |
| | facilities | |
| | | AS1 9.2.1 c |
| | _ | AS1 9.2.1 c |
| | | |
| | _ | AS1 9.2.1 c |
| | tollets and paths | AS1 9.2.1 a |
| | Accessible routes | |
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| | | |
| | Doors | |
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| | lobby doors | |
| | revolving doors | |
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| | visibility | AS1 7.0.4 |
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| height | |
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| | AS1 5.1.6 |
| clearances | AS1 5.1.1 b), 5.3, Figure 20 |
| landings | AS1 5.3.2, Figure 23 |
| slope | |
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| | AS1 5.2.1 c) |

Index D1/VM1 & AS1 ACCESS ROUTES

| Level access routes | |
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| width | |
| Lifts | AS1 12.0 |
| Lighting | AS1 1.5.4, 1.8 |
| Location | AS1 1.1 |
| Motels | AS1 9.1.1 |
| Obstructions dangerous projections. isolated columns. major projections. minor projections. | |
| Occupancy | AS1 12.0 |
| Openings see Doors | AS1 7.0.1 |
| Other Acceptable Solutions | AS2 11.0 |
| People with disabilities | |
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| intermediate landings length width kerb ramps landings service ramps slip resistance | |
| slopes | , |
| Signs | AS1 1.1.1 |
| Slip resistance VM1 1.0, A | AS1 2.1, 3.1.4, 4.1.4 c), Table 2 |
| Slopes acceptable slopes changes in level cross falls | AS1 1.2.1, Figure 2 |

ACCESS ROUTES Index D1/VM1 & AS1

| Stairways | |
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| accessible stairways | 4.1.7, 4.1.8 b), 4.2.1, 6.0.1, 6.0.2, |
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| curved stairways | AS1 4.1.3, 4.4, Figure 17 |
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| obstructions | |
| width | _ |
| lighting | |
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| pitch lines | |
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| minor | |
| secondary | _ |
| risers | |
| | I.2, 4.5.1, Figures 11, 12, Table 6 |
| service stairs | _ |
| slip resistance | _ |
| spiral stairs | |
| treads | |
| | 4.1.5, 4.1.6, 4.1.7, 4.5.1, 4.6, |
| | Figures 11, 12, 13, Table 6 |
| tapered treads | |
| visibility | |
| width | |
| winders | |
| | |
| Structural stability | AS1 1.6 |
| Thresholds | AS1 1.3.2 |
| Turnstiles | see Doors |
| Vehicles | AS1 10.0 |
| accessible car parking | |
| car parking areas | |
| commercial vehicles | |
| loading spaces | |
| Weather stops | |
| troduior stops | |
| Wheelchairs | |
| spaces for wheelchairs | AS1 8.1, 8.1.2, Figure 30 |