



BUILDING REGULATION & FIRE SAFETY ENGINEERING CONSULTANTS

Project: **DUBBO BASE HOSPITAL
REDEVELOPEMENT**

Report: **ACCESS ASSESSMENT STATEMENT
for SSD**

Date: 13 September 2012

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PART 1 BASIS OF ASSESSMENT

1.1 Location and Description

The building development, the subject of this report, is located at the Dubbo Base Hospital site, Myall Street Dubbo.

The scope of the proposed works for the SSD include the following:-

- Bulk excavation works
- Construction of a new 1& 2 storey building to accommodate a new maternity unit, Operating Theatre Suites, Central Sterilising Department and Day Surgery Unit with future flexibility to expand to a 3 storey building.
- Refurbishment of existing Theatres building to accommodate an expanded Renal Dialysis Unit.
- Demolition of existing Maternity Building and construction of new car parking spaces on the footprint of the existing maternity Building.
- Provision of new landscaping to Renal Unit.

1.2 Purpose

The purpose of this report is to undertake an assessment of the design proposal against the Access Provisions of the Building Code of Australia 2012 (BCA) and the Disability (Access to Premises - Buildings) Standards 2010 and to clearly identify any compliance issues that require resolution/attention for the proposed development.

1.3 Limitations

This report is limited to an assessment of the access and amenity provisions for people with a disability against the provisions of the BCA and the Access to Premises Standards as outlined in 1.2 above.

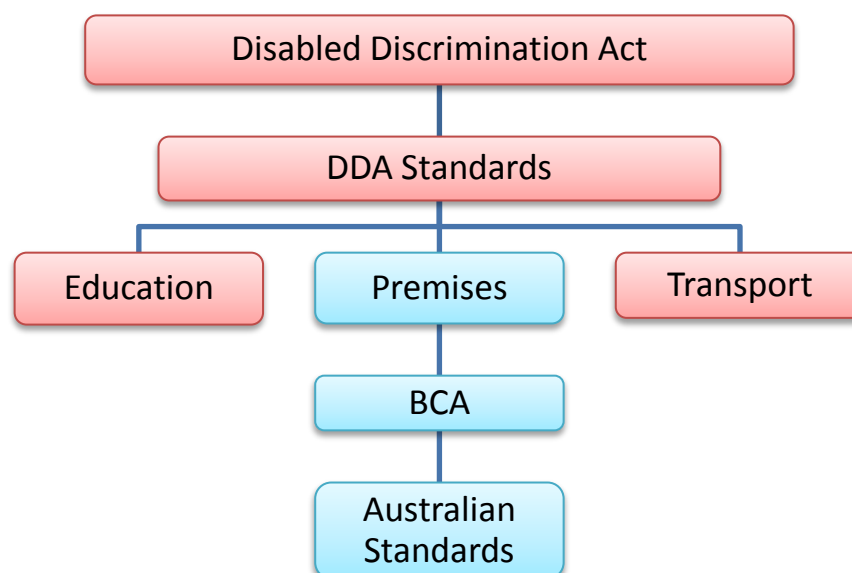
It is not an assessment of the existing or proposed building portions that do not form part of the subject works.

This report does not include, or imply compliance with the Disability Discrimination Act.

It cannot be guaranteed that that a complaint under the DDA will not be made, however should the building comply with BCA2012 and the Premises Standard then those responsible for the building cannot be subject to a successful complaint;

1.4 Relationship to the DDA

The Disability Discrimination Act 1992 (DDA) applies nationally and is complaint based. While the BCA is recognised as a design standard to satisfy certain aspects of the DDA, compliance with the BCA and the referenced standards does not guarantee that a complaint will not be lodged. The graph below indicates the current relationship of the BCA to the DDA.



1.5 Organisational Responsibilities - Disability Discrimination Act 1992 (DDA)

All organisations have a responsibility, under the Federal Disability Discrimination Act (DDA), to provide equitable, dignified access to goods and services and to premises used by the public. Premises are broadly defined and would include all areas included within the subject development.

The DDA provides uniform protection against unfair and unfavourable treatment for people with a disability in Australia. It also makes it unlawful to discriminate against a person who is an “associate” (such as a friend, carer or family member).

Disability is broadly defined and includes disabilities which are:

- physical;
- intellectual;
- psychiatric;
- neurological;
- cognitive or sensory (a hearing or vision impairment);
- learning difficulties;
- physical disfigurement; and
- the presence in the body of disease causing organisms.

This broad definition means that everyone with a disability is protected. The Act supports the principle that people with a disability have the same fundamental rights as the rest of the community. Provisions apply to a wide range of life activities including:

- access to premises used by the public;
- education;
- provision of goods and services;
- employment;
- administration of Commonwealth laws and programs.

When a person with a disability wants to utilise premises including all buildings, outdoor spaces, car parking areas, pathways and facilities, then equitable, dignified access must be provided. The DDA requires that appropriate changes be made to provide access. A complaint can be made under the DDA if appropriate access is not provided.

1.6 Disability (Access to Premises – Buildings) Standards 2010 (Premises Standard)

On 15 March 2010 the Disability (Access to Premises - Buildings) Standards 2010, was tabled in Federal Parliament. These Standards have been under development for many years and significant public consultation has occurred during their development. The Premises standard has now been introduced on 1st May 2011 in line with an updated National Construction Code which will incorporate the Building Code of Australia and the National Plumbing Code.

The aim of the Standards is to provide the building and design industry with detailed information regarding the required access provisions associated with the design and construction of new buildings and upgrade to existing buildings. They do not apply to existing buildings that are not undergoing upgrade. They will only apply to elements addressed within the Standards. All other elements related to premises will still be subject to the existing provisions of the DDA.

The Standards will generally align with the BCA (see below) and reference a range of Australian Standards relating to access and other associated matters. The Disability (Access to Premises - Buildings) Standards aim to provide certainty for the building industry in relation to meeting the requirements for access in new and upgraded buildings.

This Access Appraisal incorporates the key elements of the Standards as well as additional access requirements to assist in achieving best practice in the provision of access for all to buildings.

The Building Code of Australia 2011, in conjunction with the DDA, applies to all new buildings, new building works to existing buildings and buildings undergoing significant refurbishment or alteration.

Provision of access for a person using a wheelchair or mobility aid is often considered to be an indication of effective design to the built environment. However the majority of users of car parks, buildings and outdoor areas are pedestrians who also benefit greatly from wheelchair accessible design. Conversely, they can also be denied appropriate access if barriers are incorporated into designs.

In addition, older persons and people with disabilities within the community have a wide range of access needs that are not necessarily satisfied by just providing access for a person using a wheelchair. People also experience the effects of disability through impairment to:

- Sight;
- Hearing;
- Motor ability;
- Dexterity;
- Balance;
- Mental functioning etc.

Examples of a range of access challenges include:

- People who use wheelchairs face difficulties such as abrupt changes in levels (e.g. steps and steep slopes/gradients) and limited access under basins, benches and tables. They also need an increased circulation area, particularly at doorways and changes in direction.
- People who experience difficulty walking may have stiff hips, balance problems or uncoordinated movements which require attention to stairs and handrails, seating in waiting areas, slip resistant floor finishes and ramps with a gentle slope/gradient.

- People with manipulatory difficulties (finger or hand control) require appropriately selected handles, switches, buttons (in lifts) and taps to enable usage
- People with sensory disabilities, which affect either their hearing or vision, require clear, easy to understand signage and tactile indicators. This requires attention to a variety of factors including colour, contrast, print size, levels of illumination and the provision of appropriate communication systems in public areas.
- People with intellectual disabilities may have difficulty finding their way in new environments. Therefore, direct access routes and clear directional signage with graphics are important.

As a wide range of physical issues impact on the provision of access for people with disabilities, responsive design, incorporating a continuous accessible path of travel, needs to be equitable and therefore inclusive of the needs of all of the community. Access should cater for both pedestrians and users of wheelchairs and other mobility aids. In addition consideration must be given to the needs of users who may require assistance from other people as well as assistance animals.

1.7 Design Documentation

This report has been based on the Design plans and Specifications listed in Annexure A of this Report.

PART 2 BUILDING DESCRIPTION

For the purposes of the Building Code of Australia (BCA) the development may be described as follows.

2.1 Rise in Storeys (Clause C1.2)

The new building portion will have a rise in storeys of two (2),

NB: based on the future second floor stage as indicated on the drawings the building will have a rise in storeys of three (3).

2.2 Classification (Clause A3.2)

The building has been classified as follows.

Class	Level	Description
9a	All	Hospital
5	G	Administration

2.3 Effective Height (Clause A1.1)

The building has an effective height of less than 25metres.

2.4 Type of Construction Required (Table C1.1)

Type B Construction.

NB: Type A Construction required if the building has a rise in storeys of (3)

2.5 Floor Area and Volume Limitations (Table C2.2)

The building is subject to maximum floor area and volume limits of:-

- Class 5 -Maximum Floor Area 8,000m²
 -Maximum Volume 48,000m³
- Class 9a -Maximum Floor Area 5,000m²
 -Maximum Volume 30,000m³

NB: based on a rise in storeys of (3)

Further to the above the Class 9a portion of the building is subject to the following additional floor area limitations in the patient care areas:

- Patient Care Areas – Maximum Fire Compartment - 2 000m²
- Treatment Area – Maximum Smoke Compartment - 1 000m²
- Ward Areas – Maximum 1 hour Fire Compartment - 1 000m²
- Ward Areas – Maximum Smoke Compartment - 500m²

2.6 Climate Zone (Clause A1.1)

The building is located within Climate Zone 4.

PART 3 BCA ACCESS ASSESSMENT – NEW BUILDING

3.1 Introduction

Access relating to the new buildings has been assessed against the relevant portions of the BCA and the related Australian Standards for each item listed below.

Compliance has been indicated by using the following symbols:

Symbol	Description
✓	Compliance is achieved, and no further information is required.
✓	Specific details are not provided, but compliance can be readily achieved.
✗	From the documentation provided, compliance is not achieved.

3.2 BCA Access Assessment Summary – New Buildings

Clause	Comment	Status
SECTION D: ACCESS AND EGRESS		
PART D3 - ACCESS FOR PEOPLE WITH A DISABILITY		
D3.0: Deemed-to-Satisfy Provisions	Noted	-
D3.1: General Building Access Requirements	Access is to be provided to and within all areas used by the occupants other than areas exempted under Clause D3.4.	✓
D3.2: Access to Buildings	<p>An accessway must be to the buildings (required to be accessible):-</p> <ul style="list-style-type: none"> (i) from the main points of entry at the allotment boundary, and, (ii) From other accessible buildings connected by a pedestrian link, and (iii) From any required accessible carparking space on the allotment. <p>The accessways must be provided through the principal pedestrian entrance and through not less than 50% of all pedestrian entrances with non accessible pedestrian entrances not permitted to be more than 50m from an accessible entrance.</p>	✓
D3.3: Parts of Buildings to be Accessible	<p>Ramps, stairways, walkways, circulation spaces at doorways, door widths and accessible paths are to comply with AS1428.1-2009.</p> <p>Accessways must have passing spaces and turning spaces at least every 20m intervals and turning spaces within 2m of the end of an accessway where it is not possible to continue to travel along the accessway.</p>	✓
D3.4: Exemptions	Exemptions from the requirements for an area to be accessible apply where access would be in appropriate because of the particular purpose for which the area is used or the a health and safety risk would result.	Noted
D3.5: Accessible Car Parking	<p>The flowing accessible carparking spaces in accordance with AS/NZS 2890.6 are required on the allotment:-</p> <ul style="list-style-type: none"> (a) Hospital (non-outpatient area) -1 space for every 100 carparking spaces or 	✓

SECTION D: ACCESS AND EGRESS		
	<p>part thereof.</p> <p>(b) Hospital (outpatient area) Up to 1000 carparking spaces -1 space for every 50 carparking spaces or part thereof.</p> <p>For each additional 100 carparking spaces or part thereof in excess of 100 carparking spaces - space</p>	
D3.6: Signage	Braille and tactile signage complying with Specification D3.6 and incorporating the international symbols as appropriate must identify each sanitary facility and all accessible entrances.	✓
D3.7: Hearing Augmentation	A hearing augmentation system must be provided where an inbuilt amplification system is installed in the reception area where the public is screened from the service provider.	✓
D3.8: Tactile Indicators	Tactile ground surface indicators are required to stairways, ramps or where overhead obstructions are less than 2 metres.	✓
D3.11: Ramps	On an accessway a series of connected ramps must not have a combined vertical rise of 3.6m and a landing for a step ramp must not overlap a landing for another step ramp or ramp.	✓
D3.12: Glazing on an Accessway	On an accessway, where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights and any glazing capable of being mistaken for a doorway or opening, must be clearly marked in accordance with AS 1428.1.	✓

SECTION E: SERVICES AND EQUIPMENT		
PART E3 – LIFT INSTALLATIONS		
E3.0: Deemed-to-Satisfy Provisions	Noted	-
E3.6: Passenger Lifts	Every passenger lift must be one of the types identified in BCA Table E3.6a and have accessible features in accordance with BCA Table E3.6b.	✓

SECTION F: HEALTH AND AMENITY		
PART F2 – SANITARY AND OTHER FACILITIES		
F2.0: Deemed-to-Satisfy Provisions	Noted	-
F2.4: Accessible Sanitary Facilities (including Table F2.4)	<p>unisex accessible sanitary facility in accordance with AS1428.1 must be provided in accessible parts of a building.</p> <p>At each bank of toilets where there is one or more toilets an ambulant facility in accordance with AS1428.1 must be provided.</p> <p>Where two more of each type of accessible unisex facilities are provided, left and right handed mirror image facilities must be provided as evenly as possible</p>	✓

PART 4 ACCESS TO PREMISES STANDARDS ASSESSMENT FOR NEW BUILDING

4.1 General

The proposed alterations and additions to the front of house area of the main hospital building results in the application of the Disability (Access to Premises – Buildings) Standards, 2010 (known as Premises Standards).

The following assessment of the design proposal for the against the Premises Standards comments and advice are based on our site inspection of the existing building carried out on 29th March 2012 and 13th June 2012 and the proposed development as indicated in the design drawings listed in Annexure A of this report.

4.2 New Building Work and the “Affected Part”

When new building work takes place in an existing building the requirements for upgrading access are limited to the area of new work and the ‘affected part’. Access requirements are not imposed outside the area of the new work and the ‘Affected Part’.

While the Premises Standards will apply to the area of new work and the ‘affected part’ of the building, they will not apply to the other levels not being upgraded.

These areas of the building outside the area of the new work will continue to be subject to the existing DDA complaints provisions.

The “affected part” in existing buildings relates to providing an accessible path of travel from the principal pedestrian entrance to the new or modified part of an existing building.

4.3 Principal Pedestrian Entrance

The Principle Pedestrian Entrance to the building is considered to be the main entrance to the hospital near the main reception entry.





The following upgrading works are required to the Principle Public Entrance to comply with the Premises Standards :-

4.3.1 The entry doors must have a minimum luminance contrast of 30% provided between –

- (a) door leaf and door jamb;
- (b) door leaf and adjacent wall;
- (c) architrave and adjacent wall;
- (d) door leaf and architrave;
- (e) door jamb and adjacent wall.

The minimum width of the area of luminance contrast shall be 50mm.

- See Clause 13 of AS1428.1-2009

4.3.2 The sidelight either side of the doorway which are capable of being mistaken for a doorway must be clearly marked in accordance with clause 6.6 of AS1428.1 with a solid and non-transparent contrasting line

4.3.3 The existing pavers used at the door entrance and along the entrance way will have to be removed as they do not comply with the construction tolerances for abutment of surfaces required by Clause 7 of AS1428.1-2009



4.3.4 *The entrance walkway does not comply with Clause 10 of AS1428.1-2009 in that it has:-*

- Variable gradients of between 1:50 to 1:14 (with the maximum permissible being 1:20)
- The walkway has cross falls steeper than 1:40
- The walkway does not have landings where it is steeper than 1:33
- The surface between the walkway and the kerb is not of a different material extending a minimum of 600mm
- Part of the kerb ramp has a gradient steeper than 1:8 (Clause 10.7.2 of AS1428.1)



4.4 Doorways throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-

4.4.1 All doorways though out the accessible path of travel from the principal public entrance to the new or modified parts of the building will need to comply with clause 13 of AS1428.1 and must have a minimum luminance contrast of 30% provided between –

- (f) door leaf and door jamb;
- (g) door leaf and adjacent wall;
- (h) architrave and adjacent wall;
- (i) door leaf and architrave;
- (j) door jamb and adjacent wall.

The minimum width of the area of luminance contrast shall be 50mm.





4.5 Door controls throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-

4.5.1 The door handles on any doors in the affected part must be upgraded to comply with the requirements of Clause 13.5 of AS1428.1-2009

4.6 Signage throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-

4.6.1 Braille and tactile signage complying with clause D3.6 of the Premises Standard must be provided throughout the 'affected part' to identify each:-

- Sanitary facility, including any accessible sanitary facility
- At non-accessible pedestrian entrances to indicate the location of the nearest accessible pedestrian entrance

4.7 Clause F2.4 - Accessible Sanitary Facilities

The accessible sanitary facility that is proposed requires minimum dimensions of 1900mm x 2700mm to accommodate a WC pan, wash basin and circulation spaces between those fixtures and the door to comply with Clause 15 of AS1428.1-2009.

PART 5 ACCESS TO PREMISES STANDARDS ASSESSMENT FOR RENAL DIALYSIS UNIT

5.1 General

The proposed alterations and additions to the front of house area of the main hospital building results in the application of the Disability (Access to Premises – Buildings) Standards, 2010 (known as Premises Standards).

The following assessment of the design proposal for the against the Premises Standards comments and advice are based on our site inspection of the existing building carried out on 29th March 2012 and 13th June 2012 and the proposed development as indicated in the design drawings listed in Annexure A of this report.

5.2 New Building Work and the “Affected Part”

When new building work takes place in an existing building the requirements for upgrading access are limited to the area of new work and the ‘affected part’. Access requirements are not imposed outside the area of the new work and the ‘Affected Part’.

While the Premises Standards will apply to the area of new work and the ‘affected part’ of the building, they will not apply to the other levels not being upgraded.

These areas of the building outside the area of the new work will continue to be subject to the existing DDA complaints provisions.

The “affected part” in existing buildings relates to providing an accessible path of travel from the principal pedestrian entrance to the new or modified part of an existing building.

5.3 Principal Pedestrian Entrance

It has been advised by Health Infrastructure that the Principle Pedestrian Entrance to the Renal Dialysis Unit will be via the existing doorway main entrance to the hospital near the main reception entry.







The following upgrading works are required to the Principle Public Entrance to comply with the Premises Standards :-

5.3.1 *The entrance door landing does not comply with Clause 10 of AS1428.1-2009 in that it has:-*

- Variable gradients of between 1:16 to 1:14
 - It does not satisfy the requirements of Clause 10.5 for threshold ramps which require a maximum length of 280mm and maximum rise of 35mm
 - It does not satisfy the requirements of Clause 10.6 for step ramps which require a maximum length of 1900mm and maximum rise of 190 mm.
 - If a step ramp is proposed the edges of the step ramp must be protected by a suitable barrier such as a 450mm high wall or kerb.
- (See Annexure B)



- 5.3.2 The entry doors must have a minimum luminance contrast of 30% provided between –
- (k) door leaf and door jamb;
 - (l) door leaf and adjacent wall;
 - (m) architrave and adjacent wall;
 - (n) door leaf and architrave;
 - (o) door jamb and adjacent wall.
- The minimum width of the area of luminance contrast shall be 50mm.
- See Clause 13 of AS1428.1-2009

5.4 Doorways throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-



5.4.1 All doorways though out the accessible path of travel from the principal public entrance to the new or modified parts of the building will need to comply with clause 13 of AS1428.1 and must have a minimum luminance contrast of 30% provided between –

- (p) door leaf and door jamb;
- (q) door leaf and adjacent wall;
- (r) architrave and adjacent wall;
- (s) door leaf and architrave;
- (t) door jamb and adjacent wall.

The minimum width of the area of luminance contrast shall be 50mm.





5.5 Door controls throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-

5.5.1 *The door handles on any doors in the affected part must be upgraded to comply with the requirements of Clause 13.5 of AS1428.1-2009*





5.6 Signage throughout the 'affected part'

The following upgrading works are required to the doorways throughout the 'affected part' to comply with the Premises Standards :-

5.6.1 *Braille and tactile signage complying with clause D3.6 of the Premises Standard must be provided throughout the 'affected part' to identify each:-*

- Sanitary facility, including any accessible sanitary facility
- At non-accessible pedestrian entrances to indicate the location of the nearest accessible pedestrian entrance

PART 6 STATEMENT OF COMPLIANCE

The design documentation as referred to in this report has been assessed against the applicable Access Provisions of the Building Code of Australia 2012 and the Disability (Access to Premises – Buildings) Standards, 2010 (known as Premises Standards) and it is considered that such documentation complies or is capable of complying (as outlined above) with those Codes.

Furthermore it should be noted that compliance with the Building Code of Australia may be achieved by either satisfying the Deemed-to-Satisfy provisions of the BCA or by formulating a performance based 'Alternative Solution' that satisfies the relevant Performance Requirements of the Building Code of Australia.

Annexure A Design Documentation

This report has been based on the following design documentation.

Architectural Plans Prepared by Cox Richardson Architects		
Drawing Number	Revision	Title
New Building		
ARC-NB-01-901	12	Cover Sheet
ARC-NB-11-910	04	Site Plan
ARC-NB-21-900	03	Ground Floor Plan
ARC-NB-21-910	05	Floor Plan - level 1
ARC-NB-21-920	04	Floor Plan – Level 2
ARC-NB-21-930	05	Roof Plan
ARC-NB-30-910	07	Elevations
ARC-NB-30-920	07	Elevations
ARC-NB-40-910	05	Sections
ARC-NB-40-920	05	Sections
Renal Dialysis		
ARC-RD-01-000	01	Cover Sheet
ARC-RD-14-000	02	Ground Floor Existing
ARC-RD-14-001	01	First Floor Existing
ARC-RD-14-003	01	Lower Ground Existing
ARC-RD-15-000	02	Ground Floor Demolition
ARC-RD-21-000	02	Ground Floor Proposed
ARC-RD-21-003	01	Lower Ground Floor Proposed
ARC-RD-30-001	02	North & East Elevations
ARC-RD-30-002	02	South & West Elevations
ARC-RD-30-004	01	South & West Existing Elevations
ARC-RD-40-001	02	Sections A-A, B-B, C-C
ARC-RD-40-002	01	Sections

Annexure B**Australian Standard Extracts & Diagrams****B 1****AS1428.1 Clause 7 - Floor or Ground Surfaces****7 FLOOR OR GROUND SURFACES ON CONTINUOUS ACCESSIBLE PATHS OF TRAVEL AND CIRCULATION SPACES****7.1 General**

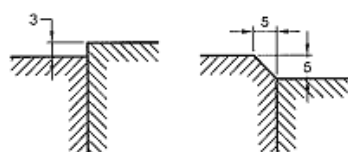
A continuous accessible path of travel and any circulation spaces shall have a slip-resistant surface. The texture of the surface shall be traversable by people who use a wheelchair and those with an ambulant or sensory disability.

7.2 Construction tolerances for abutment of surfaces

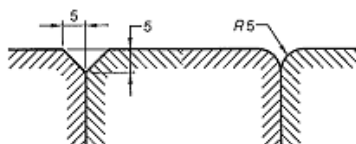
Abutment of surfaces shall have a smooth transition. Design transition shall be 0 mm. Construction tolerances shall be as follows:

- (a) 0 ± 3 mm vertical, as shown in Figure 6(a).
- (b) 0 ± 5 mm, provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping, as shown in Figure 6(b).

Tolerances for raked joint pavers shall be as shown in Figure 7.

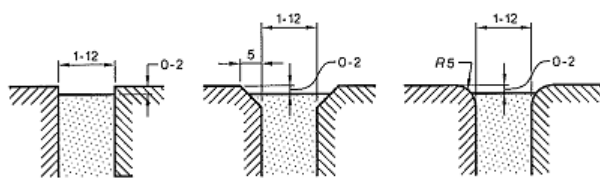


(a) Change in level

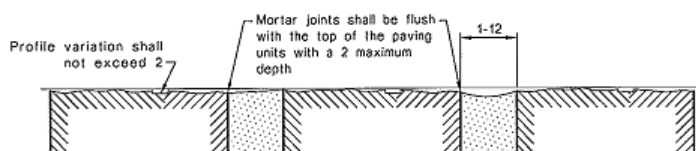


(b) Continuous paving units—flush-jointed with level surfaces

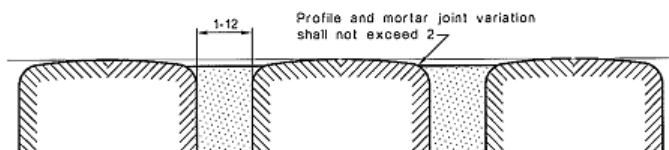
DIMENSIONS IN MILLIMETRES AND ARE MAXIMUM

FIGURE 6 ACCEPTABLE CONSTRUCTION TOLERANCES FOR ABUTMENT OF SURFACES

(a) Continuous paving units—Level surface



(b) Continuous paving units—Irregular surfaces



(c) Continuous paving units—Domed surfaces

DIMENSIONS IN MILLIMETRES AND ARE MAXIMUM

FIGURE 7 RAKED JOINT PAVERS

B 2

AS1428.1 Clause 7.3 – Changes in Level

7.3 Changes in level

When a vertical change of not more than 5 mm occurs between the abutment of two surfaces along a continuous accessible path of travel, such change in surface level shall comply with the tolerances given in Clause 7.2.

B 3

AS1428.1 Clause 6.6 - Visual Indicators on Glazing

6.6 Visual indicators on glazing

Where there is no chair rail, handrail or transom, all frameless or fully glazed doors, sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid and non-transparent contrasting line. The contrasting line shall be not less than 75 mm wide and shall extend across the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.

Any contrasting line on the glazing shall provide a minimum of 30% luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side.

NOTE: For method of testing luminance contrast, see Appendix B.

B 4**AS1428.1 Clause 10 – Walkways Ramps and Landings****10 WALKWAYS, RAMPS AND LANDINGS****10.1 General**

Walkways, ramps and landings that are provided on a continuous accessible path of travel shall be as follows:

- (a) Sharp transitions shall be provided between the planes of landings and ramps, as shown in Figure 14.
- (b) Landings shall be provided at all changes in direction in accordance with Clause 10.8.
- (c) Landing or circulation space shall be provided at every doorway, gate, or similar opening.
- (d) For walkways and landings having gradients in the direction of travel shallower than 1 in 33, a camber or crossfall shall be provided for shedding of water and shall be no steeper than 1 in 40, except that bitumen surfaces shall have a camber or crossfall no steeper than 1 in 33.

NOTE: For requirements for ground surfaces, see Clause 7.

NOTE: A summary of requirements for walkways, ramps and landings is provided in Appendix C.

10.2 Walkways

Walkways shall comply with the following:

- (a) The floor or ground surface abutting the sides of the walkway shall provide a firm and level surface of a different material to that of the walkway at the same level of the walkway, follow the grade of the walkway and extend horizontally for a minimum of 600 mm unless one of the following is provided:
 - (i) Kerb in accordance with Figure 18.
 - (ii) Kerb rail and handrail in accordance with Figure 19.

B 5**AS1428.1 Clause 13.5 – Door Controls****13.5 Door controls****13.5.1 General**

Door controls in, or forming part of, the continuous accessible path of travel shall comply with the requirements of this Clause.

13.5.2 Design and performance

Door handles and related hardware and accessories shall comply with the following:

- (a) The door handle and related hardware shall be of the type that allows the door to be unlocked and opened with one hand. The handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch.

NOTES:

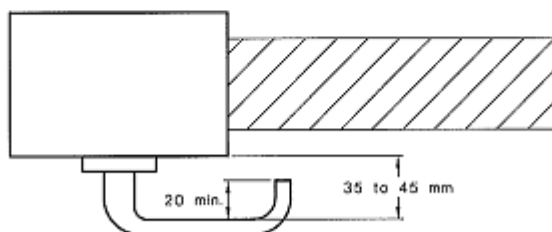
- 1 Figure 35(A) shows an example of a suitable hinged door handle. Figure 35(B) shows an example of a suitable door handle for sliding doors.
- 2 Door handles of 'D' lever type provide an adequate grip for people with hand impairments.

- (b) The clearance between the handle and the back plate or door face at the centre grip section of the handle shall be not less than 35 mm and not more than 45 mm.

- (c) 'D' type handles shall be provided on sliding doors.
- (d) Where snibs are installed, they shall have a lever handle of a minimum length of 45 mm from the centre of the spindle.
- (e) For doors other than fire doors and smoke doors where a door closer is fitted, the force required at the door handle to operate the door shall not exceed the following:
 - (i) To initially open the door..... 20 N
 - (ii) To swing or slide the door.....20 N.
 - (iii) To hold the door open between 60° and 90°.....20 N.
- (f) Where an outward opening door is not self-closing, a horizontal handrail or pull bar shall be fixed on the closing face of a side-hung door, as shown in Figure 36.



(a) Isometric view

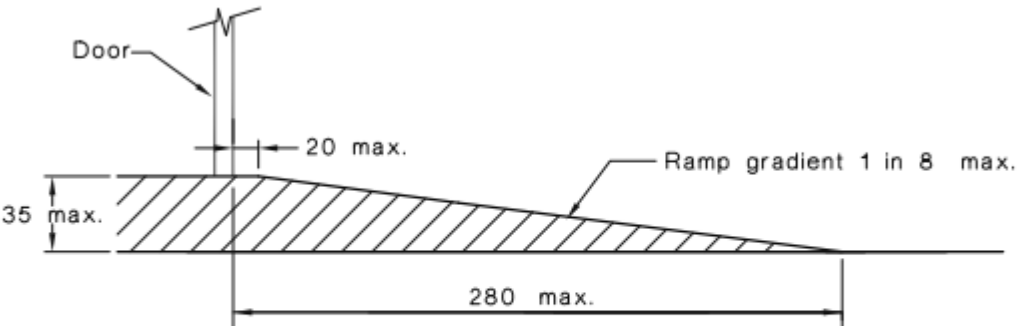


(b) Plan view

FIGURE 35(A) EXAMPLE OF ACCEPTABLE DOOR HARDWARE FOR HINGED DOORS

B 6

AS1428.1 Figure 21 – Threshold Ramp



DIMENSIONS IN MILLIMETRES

FIGURE 21 THRESHOLD RAMP

B 7

AS1428.1 Figure 21 – Step Ramps

