AS 1926.1:2024
(Incorporating Amendment No. 1)

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Swimming pool safety

Part 1: Safety barriers for swimming pools

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Australian Industry Group
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Australian Institute of Landscape Architects
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Swimming pool safety

Part 1: Safety barriers for swimming pools

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Second edition 2024.
Reissued incorporating Amendment No 1 (October 2024).

Preface

This document was prepared by the Standards Australia Committee CS-034, Swimming and Spa Pools, to supersede AS 1926.1:2012.

This Standard incorporates Amendment No. 1 (October 2024). The start and end of changes introduced by the Amendment are indicated in the text by tags including the amendment number 1.

The objective of this document is to specify the requirements for barriers that are intended to restrict the access of young children to swimming pools.

A list of all parts in the AS 1926 series can be found in the Standards Australia online catalogue.

The major changes in this edition are as follows:

(a) Introduction of new definitions.

(b) Inclusion of —

  (i) new diagrams with revision of some existing diagrams reflecting non-climbable zones (NCZs);

  (ii) wording in AS 1926.1:2012 Ruling in Clause 2.3.1;

  (iii) section for plants located within an NCZ;

  (iv) section for marking of gate latches and hinges;

  (v) section for combined structures forming a barrier;

  (vi) section covering security of closure of gate latches;

  (vii) section providing alternative option for windows used as barriers for indoor pool; and

  (viii) section introduction covering marking of gate latches and hinges.

(c) Removal of definition and references to gate units.

(d) Clarification and simplification of clauses.

(e) Reintroduction of location of latch release being a minimum height of 1 400 mm above any lower foothold.

(f) Increased cycles and frequency of testing gate components.

(g) Addition of a new appendix for the testing of glass panels.

The terms “normative” and “informative” are used in Standards to define the application of the appendices to which they apply. A “normative” appendix is an integral part of a Standard, whereas an “informative” appendix is only for information and guidance.

Notes to the text contain information and guidance. They are not an integral part of the Standard.

Contents

Introduction

Statistical evidence shows that the majority of drowning deaths in private swimming pools involve children under five years of age. For this reason, the requirements established by this document are directed at achieving a barrier that will make it difficult for a young child to gain access to a pool area, whether under, over or through the barrier.

Pool barriers, including the gate and fittings, should be maintained in working order. Non-conforming pool barrier components should be promptly attended to in order to ensure their intended function. This includes making sure that any child-resistant gates and doors always operate correctly and, unless being used to access the swimming pool, they remain closed and latched.

It should be noted that the provisions of this document relate to barriers that are intended to be child resistant but not childproof, as effectiveness of the barrier is dependent on its location, installation and maintenance.

Safety barriers form part of a broader strategy to prevent or reduce deaths of young children by drowning which includes —

(a) supervision;

(b) safety barrier conformance inspections;

(c) water familiarization and swimming lessons;

(d) first aid — including cardio-pulmonary resuscitation (CPR); and

(e) public education.

All of these measures work together to restrict the access of young children to swimming pools.

Swimming pool safety

Part 1: Safety barriers for swimming pools

1 Scope and general

1.1 Scope

This document specifies design, construction, component and testing requirements for barriers that are intended to be permanent structures to restrict the access of young children to swimming pools.

NOTE 1 Public and commercial swimming pools have different human dynamics, such as access for people with disabilities, increased gate usage, crowd behaviour and supervision, and consequently, different requirements apply. Reference can be made to jurisdictional requirements, risk management guidelines or other appropriate resources.

NOTE 2 Maintenance requirements are not included in this document.

This document does not cover the requirements for the construction and installation of temporary pool fencing intended to provide protection to the public and to restrict unauthorized access to swimming pool construction, repair, or renovation sites. Requirements for Temporary Pool Fencing are addressed in AS 4687.4, *Temporary fencing and hoardings — Part 4: Temporary swimming pool fencing*.

1.2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document.

NOTE Documents referenced for informative purposes are listed in the Bibliography.

AS 1288:2021, *Glass in buildings—Selection and installation*

1.3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

1.3.1
barrier
assembly of components, natural or otherwise, that restricts access to the pool

Note 1 to entry: The barrier may include items such as fences, posts and panels, gates, child-resistant windows and doorsets, constructed or natural walls retaining or otherwise, sides of buildings, and balustrades on a balcony, where they form part of the intended barrier.

1.3.2
barrier height
height of the barrier measured vertically from the finished ground level

1.3.3
boundary barrier
dividing barrier between two adjoining properties

1.3.4
child-resistant doorset
barrier installed in a residential building that comprises a door, door frame, self-closing device and latch that is designed to provide access to the swimming pool

1.3.5
child-resistant window
opening part of a window that is protected in accordance with Clause 2.6

1.3.6
finished ground level
FGL
ground level or other permanent stable surface

1.3.7
fixed
securely fixed
affixed
anchored
attached in a way that prevents removal without a tool or other force

1.3.8
flexible materials and components
parts of a barrier or materials used in a barrier made with chain link wire mesh, perforated materials, fabric, brushwood and the like

1.3.9
foliage
leafy part of a plant

1.3.10
foothold
component or feature that can be used by a young child as a climbing aid by foot

1.3.11
gate
portion of a barrier, other than a child-resistant doorset, that is designed to provide access through the barrier

1.3.12
grade A safety glass
glass that meets the requirements of AS 2208

1.3.13
handhold
component or feature that can be used by a young child as a climbing aid by hand

1.3.14
indoor pool
pool that is fully enclosed within a residential building or by a separate building

1.3.15
indoor/outdoor pool
pool that is partly enclosed by a residential building and partly an outdoor pool

1.3.16
inside of a barrier
side of a barrier facing towards the pool area

1.3.17
latch
self-latching mechanism that prevents the opening of a closed gate or door without activation of its release device

1.3.18
may
indicates the existence of an option

1.3.19
non-climbable
no handholds or footholds or other aids that facilitate climbing

1.3.20
non-climbable zone
NCZ
zones without handholds or footholds provided in accordance Clause 2.2

1.3.21
outdoor pool
pool that is not fully or partly enclosed by a building

1.3.22
outside of the barrier
side of a barrier facing away from the pool area

1.3.23
pool
swimming pool
any structure containing water to a depth greater than 300 mm and used primarily for swimming, wading, paddling or the like, including a bathing or wading pool, or spa pool

1.3.24
pool area
area that contains the pool and is enclosed by a barrier

1.3.25
rigid components
components of a barrier made of steel, aluminium, wood, glass, acrylic, masonry and the like

1.3.26
shall
indicates that a statement is mandatory

1.3.27
should
indicates a recommendation

1.3.28
soft foliage
pliable, bendable, leafy part of a plant without a rigid structure

1.3.29
within the property
on a property other than on a property boundary

1.3.30
young child
child under the age of five years

1.4 Statement of conformity

Manufacturers and suppliers that claim conformity with this document should have evidence available to demonstrate such conformity.

2 Design and construction of elements of a barrier

2.1 General

A barrier shall be designed and constructed so that it will restrict access by young children.

The barrier shall be a permanent structure.

The height of a barrier within the property shall be not less than 1 200 mm on the outside of the barrier.

Barriers may be constructed from any durable material, provided the barrier conforms to the requirements of this document.

A barrier, other than a retaining wall, shall be vertical or lean away from the pool by not more than 15°.

NOTE A barrier should be free of sharp edges, sharp projections, and similar hazards.

2.2 Non-climbable zone (NCZ)

2.2.1 General

The height and radius of the arc of all non-climbable zones (NCZs) (other than NCZ 4) shall be not less than 900 mm. Within an NCZ, there shall be no handholds or footholds, objects or plants that will facilitate climbing.

Where NCZs are required, they shall apply to the entire length of the barrier.

2.2.2 Barriers less than 1 800 mm height

The following NCZs shall be present on all barriers with a height less than 1 800 mm:

(a) NCZ 1 is a 900 mm vertical plane on the outside face of a barrier. This NCZ may be located anywhere within the perpendicular height of a barrier or, where present, anywhere between horizontal components or handholds and footholds on a barrier (see Figures 2.1, 2.3, 2.5, 2.7 and 2.9).

(b) NCZ 2 is a quadrant on the outside of a barrier created by a 900 mm radius down from the top of NCZ 1 above (see Figures 2.1, 2.3, 2.5 and 2.7).

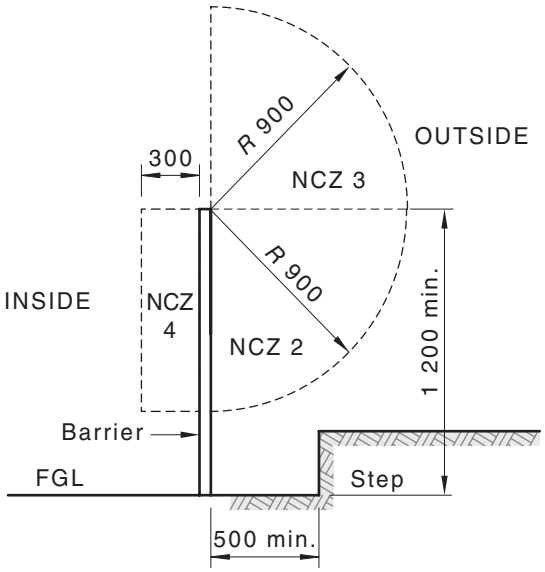
NOTE 1 NCZ 2 is always immediately adjacent to NCZ 1 on all barriers.

(c) NCZ 3 is a quadrant on the outside of a barrier created by a 900 mm radius up from the top of the barrier. When the top of NCZ 1 is below the top of a barrier, the NCZ 3 shall extend vertically down to the top of NCZ 1 (see Figures 2.1, 2.3, 2.5 and 2.7). NCZ 3 is applicable only to the space created by the quadrant and does not apply to any item or component on, or that is part of, the barrier.

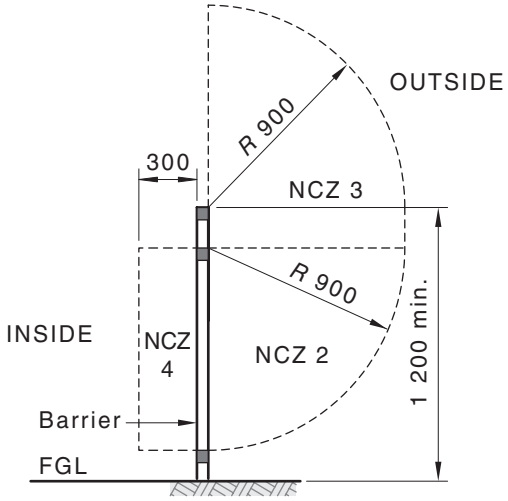
(d) NCZ 4 is required on all barriers with vertical openings 10 mm to 100 mm in width and is a 900 mm high by 300 mm deep rectangular space on the inside of the barrier. It shall align with NCZ 1 (see Figure 2.1).

NOTE 2 A barrier component or an item or object on a barrier that would otherwise be climbable is non-climbable if its top surface is sloped at more than 60° to the horizontal plane [see Figure 2.16(A) and (B)].

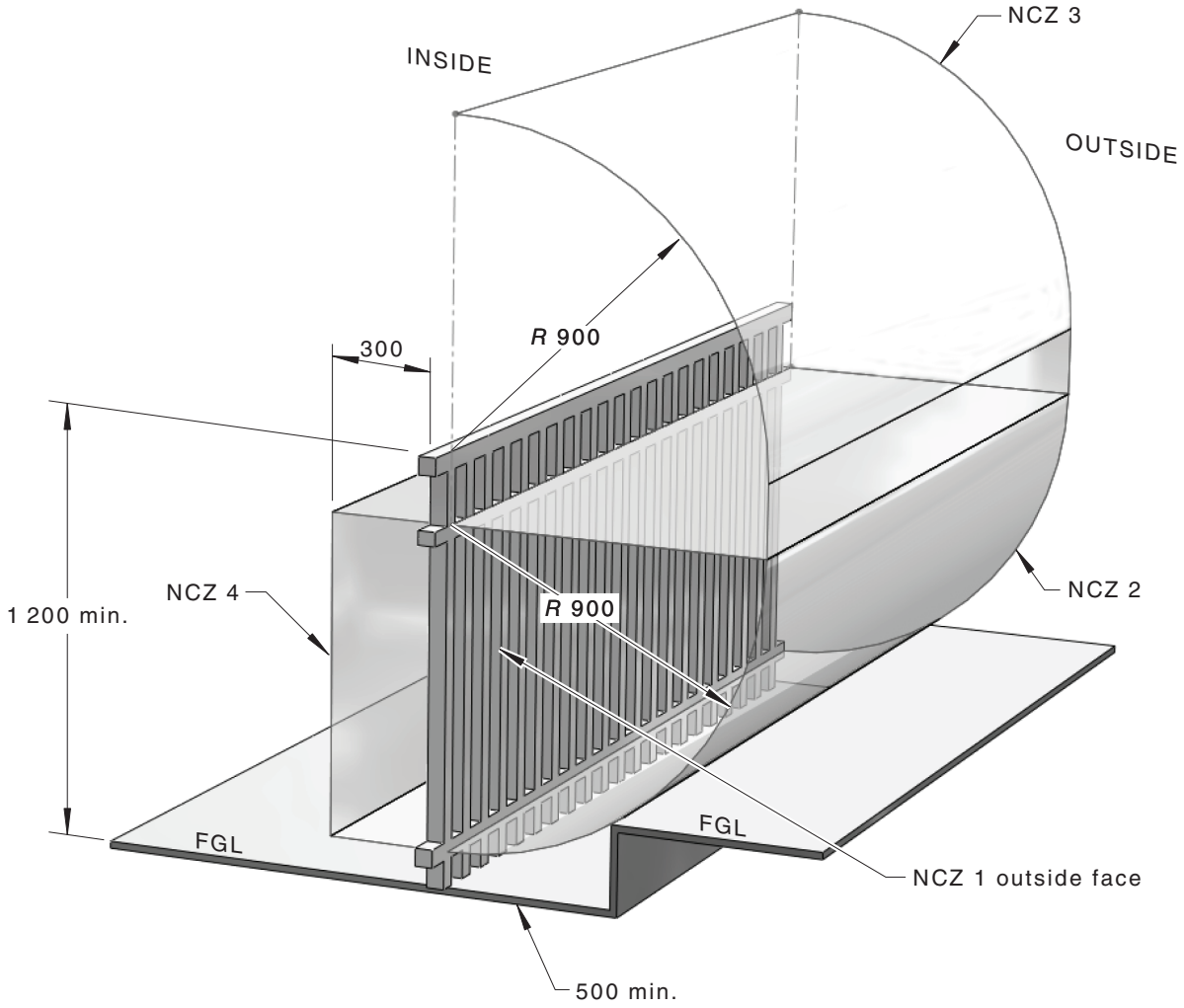
Dimensions in millimetres



(a) NCZ 2 at top of barrier



(b) NCZ 2 in middle of barrier



(c) 3D view of NCZs

NOTE The lower radius point of NCZ 2 may be located anywhere on the barrier provided there are no aids for climbing within the arc.

Figure 2.1 — Examples of non-climbable zones (NCZs)

2.2.3 Internal barriers 1 800 mm or greater in height

Internal barriers 1 800 mm or greater in height, measured on the outside of the barrier, shall not require an NCZ on either side.

2.2.4 Boundary barriers

Where a boundary barrier acts as a barrier to a pool, it shall have —

(a) a minimum height of 1 800 mm on the inside; and

(b) NCZ 5 formed as a quadrant of 900 mm radius down from the top of the inside of the barrier [see Figure 2.2(a) and Figure 2.4].

The following also apply:

(i) NCZ 5 is not invalidated by the intersection of a conformant internal barrier provided —

(A) the width of the top rail or surface of the intersecting barrier is a maximum of 50 mm wide at any point within the non-climbable zone; and

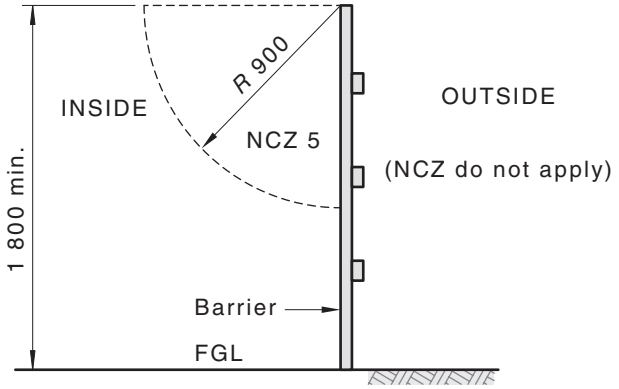
(B) intersects at an angle of between 45° and 135° to the 1 800 mm boundary barrier [see Figure 2.2(b)].

(ii) Where the width of the top rail or surface of the internal barrier is greater than 50 mm and is located within the NCZ 5, the height of the lower barrier shall —

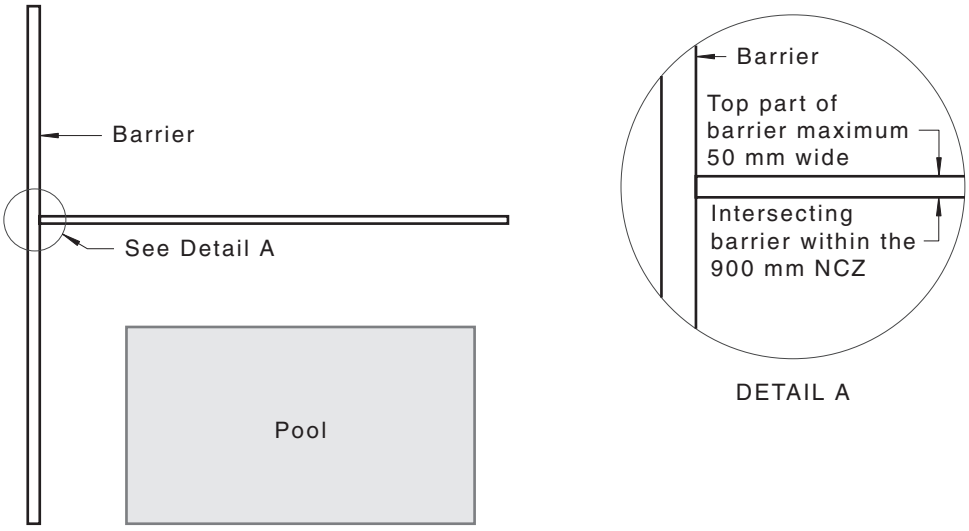
(A) extend to a minimum height of 1 800 mm; and

(B) extend a minimum of 900 mm from the intersection [see Figure 2.2(c)].

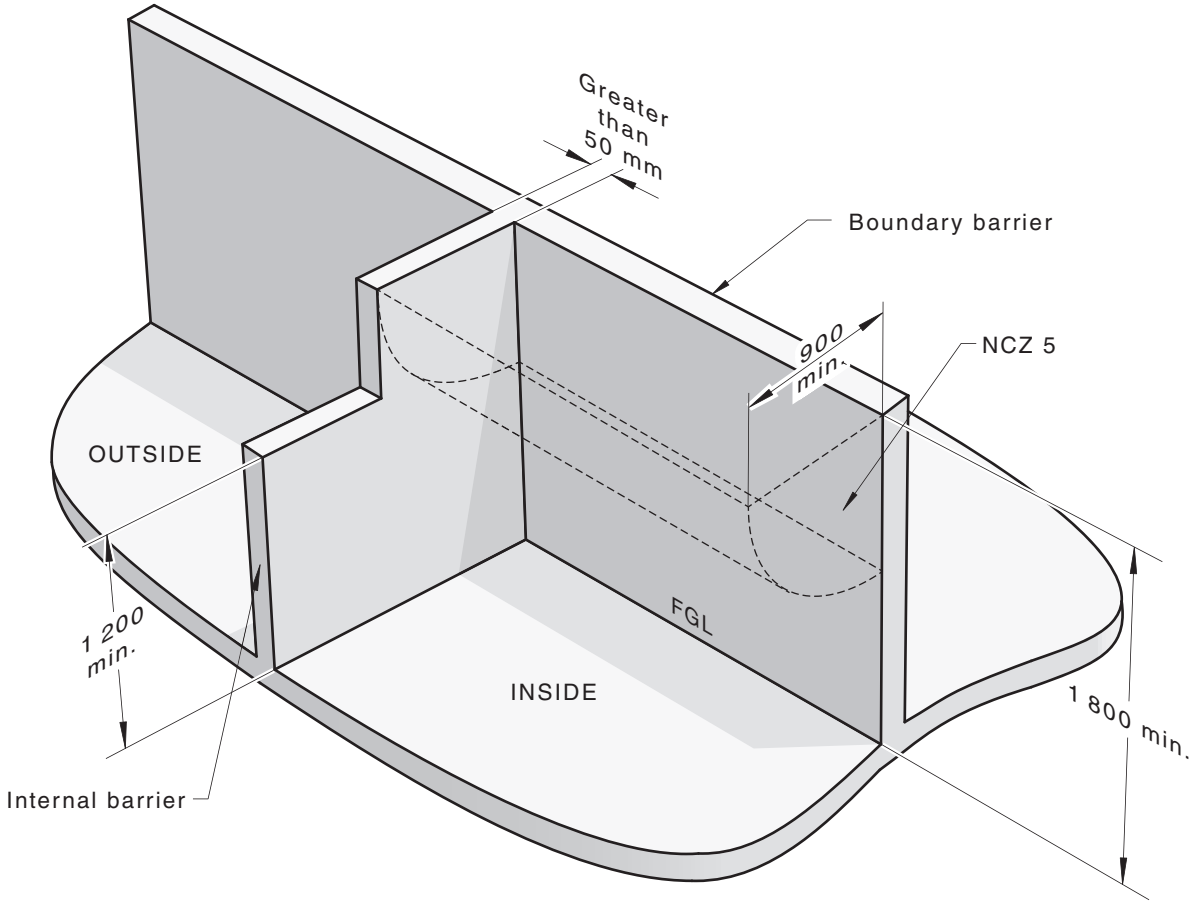
Dimensions in millimetres



(a) Boundary barrier 1 800 mm min.



(b) Intersecting barrier maximum 50 mm wide



(c) Intersecting barrier with top greater than 50 mm in width

Figure 2.2 — Boundary barriers

2.2.5 Intersecting internal barriers and NCZs

Where a barrier with a height less than 1 800 mm intersects with a barrier with a minimum height of 1 800 mm at an angle greater than 90°, the NCZs 1 and 2 on the lower barrier shall extend 900 mm beyond that intersection (see Figure 2.3).

Where two barriers less than 1 800 mm in height intersect, all required NCZs shall be continuous around any intersecting corner to maintain the integrity of the NCZ.

Dimensions in millimetres

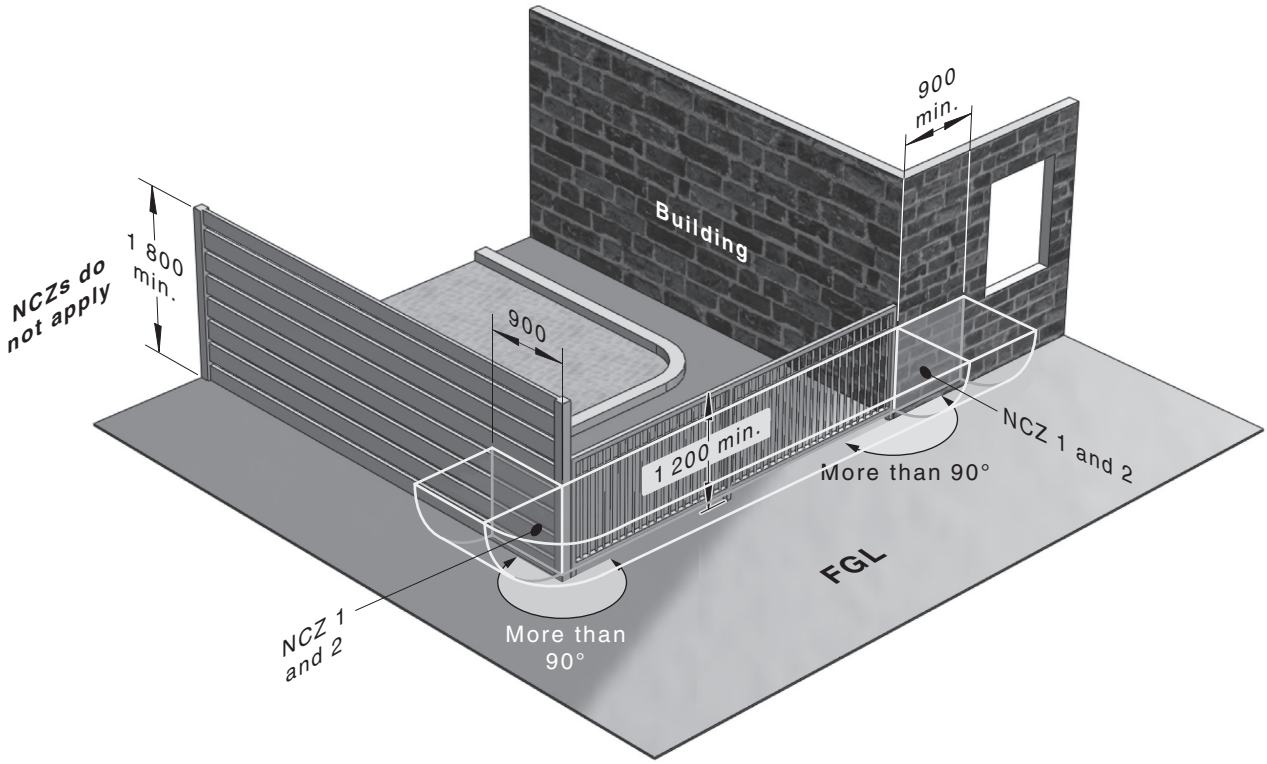


Figure 2.3 — Intersecting internal barriers

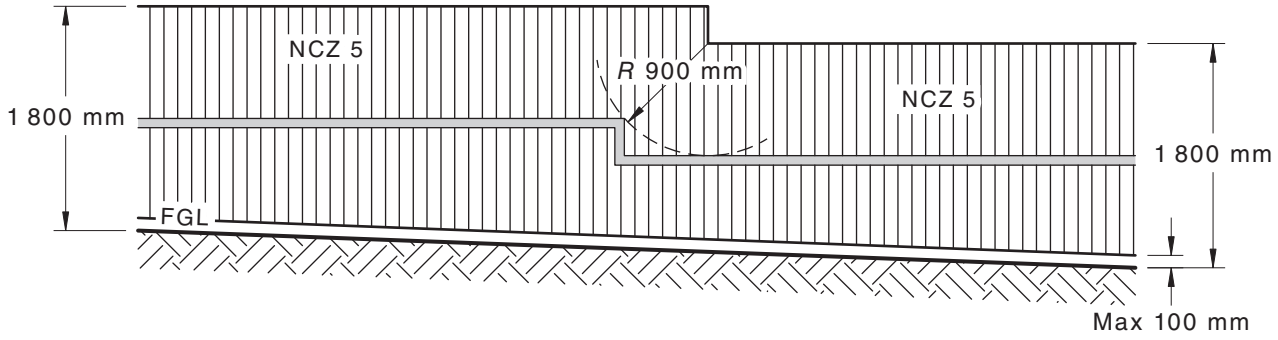


Figure 2.4 — Continuation of NCZ 5 on boundary

2.2.6 Plants within an NCZ

Plants located within an NCZ shall not facilitate access to the pool area or contain any handholds or footholds that facilitate climbing (see Figure 2.5 and 2.6).

EXAMPLE Plants that do not facilitate access to the pool area can include —

(a) small shrubs, succulents and decorative grasses;

(b) foliage that is dense, rough, thorned, spiked or irritating;

(c) tree, palm and fern trunks and branches with rough, thorny or smooth components;

(d) plants that are fragile and unable to support a young child; and

(e) plants where foliage conceals thick branches that could support a young child, provided the branches are impractical for a young child to reach or use to climb the barrier.

[SOURCE: Reproduced/Adapted from “Guidelines for pool owners and property agents” (October 2016) © State of Queensland under the CC BY 4.0 licence https://www.business.qld.gov.au/industries/building-property-development/building-construction/laws-codes-standards/pool-safety/guidelines]

Dimensions in millimetres

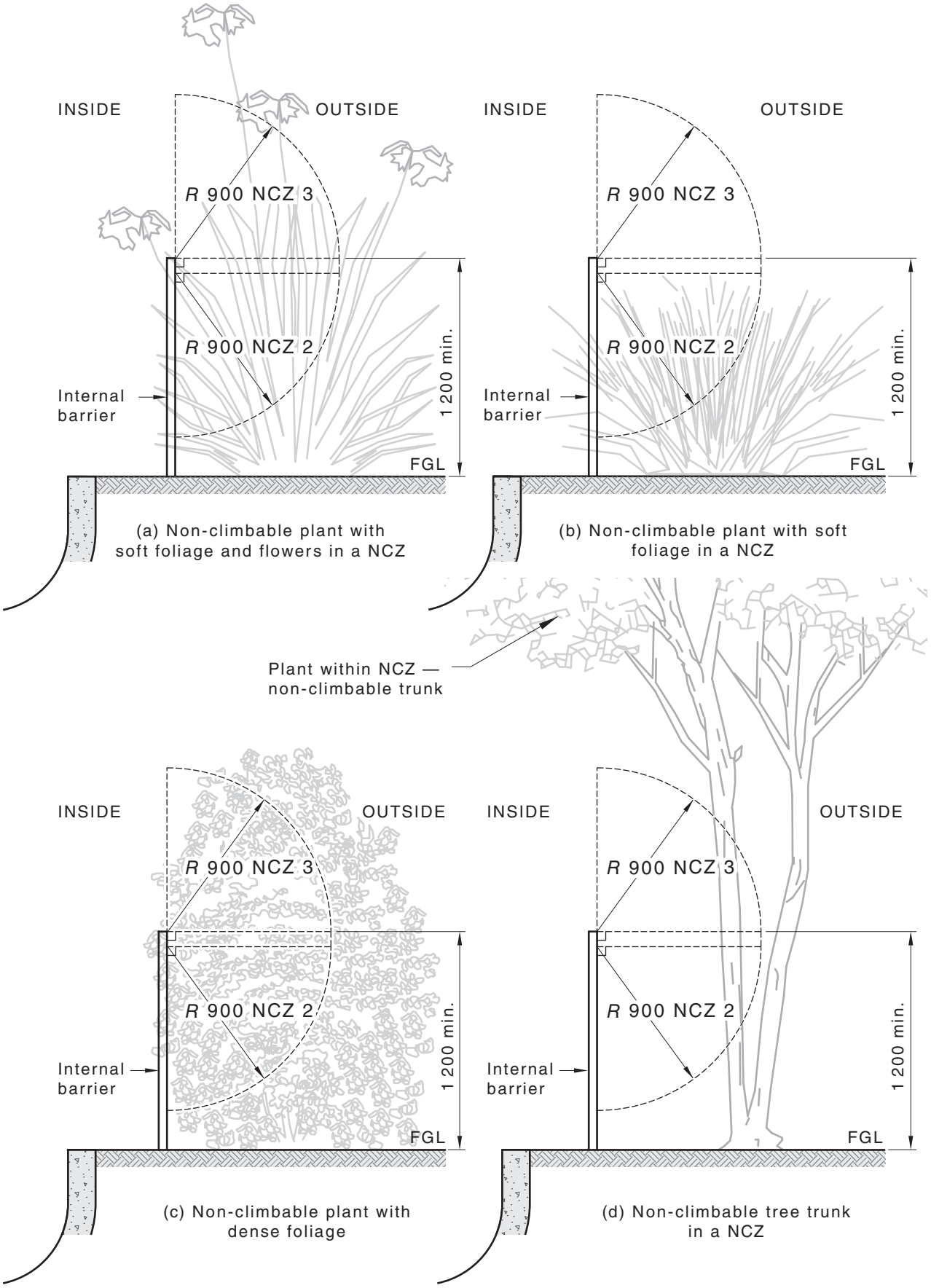


Figure 2.5 — Example of non-climbable plants within NCZs — Internal barrier

A1

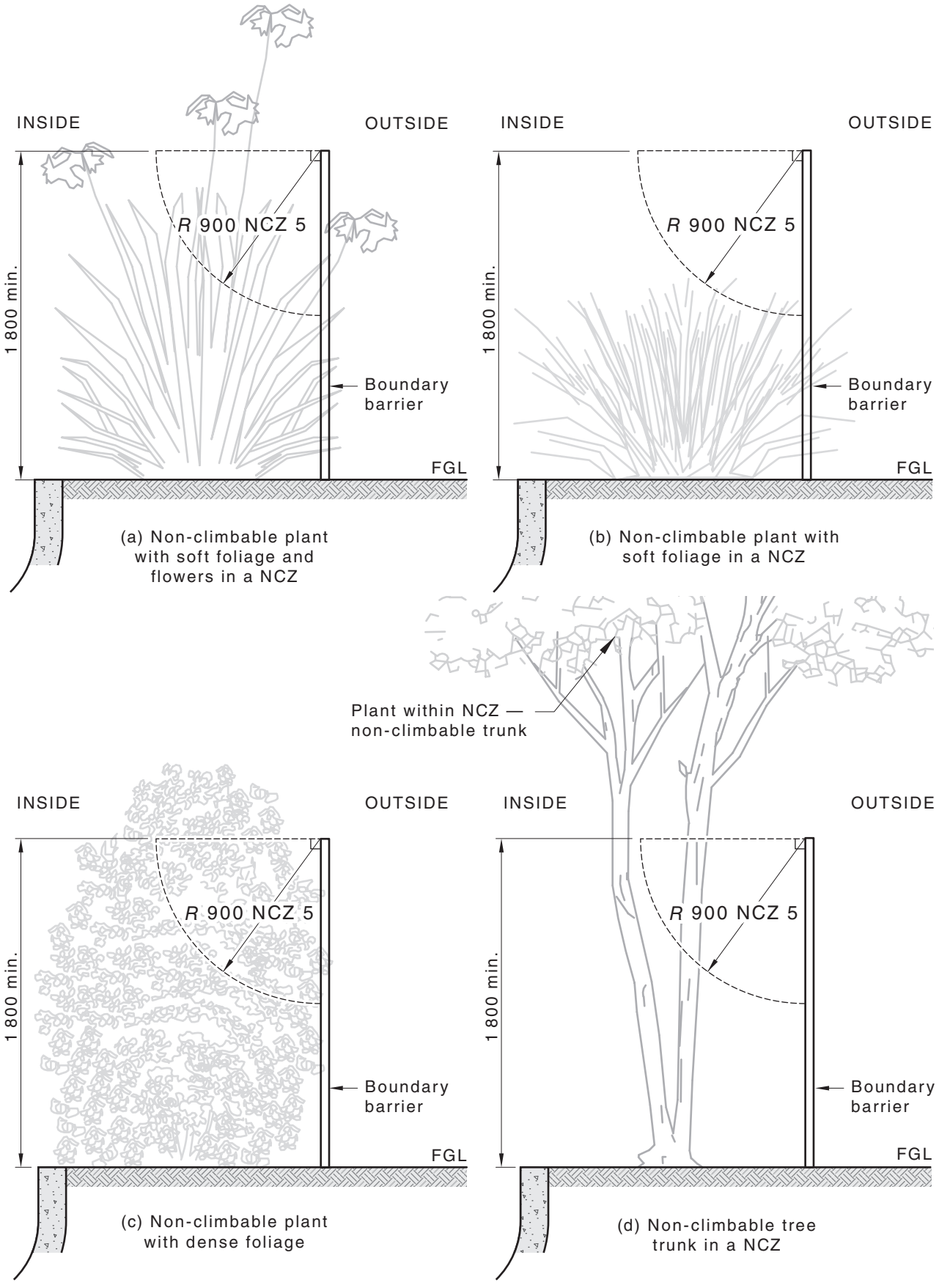


Figure 2.6 — Example of non-climbable plants within NCZs — Boundary barrier

A1

2.2.7 Allowable encroachments in an NCZ

Objects that encroach within the NCZ are permitted provided the following requirements are met:

(a) The height of the object shall be greater than the barrier height.

(b) The object shall not facilitate access to the pool area.

(c) The object shall not facilitate climbing.

NOTE See Figure 2.7 for an example of non-climbable objects within an NCZ.

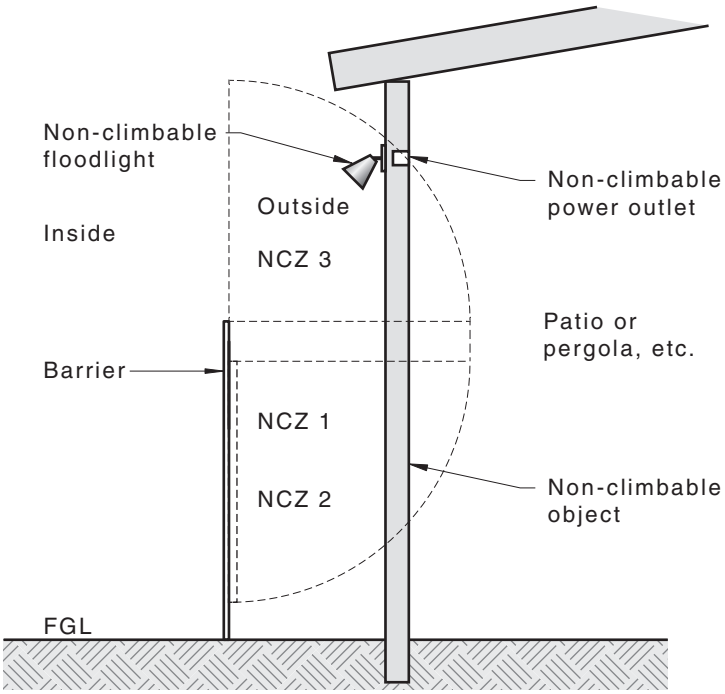


Figure 2.7 — Example of non-climbable objects within an NCZ

2.3 Barriers

2.3.1 Features and objects near a barrier

In addition to the provisions of Clause 2.2, steps, retaining walls, objects, or level changes that would otherwise reduce the minimum required barrier height within the property shall not be located within 500 mm of the barrier [see Figure 2.1(a)]. This clause shall not apply to boundary barriers.

2.3.2 Perforated material or mesh

The following requirements apply to barriers using perforated and mesh materials:

(a) Perforated materials or mesh shall be durable and conform to the requirements of Clause 3.3.2.

(b) Materials with openings less than 100 mm shall conform with the relevant provisions of Clauses 2.1 and 2.2.

(c) Materials with openings greater than 100 mm shall not be used.

(d) Openings shall be measured horizontally across their widest part.

(e) Internal barriers shall be installed in such a manner that —

(i) the barrier height is a minimum of 1 200 mm;

(ii) when 250 N is applied at any point along on the top of the barrier, the barrier height shall be a minimum of 1 200 mm; and

(iii) when a vertical lift force of 100 N is applied at any point along the bottom of the barrier, the gap between the bottom of the barrier and the FGL shall be a maximum of 100 mm.

2.3.3 Glass pool barriers

The following requirements apply to glass pool barriers other than windows:

(a) Grade A safety glass shall be used in the glazing of glass pool barriers.

(b) Glass pool barriers shall be designed utilizing the 330 N load applied as a Serviceability Limit State (SLS) and an Ultimate Limit State (ULS) of 495 N.

(c) The standard nominal glass thickness for a given situation shall be determined in accordance with —

(i) AS 1288:2021 Section 3; or

(ii) tested in accordance with Appendix G.

(d) Glass gates using top and bottom pivot style hinges shall conform to the dimensions of Figure 2.8.

(e) Glass pool barriers also preventing falls greater than 1 000 mm shall be designed in accordance with the requirements of AS 1288:2021 Section 7.

(f) Each configuration shall be an engineered solution or tested in accordance with Appendix G.

NOTE If subject to wind load, a glass pool barrier should be designed using either AS 1288:2021 Section 3 or the simplified design, as specified in AS 1288:2021 Section 4. In some exposed locations wind load may exceed the design loads.

Dimensions in millimetres

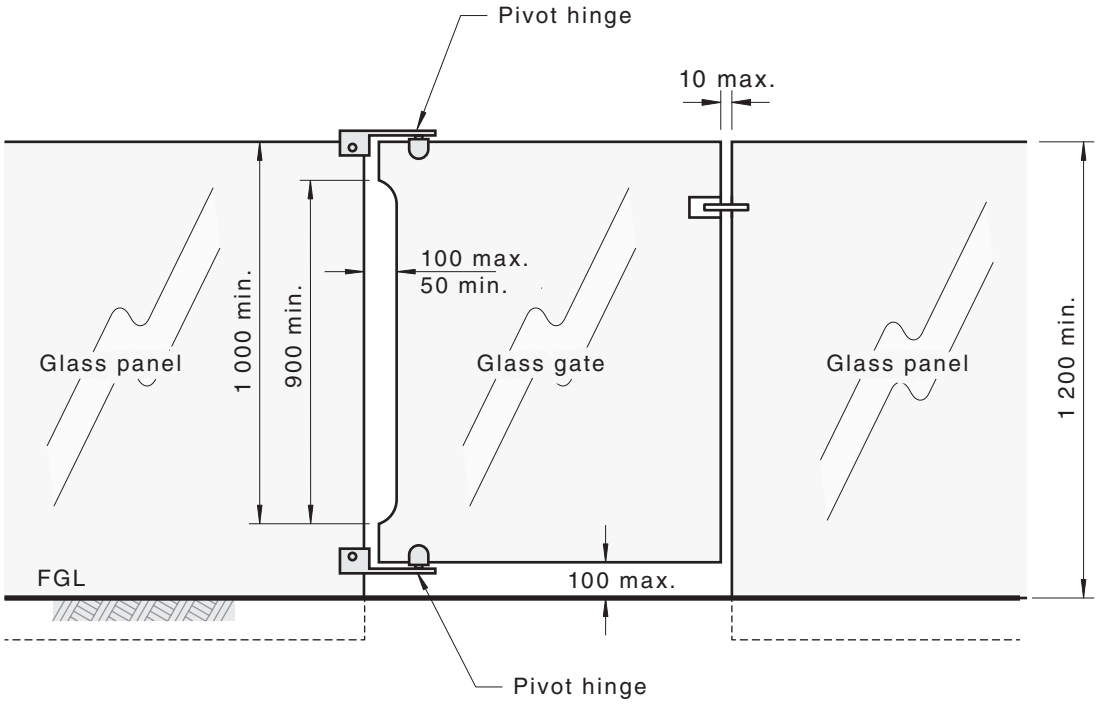


Figure 2.8 — Glass gate with pivot hinges

2.3.4 Surface projections and indentations

Projections and indentations, or any combination thereof, within the NCZ 1, shall not form a horizontal surface with a depth greater than 10 mm (see Figure 2.9). For a barrier having random projections and/or indentations with horizontal surfaces of a depth greater than 10 mm the following requirements apply:

(a) All such lower surfaces shall be a minimum of 900 mm from the top of the barrier.

(b) All such higher surfaces shall be a minimum of 900 mm above the finished ground level.

(c) High and low surfaces shall be a minimum of 900 mm apart.

The relevant surface for projections shall be the top horizontal surface and for indentations shall be the bottom horizontal surface.

NOTE On such barriers the location of NCZ 1 may vary along the length of a barrier (see Figure 2.9).

Dimensions in millimetres

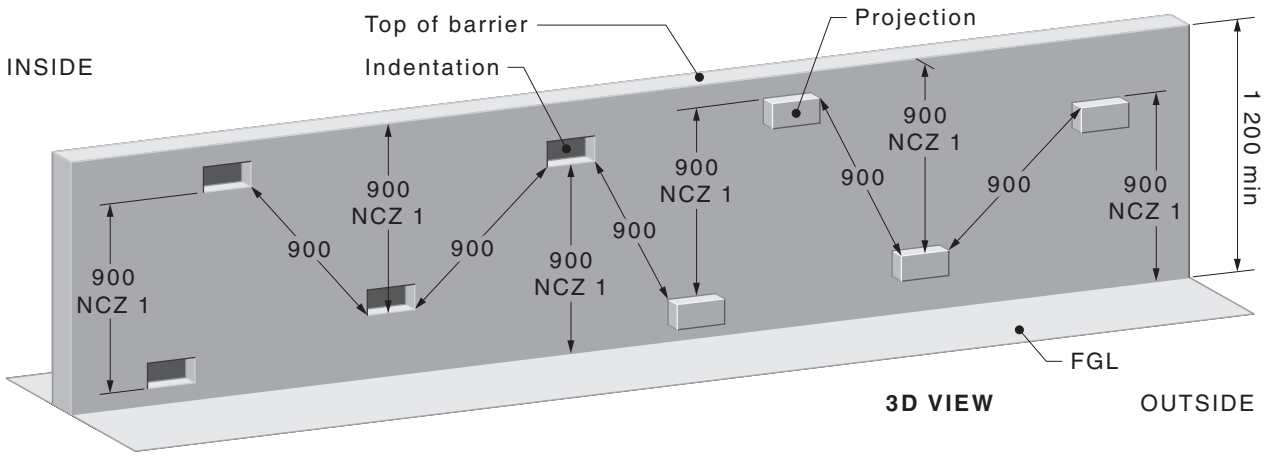


Figure 2.9 — Barriers with projections and indentations greater than 10 mm

2.3.5 Horizontal components

Horizontal components located in the NCZs on the outside of a barrier are not a handhold or foothold where —

(a) the opening between the vertical components is a maximum of 10 mm; and

(b) the horizontal components —

(i) have a maximum surface depth of 10 mm; or

(ii) for a surface depth greater than 10 mm, the top surface is sloped at 60° or more to the horizontal plane (see Figure 2.11).

Where a barrier is sloping, NCZs shall be parallel to the top of the barrier (see Figure 2.15).

Where a barrier is stepped at a ground level change or installed with steps on a slope, the integrity of all applicable NCZs shall be maintained [see Figure 2.16(B)].

Except for NCZ 5, horizontal components located on the opposite side of the NCZ are not a handhold or foothold where the opening between the vertical components is a maximum of 10 mm (see Figure 2.10).

Dimensions in millimetres

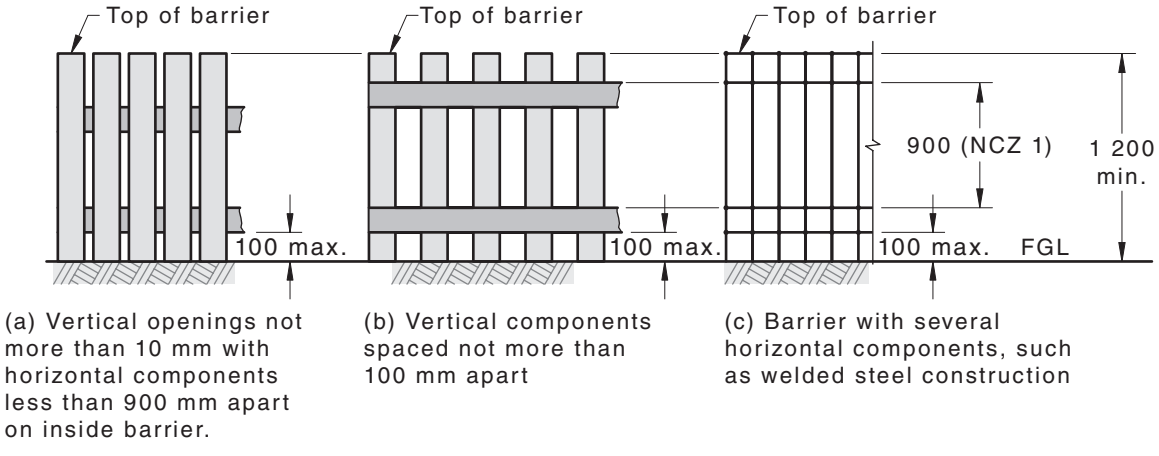


Figure 2.10 — Horizontal components not acting as a handhold or foothold

Dimensions in millimetres

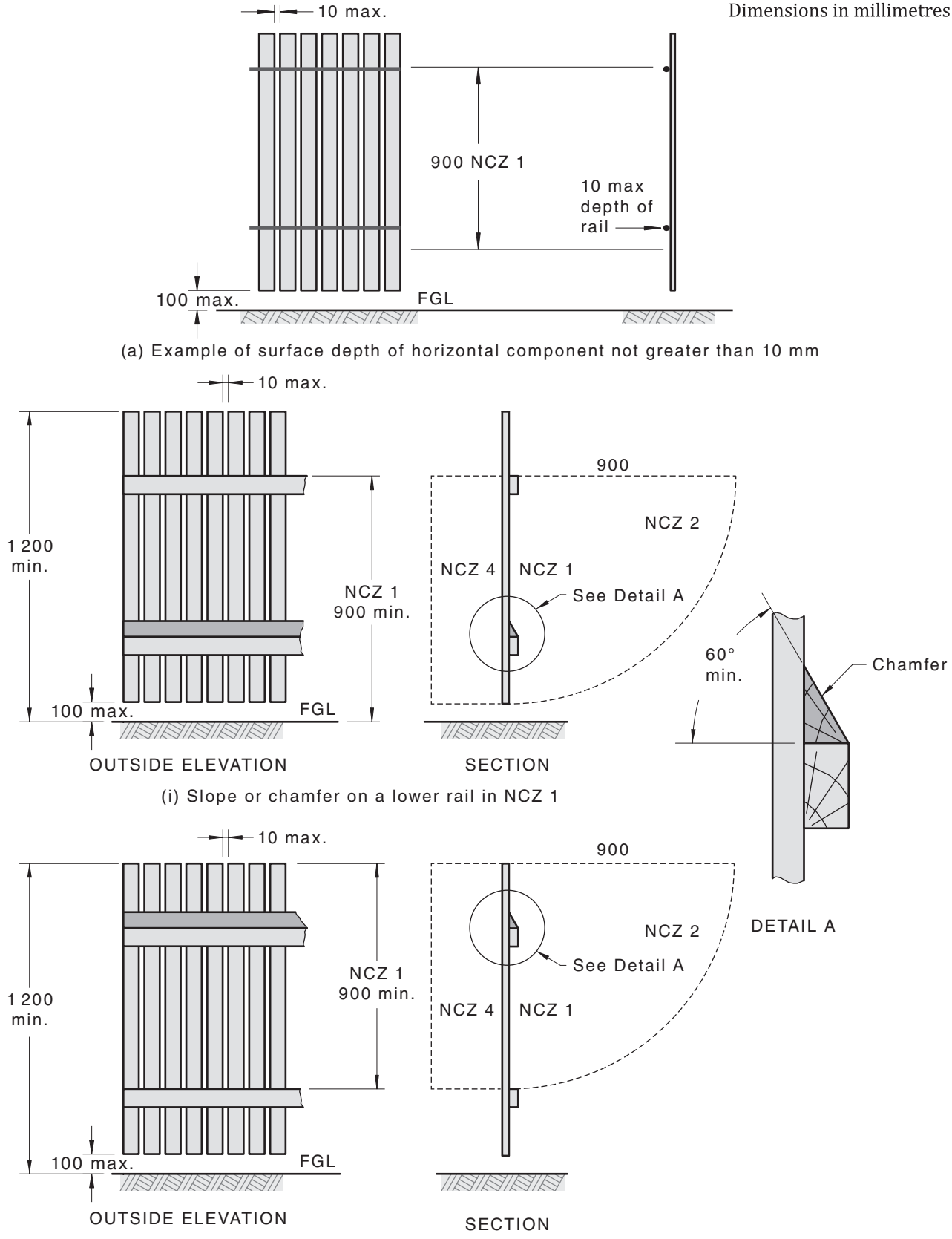


Figure 2.11 — Horizontal components not acting as a hold for climbing

2.3.6 Horizontal slat barrier designs

For horizontal slat designs within the NCZ —

(a) the opening between rigid horizontal components shall be a maximum of 10 mm; and

(b) there shall be no projections from the vertical face.

NOTE See Figure 2.12 for an example.

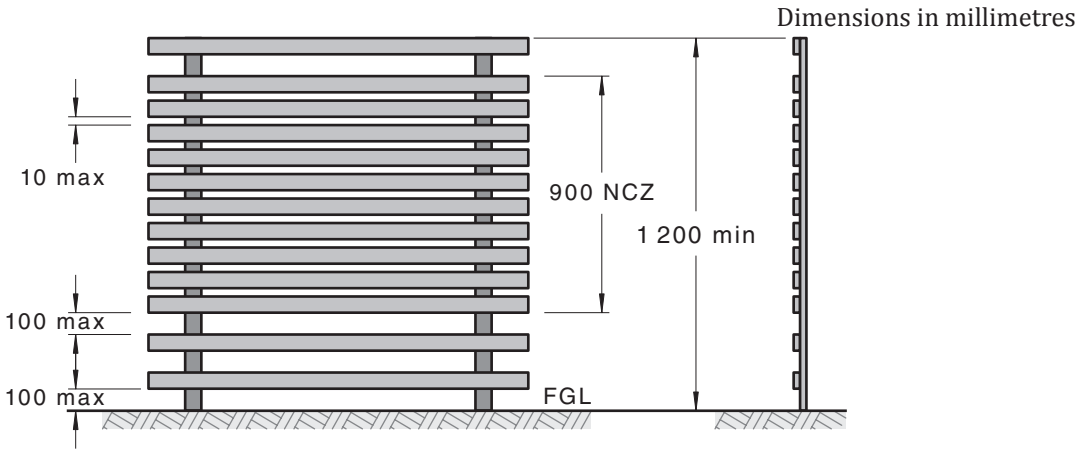


Figure 2.12 — Example of horizontal slat construction for barriers of minimum height 1 200 mm

2.3.7 Maximum openings within a barrier

All openings within a barrier at or below the barrier's required height shall be limited to a maximum of 100 mm in at least one direction (see Figures 2.13 and 2.14 for examples).

Dimensions in millimetres

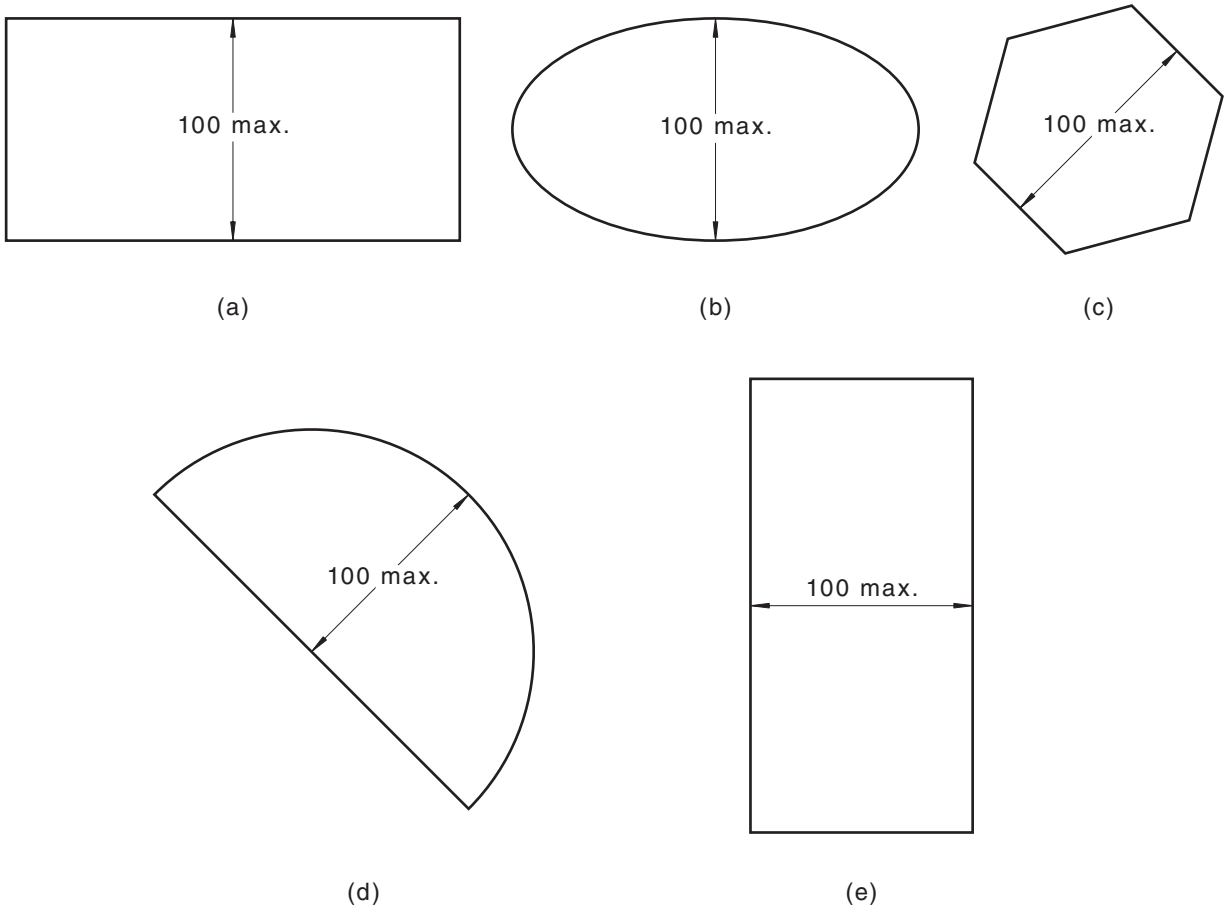
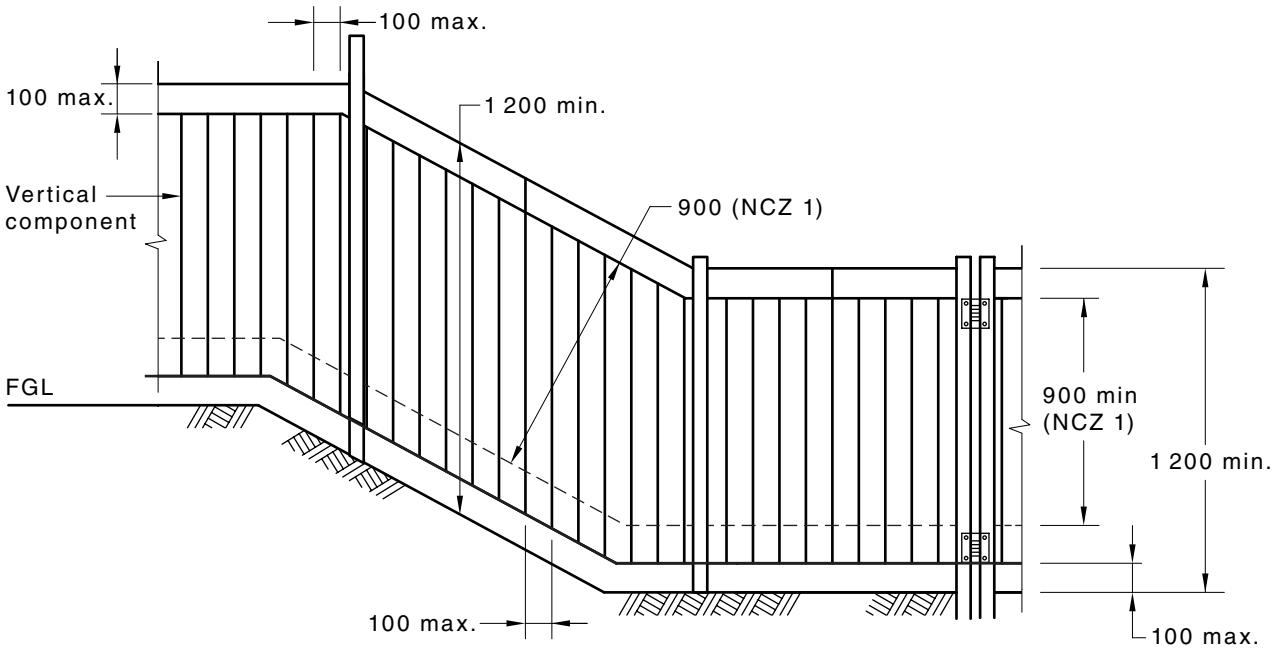
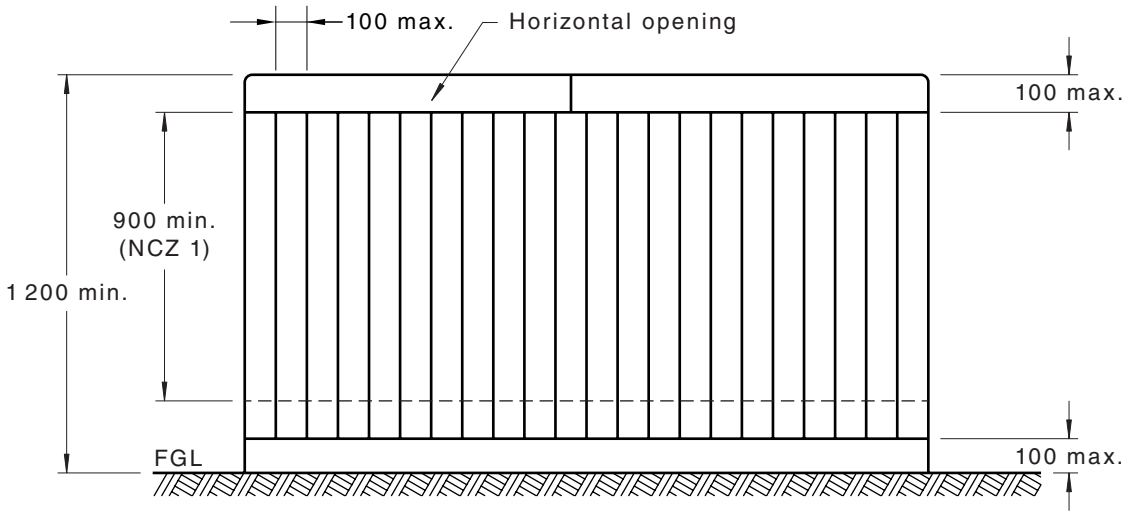


Figure 2.13 — Examples of variations of openings in a barrier

Dimensions in millimetres



(a) Sloping ground



(b) Flat ground

Figure 2.14 — Examples of openings in a barrier

NOTE The dimension indicates the space between the bars, not the space and the bars.

2.3.8 Barriers over sloping ground

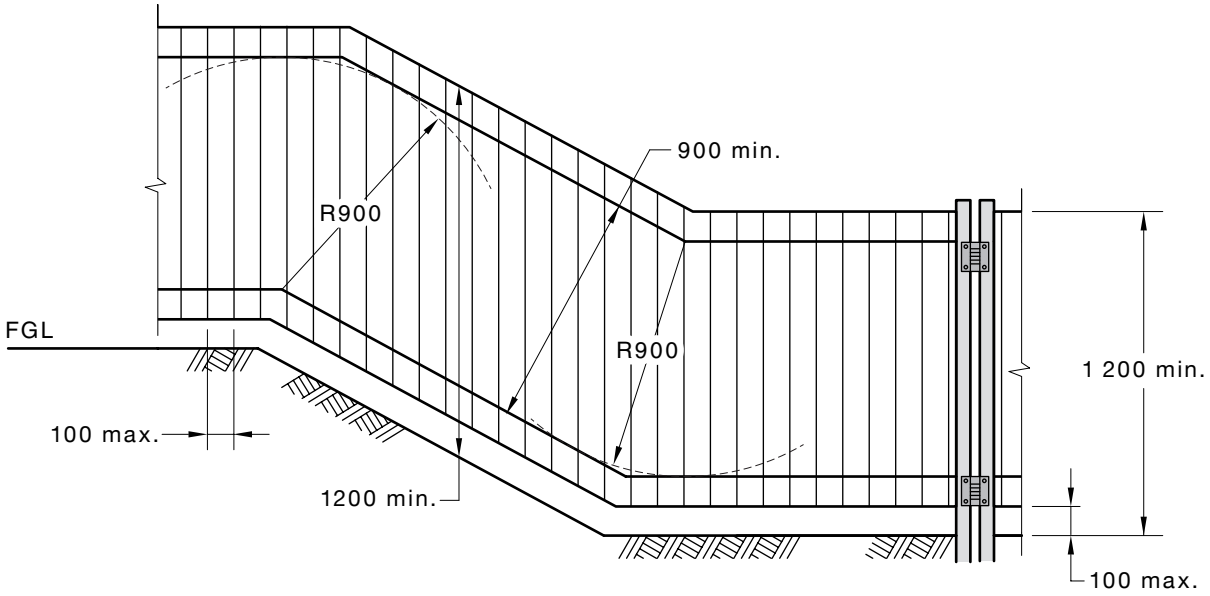
Where a barrier is placed over sloping ground —

(a) NCZs shall be parallel to the top of the barrier [see Figure 2.15(a)];

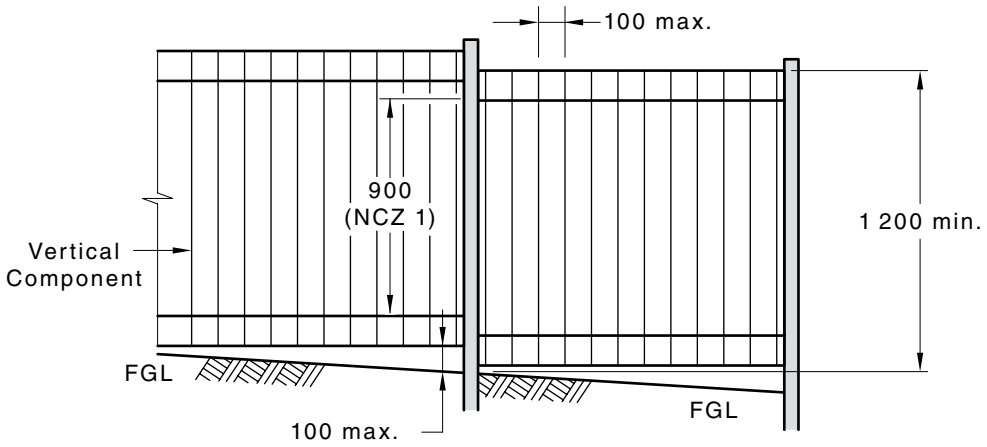
(b) the integrity of all applicable NCZs shall be maintained across changes of ground level; and

(c) where integrity of NCZs can be maintained across a stepped panel, stepped panels may be used [see Figure 2.15(b)].

Dimensions in millimetres



(a) Example of a 900 mm radius maintaining NCZ 1 along the length of a barrier on a slope



(b) Example of a stepped panel sloping site maintaining NCZ 1 at panel steps

Figure 2.15 — Examples of barriers on sloping ground

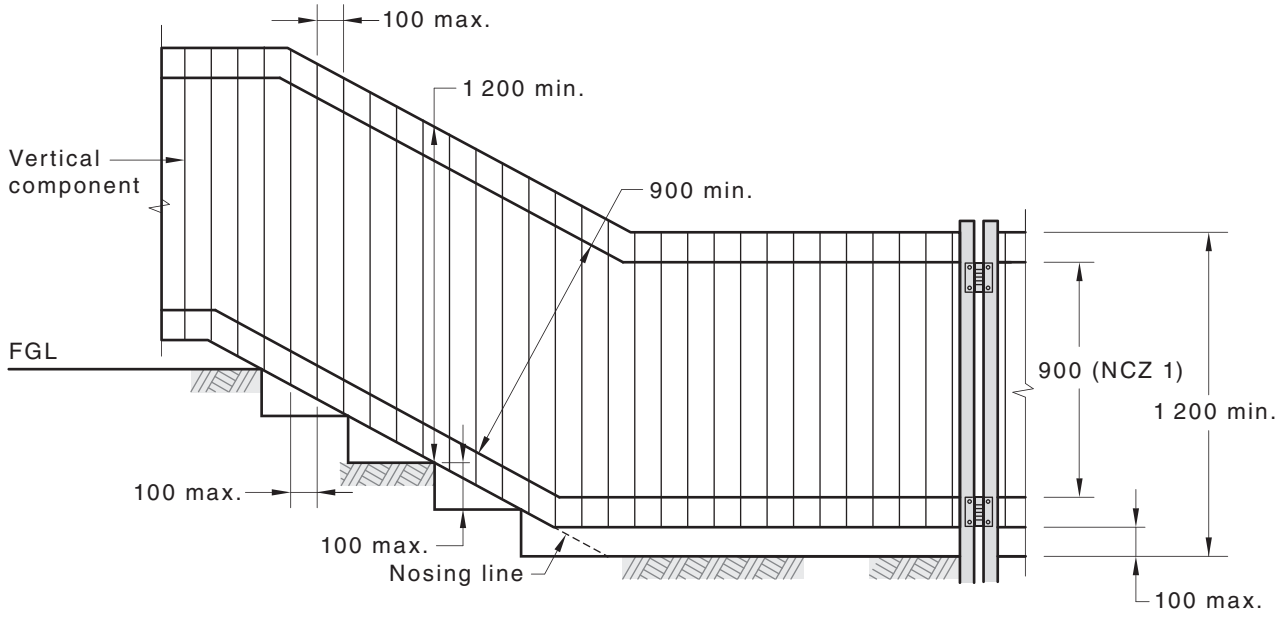
2.3.9 Barriers over steps and stepped ground

Where a barrier is stepped at a ground level change or installed with steps on a slope, the integrity of all applicable NCZs shall be maintained [see Figures 2.16(A) and 2.16(B)]. The height of the barrier shall be measured from the step nosing line [see Figure 2.16(A)].

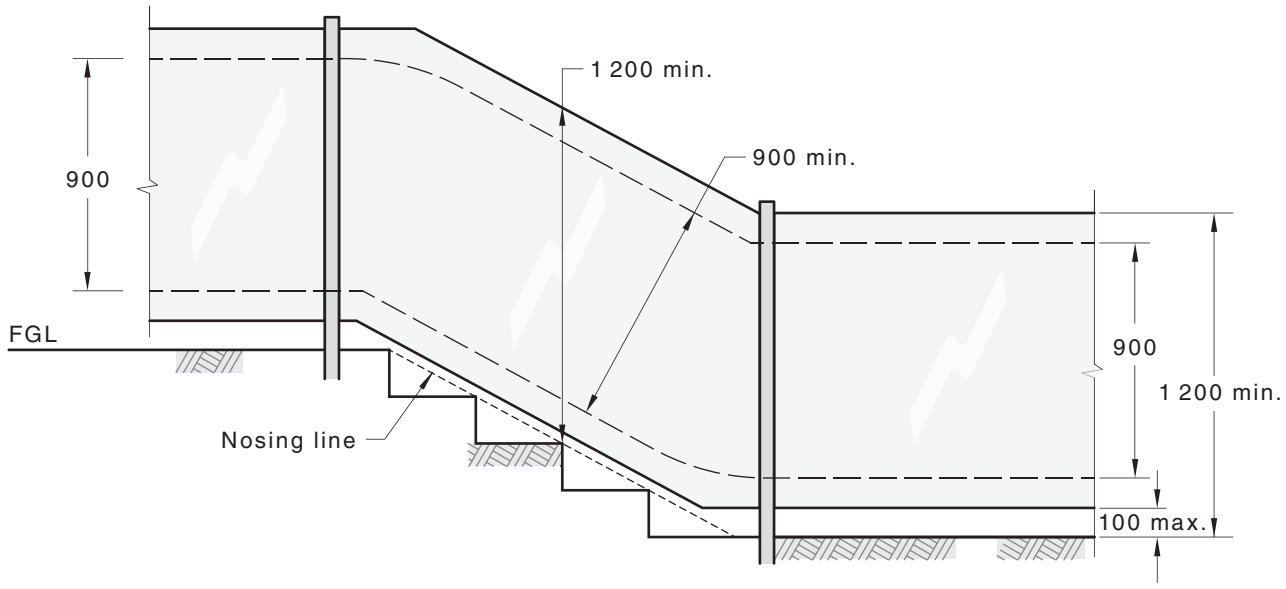
For a barrier that crosses a retained ground level change (that is, the barrier is stepped at ground level) the barrier may be squared off [see Figure 2.16(B)(a)] or may be raked on the top section [see Figure 2.16(B)(b)].

NOTE The raked barrier is most commonly used in glass panelled barriers.

Dimensions in millimetres



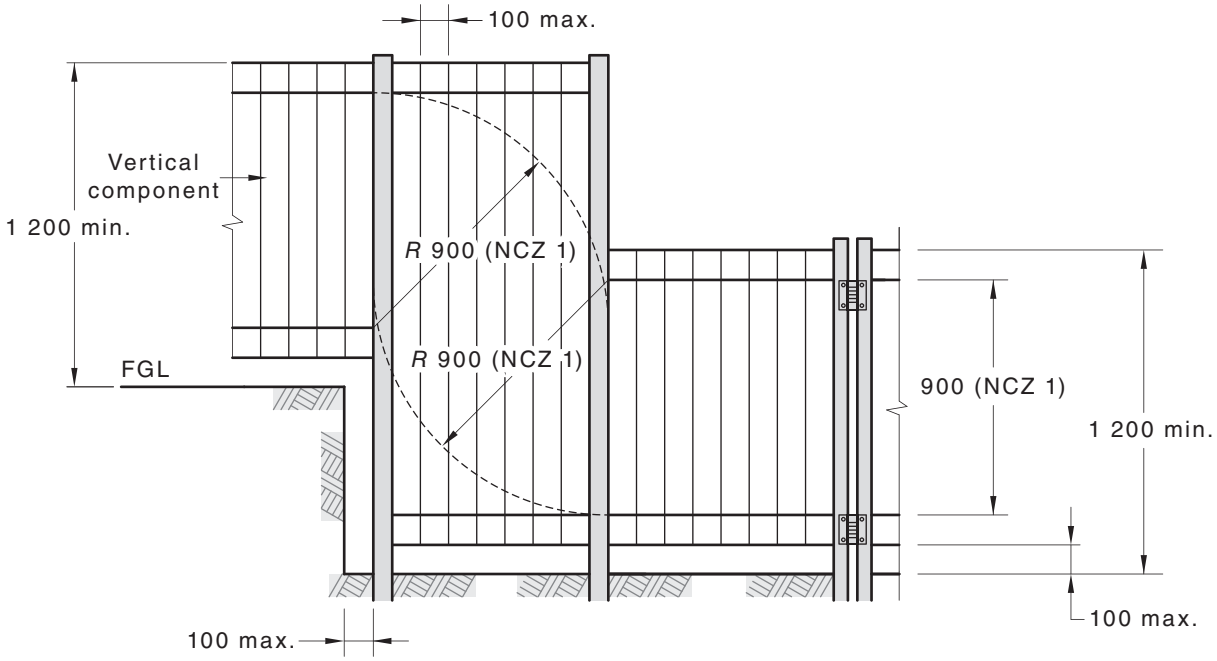
(a) Example of a barrier over steps



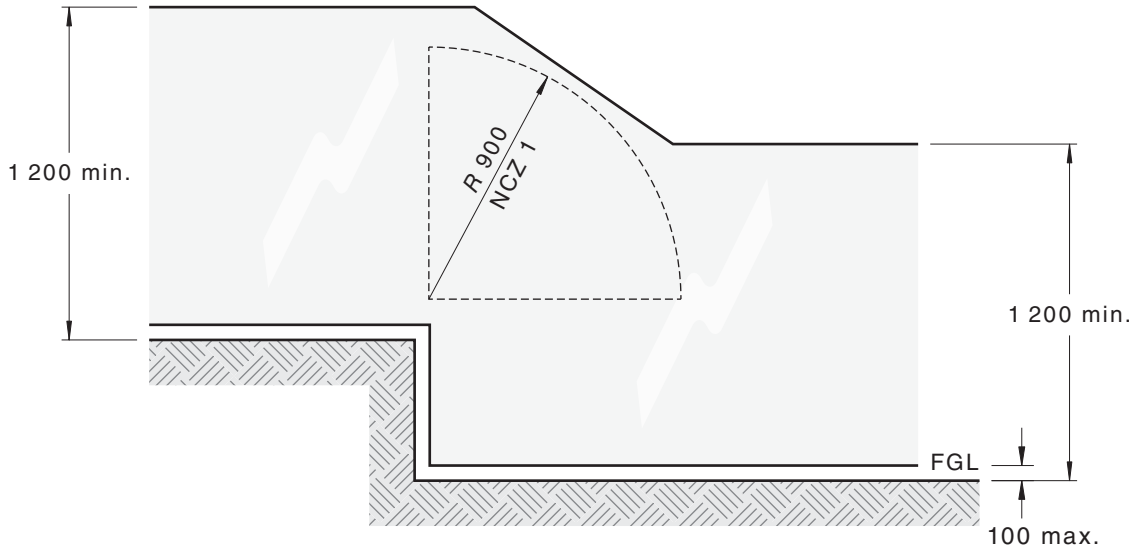
(b) Example of glass barrier over steps with a 900 mm radius maintaining NCZ 1 on the barrier

Figure 2.16(A) — Examples of pool barriers over steps

Dimensions in millimetres



(a) Example of a stepped barrier using a 900 mm radius to maintain the NCZ 1 from upper level to lower level



(b) Example of maintaining NCZ 1 on a raked glass barrier over stepped ground

NOTE "R" indicates radius.

Figure 2.16(B) — Examples of barriers over stepped ground

2.3.10 Ground clearance

The following requirements apply to ground clearance:

(a) All openings between the bottom of the barrier and the finished ground level shall be limited to a maximum of 100 mm in at least one direction; and

(b) The surface beneath the barrier shall be permanent and not easily removed or eroded by a young child, animals or weather.

2.3.11 Exemption for combined structures forming a barrier

A barrier may consist of a number of structures provided the following requirements are met:

(a) The overall barrier shall conform to the requirements of this document.

(b) The structure shall present as a single barrier.

(c) Any ledge created shall have a maximum ledge of 50 mm.

(d) Any ledge shall only occur outside of any NCZ (where NCZs are required).

(e) The barrier shall extend a minimum of 900 mm above any ledge (c).

(f) The ledge as referenced in (c) is exempt from the requirements of Clause 2.3.1.

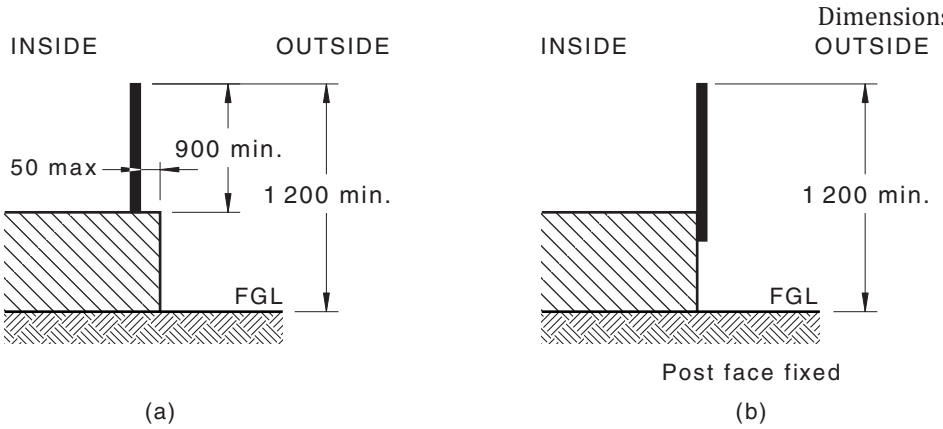


Figure 2.17 — Fixing for a composite barrier

2.4 Gates and fittings

2.4.1 Gates

2.4.1.1 Operation of gates

Gates shall —

(a) be fitted with:

(i) a latch conforming with Clause 2.4.2 and;

(ii) a self-closing device conforming with Clause 2.4.1.2;

(b) only swing outwards, i.e. away from the pool area;

(c) be located so that the arc of operation is clear of any building or doorway;

(d) be able to swing freely through the arc of operation; and

(e) have a maximum opening of 100 mm beneath the gate when closed.

2.4.1.2 Self-closing device

The self-closing device shall be capable of closing the gate from —

(a) fully open;

(b) resting on the latch; and

(c) anywhere between (a) and (b).

NOTE 1 The self-closing device may require a cushioned back-checking operation to prevent shock when the gate is closing.

NOTE 2 Gates subject to wind loading (which may prevent their closing) may require special consideration.

2.4.1.3 Security of closure

2.4.1.3.1 General

Gates, when closed and latched and when lifted upwards or pulled downwards, shall be capable of withstanding a force of 250 N so that any movement of the gate does not —

(a) release the latch;

(b) unhinge the gate; or

(c) increase the opening between the bottom of the gate and the finished ground level to more than 100 mm.

2.4.1.3.2 Corner configuration

Gates when closed and latched and positioned in a corner configuration shall be capable of withstanding a force of 250 N at 1 200 mm above FGL applied to the latching panel in the line of direction of the gate so that any movement does not —

(a) release the latch;

(b) allow the gate to be opened; or

(c) unhinge the gate.

NOTE See Figure 2.18 for an example of corner configuration and application of force.

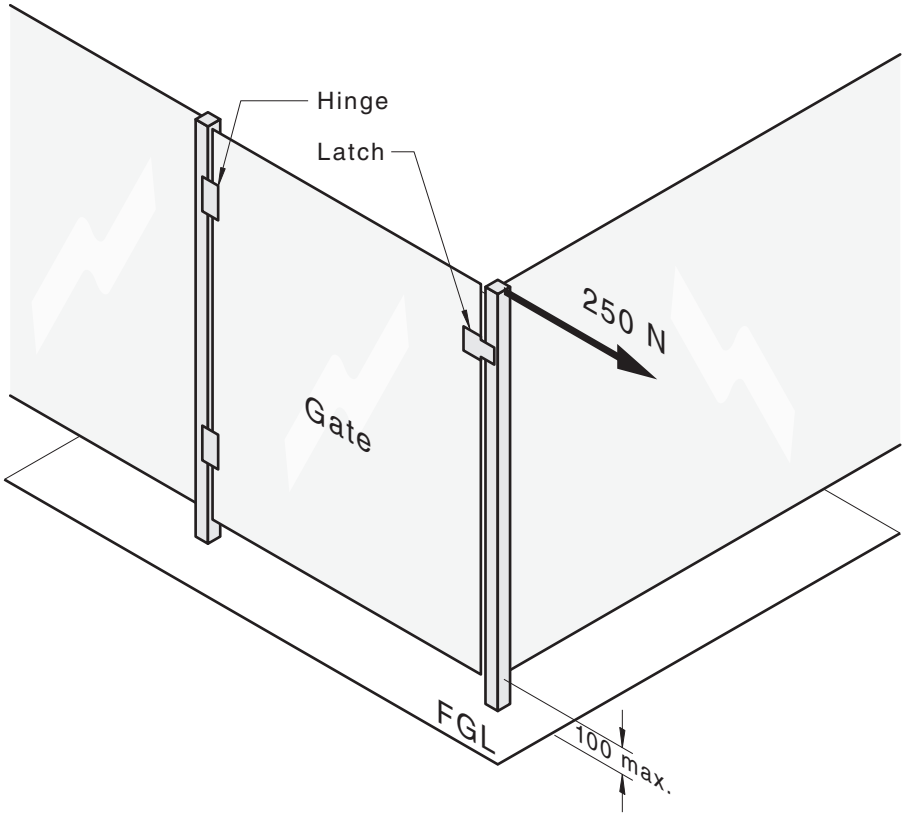


Figure 2.18 — Example of corner configuration and application of force

2.4.2 Latch

2.4.2.1 General

The following requirements apply to latches:

(a) The latch shall —

(i) automatically operate on the closing of the gate; and

(ii) prevent the gate from being re-opened without being manually released.

(b) The latch shall not —

(i) inadvertently adjust during operation;

(ii) lock in the “open” position;

(iii) be adjustable without the use of tools; and

(iv) release by the insertion of any implement in the 10 mm opening shown in [A1] Figure 2.20.[A1]

2.4.2.2 Requirements for latch release — 1 500mm or more above FGL

The location of the latch release shall —

(a) be at a minimum height of 1 400 mm above any lower foothold; and

(b) the height required under items (a) shall be maintained for a distance of 450 mm on either side of the latch from the latch release point (see Figure 2.19).

Dimensions in millimetres

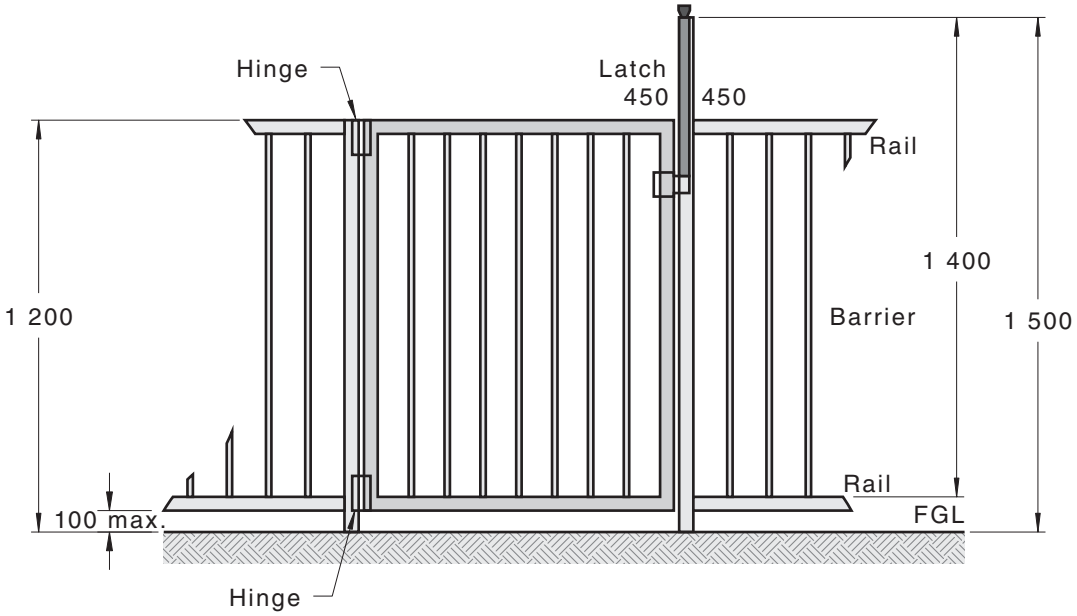


Figure 2.19 — Example of latch release 1 500 mm or more above FGL

2.4.2.3 Requirements for latch release — less than 1 500 mm above FGL

The location of the latch release shall —

(a) be on the inside of the barrier;

(b) be in a position that to release the latch from the outside of the barrier, it will be necessary to reach over or through the barrier at —

(i) a minimum height of 1 200 mm above the finished ground level;

(ii) a minimum of 1 000 mm above the highest lower horizontal member; and

(iii) be a minimum of 150 mm below the top of the barrier or hand-hole.

NOTE See Figure 2.20.

2.4.2.4 Shielding of latch

The following applies to the shielding of the latch:

(a) The latch release shall be shielded where —

(i) the latch release is less than 1 500 mm above the finished ground level, and

(ii) the gate has vertical openings greater than 10 mm.

(b) The latch release shall be shielded so no opening greater than 10 mm occurs within an area bounded by —

(i) a radius of 450 mm from the latch release; and

(ii) the top of the barrier, if this intersects the area described in (b)(i).

(c) The edges of the shield shall be rounded or chamfered to remove sharp edges and prevent a hazard when the gate closes.

NOTE See Figure 2.20.

Dimensions in millimetres

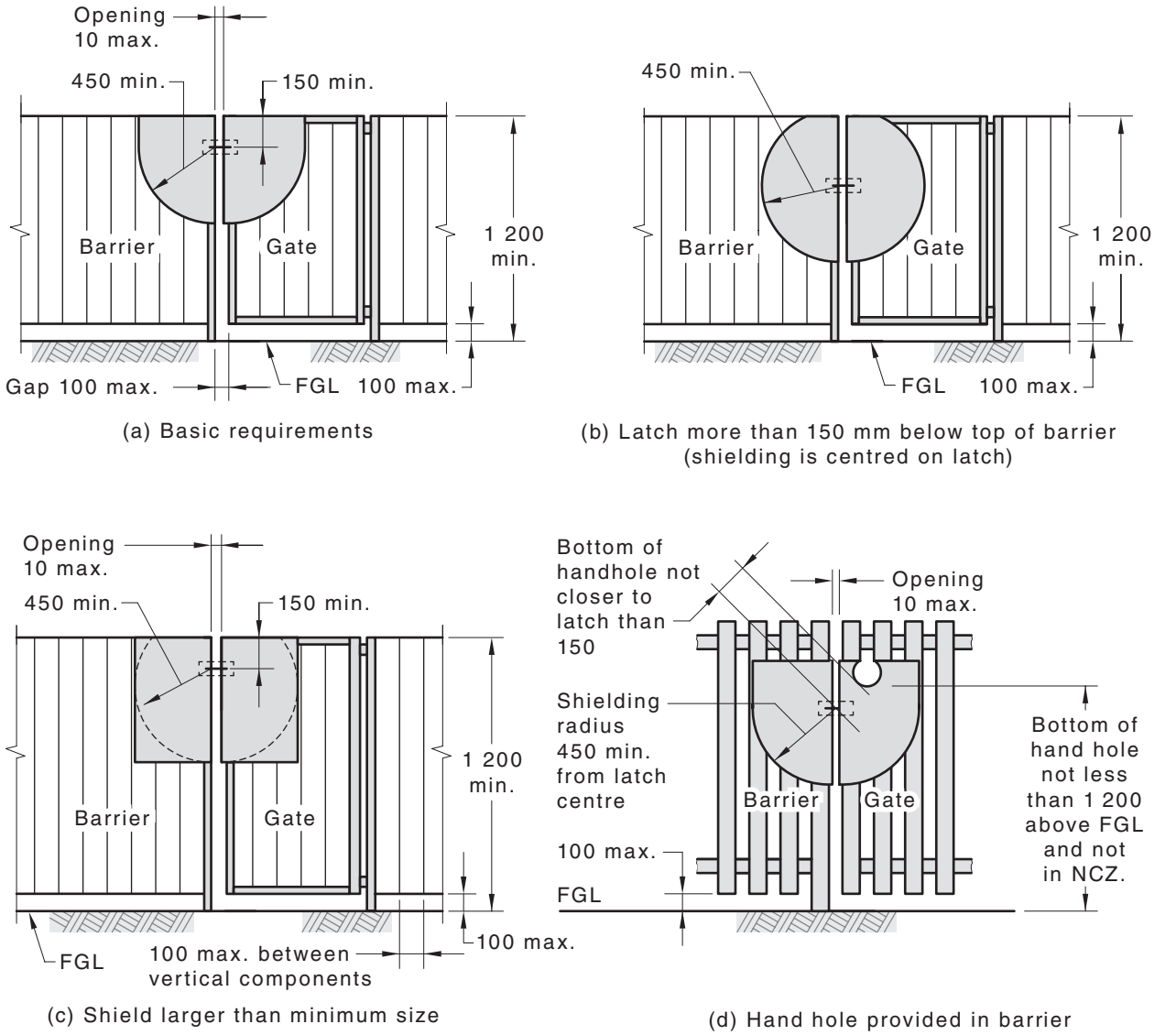


Figure 2.20 — Alternative latch shielding options for gates with vertical openings 10 mm to 100 mm

2.4.3 Gate hinges

Gate hinges that protrude out from the barrier with a horizontal top surface depth greater than 10 mm and those that create an opening between the barrier post and the gate frame stile of greater than 10 mm shall not be permitted in NCZs 1 and 2.

Hinges (including hinges equipped with a cap) with a top surface sloped at 60° or greater to the horizontal may be located within NCZs 1 and 2 (see Figure 2.21).

Dimensions in millimetres

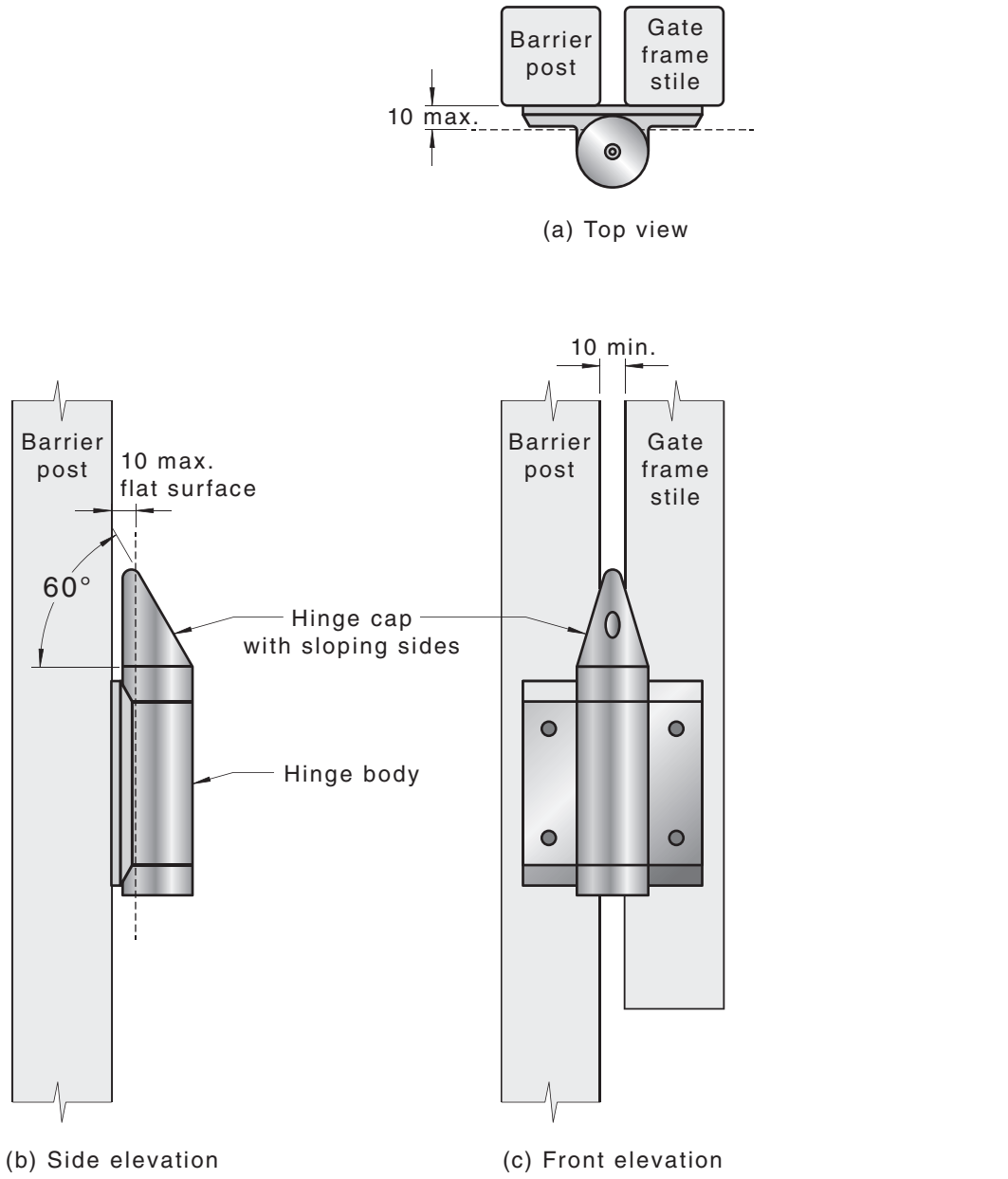


Figure 2.21 — Hinges within an NCZ

2.4.4 Gates and gate components

2.4.4.1 General

This clause sets out requirements for commercial manufacturers for the design, construction, performance and sale of pre-manufactured gate and gate components to be installed as part of a barrier.

2.4.4.2 Supply of gates and gate components

Gate and gate components shall be of a permanent nature.

Gate components shall be supplied with a set of written instructions as follows:

(a) Installation instructions.

(b) Maintenance instructions, including any special requirements for maintaining the latching mechanism and hinges.

(c) A statement explaining the need to keep the automatic closing device properly adjusted.

(d) A statement that the gate is required to swing outwards, away from the pool area.

2.4.4.3 Types of materials

Gates and gate components may be constructed from any type of material, provided that the finished components conform to the requirements of this document.

NOTE Gates and gate components should be effectively protected against corrosion, UV degradation and other effects of exposure to weather, sunlight, pool chemicals and water.

2.4.4.4 Marking of gate latches and hinges

Each gate latch and hinge shall identify the supplier with clear and permanent markings.

NOTE 1 The following are examples of methods of marking:

(a) Self-adhesive metalized label.

(b) Metal plate secured by rivets.

(c) Stamping, etching or moulding.

NOTE 2 It is not necessary to label items such as screws, bolts and washers.

2.4.4.5 Testing

Test requirements for gates and gate components are set out in Clauses 3.5 and 3.6.

2.5 Other barriers

2.5.1 Retaining wall above the pool level

A retaining wall (or similar feature) that acts as an internal barrier above the pool level shall conform to the following requirements:

(a) It shall not slope away from the pool by greater than 15° from the vertical [see Figure 2.22 (a)(i) and (b)(i)].

(b) When less than 1 800 mm in height, it shall conform to Clauses 2.1, 2.2.1, 2.2.2, 2.3.1, 2.3.4 and 2.3.5(a) [see Figure 2.22 (b)(i) and (c)(i)].

2.5.2 Retaining wall below the pool level

A retaining wall (or similar feature) that acts as an internal barrier below the pool level shall conform to the following requirements:

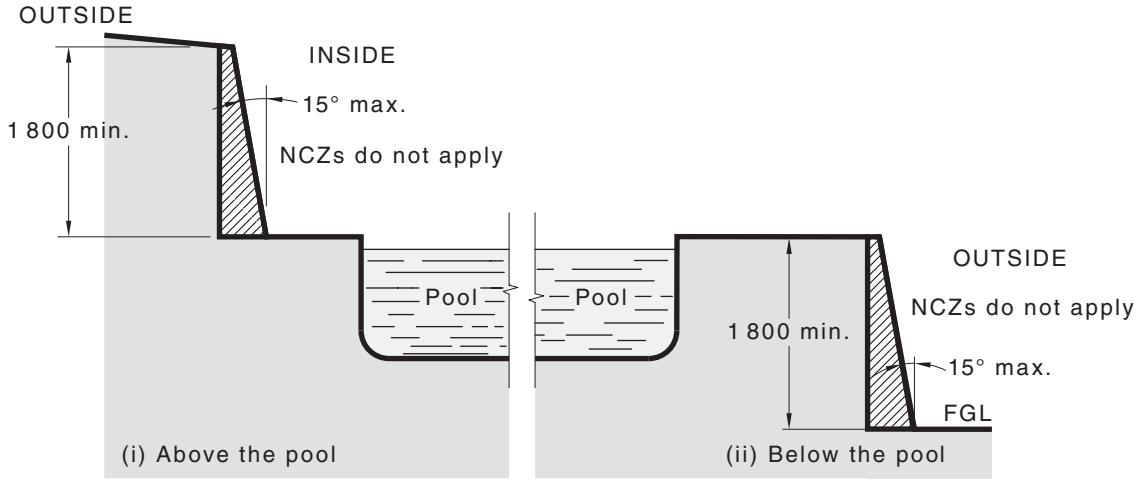
(a) It shall not slope towards the pool by greater than 15° from the vertical [see Figure 2.22 (a)(ii) and (b)(ii)].

(b) When less than 1 800 mm in barrier height, it shall conform to Clauses 2.1, 2.2.1, 2.2.2, 2.3.1, 2.3.4 and 2.3.5(a) [see Figure 2.22 (b)(ii) and (c)(ii)].

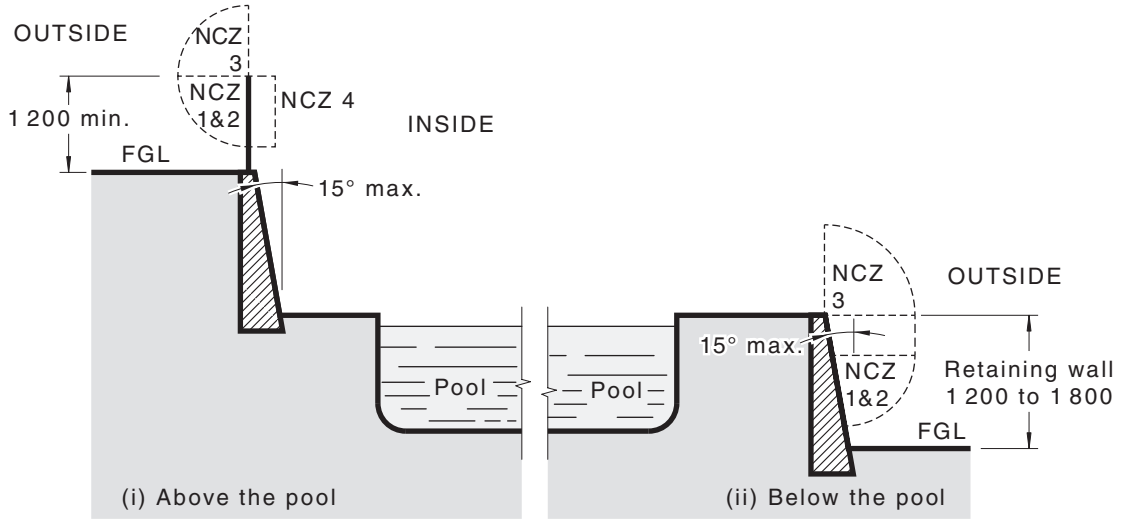
Where a barrier intersects a retaining wall that is below the pool level, as shown in Figure 2.22(d), that barrier shall extend to the outer edge of the retaining wall and either overhang the retaining wall by 900 mm (shown as option C) or return 900 mm along the retaining wall in either direction (shown as options A and B).

Barriers using option A or B shall be affixed, as close as practicable, to the outside face of the retaining wall.

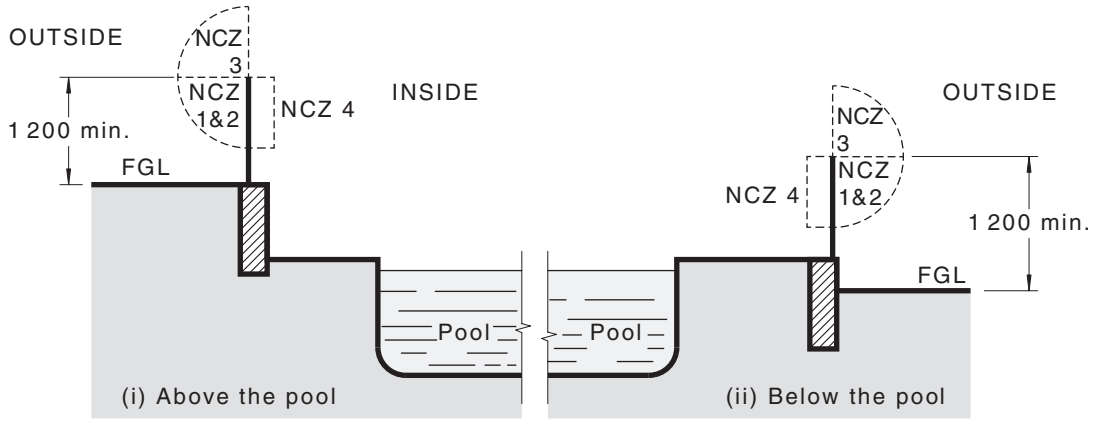
Dimensions in millimetres



(a) Example of barrier retaining wall 1800 min. height



(b) Example of barrier retaining wall 1200 mm to 1800 mm height



(c) Retaining wall less than 1 200 mm height

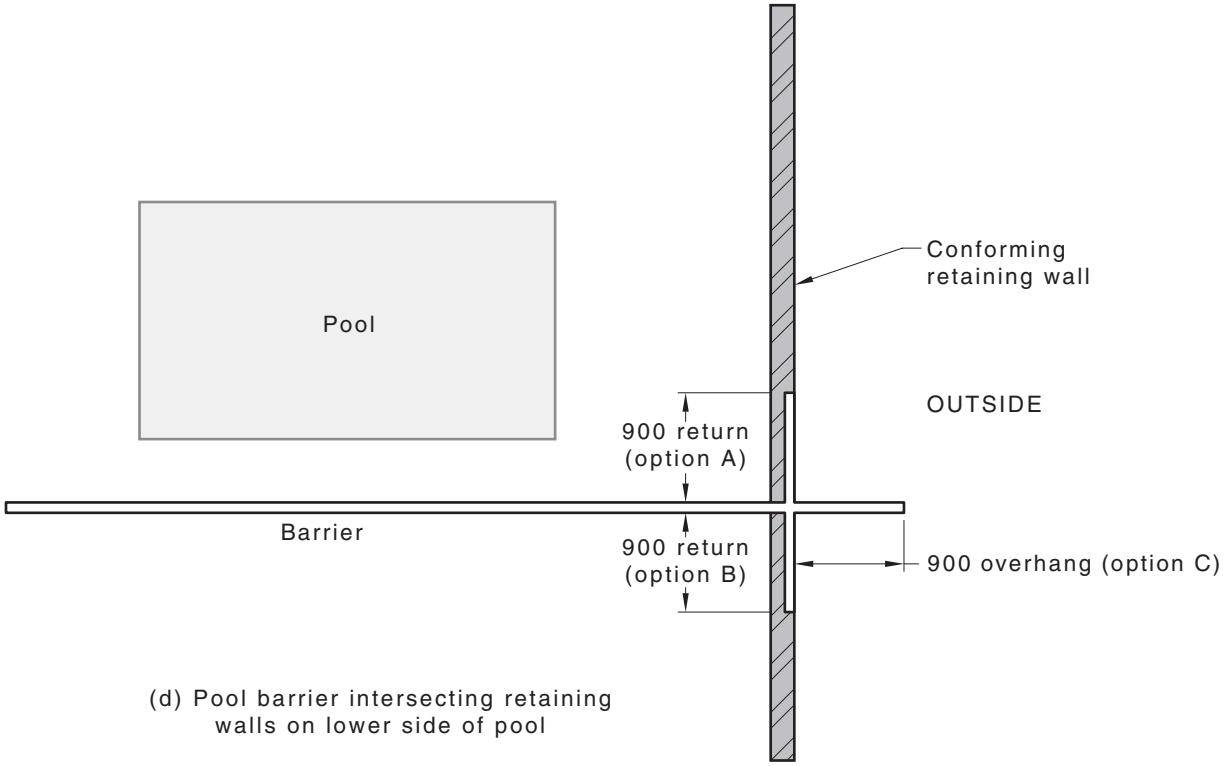


Figure 2.22 — Retaining wall or other such barrier

2.5.3 Out-of-ground pool walls

Out-of-ground walls of pools that conform to the requirements of a barrier in this document shall be considered a barrier (for above-ground pools, see Clause 2.9).

2.5.4 Permanent bodies of water

Permanent bodies of water, whether natural or artificial, of a minimum width of 1 800 mm shall constitute a barrier if the body of water is permanent and the water at the edge of the pool area is a minimum of 300 mm deep at all times.

NOTE Permanent bodies of water include creeks, rivers, canals, lakes, reservoirs, estuaries and the sea.

2.6 Child-resistant window

2.6.1 Openable portion of window

Any openings (within the 1 800 mm height) in the window shall be permanently restricted to a maximum of 100 mm.

Where a window is used as a system or a means to restrict access to a pool and has openings greater than 100 mm within 1 800 mm of the outdoor pool FGL, the openable portion of the window shall be protected by a barrier that is securely fixed to the building.

Any portion of a window open to a pool shall have a maximum opening of 100 mm.

NOTE Examples of a barrier may include bars, a metal screen or similar window treatment.

2.6.2 Alternative for indoor pools

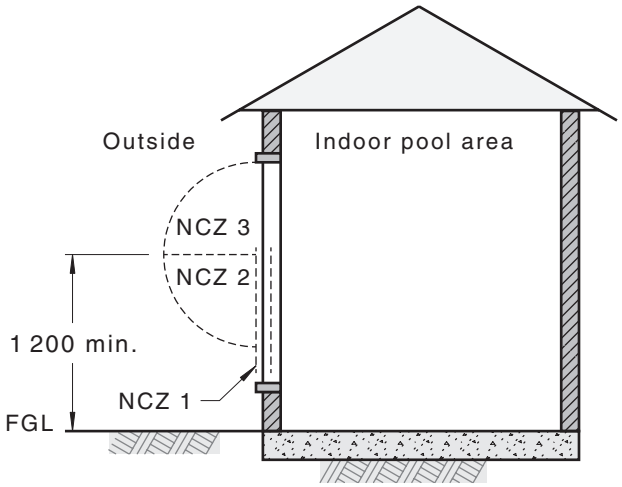
Where a window is used as a barrier and has barrier openings greater than 100 mm within 1 200 mm of the indoor pools external building FGL, the openable portion of the window shall be protected by a barrier that is securely fixed to the building.

NOTE 1 Examples of a barrier may include bars, a metal screen or similar window treatment.

Any openings (within the 1 200 mm height) in the window shall not be able to be opened greater than 100 mm. Barriers used shall conform to the requirements in Clause 2.2.

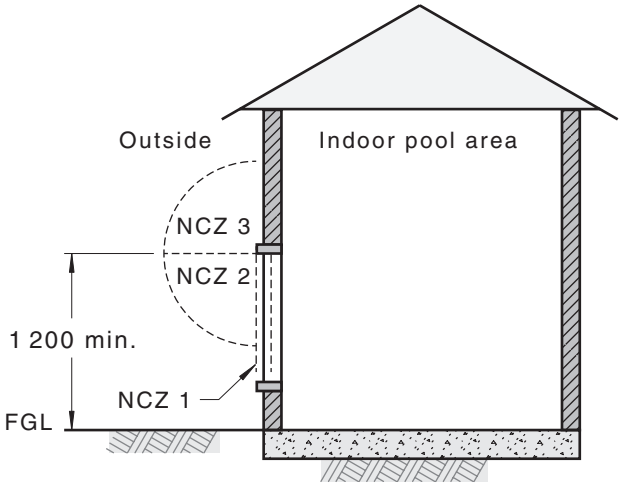
NOTE 2 See Figure 2.23(A) for an example of a partial barrier treatment over a window and Figure 2.23(B) for an example of a full barrier treatment over a window.

Dimensions in millimetres



(a)

Figure 2.23(A) — Partial barrier treatment over window



(b)

Figure 2.23(B) — Full barrier treatment over window

2.7 Child resistant doorsets

Child-resistant doorsets shall only be installed for access to indoor pools and the indoor part of an indoor/outdoor pool. The following apply:

(a) Doors shall be fitted with a self-closing device that will close the door from any position, with a stationary start, without the application of a manual force and operate the latch.

(b) The self-closing device shall be capable of conforming to these requirements with the door at any position from fully open to resting on the latch.

(c) Doors shall be fitted with a latch that conforms to Clause 2.4.2 and which will automatically operate on the closing of the door and prevent the door from being re-opened without being manually released.

(d) The release for the latch shall be located a minimum of 1 500 mm above the floor and be at a minimum height of 1 400 mm above any lower foothold.

(e) NCZ 1 shall apply to the outside of a door, and the top of NCZ 1 shall be 1 200 mm or less above the floor [see Clause 2.2.2(a)].

(f) Perforated materials or mesh shall conform to the requirements of Clause 2.3.2.

(g) Pet doors shall not be placed in a child-resistant doorset.

(h) Door shall not open towards the pool.

(i) All glass in doors and sidelights shall be Grade A Safety glass in accordance with AS 1288.

NOTE For examples for locations for use of child-resistant doorsets, refer to AS 1926.2.

2.8 Balcony balustrades

A balcony that protrudes into a barrier NCZ shall conform to the requirements for a 1 200 mm barrier in this document [see Figure 2.24(A)].

NOTE 1 Examples of a balcony may include veranda, deck or the like.

NOTE 2 A balcony that adjoins or projects into a pool area where the underside of the balcony floor is a minimum of 1 800 mm to finished ground level does not require a barrier that conforms to this document [see Figure 2.24(B)].

A balcony that adjoins or projects into a pool area where the balcony floor is less than 1 800 mm to finished ground level shall conform to either —

(a) the requirements for a 1 200 mm barrier in this document [see Figure 2.25(A)]; or

(b) the following requirements [see Figure 2.25(B)]:

  (i) The height from the top of the balustrade to finished ground level shall be a minimum of 1 800 mm.

  (ii) NCZ 1 formed on the pool side, down from the top of the balustrade [see Figure 2.25(B)].

Dimensions in millimetres

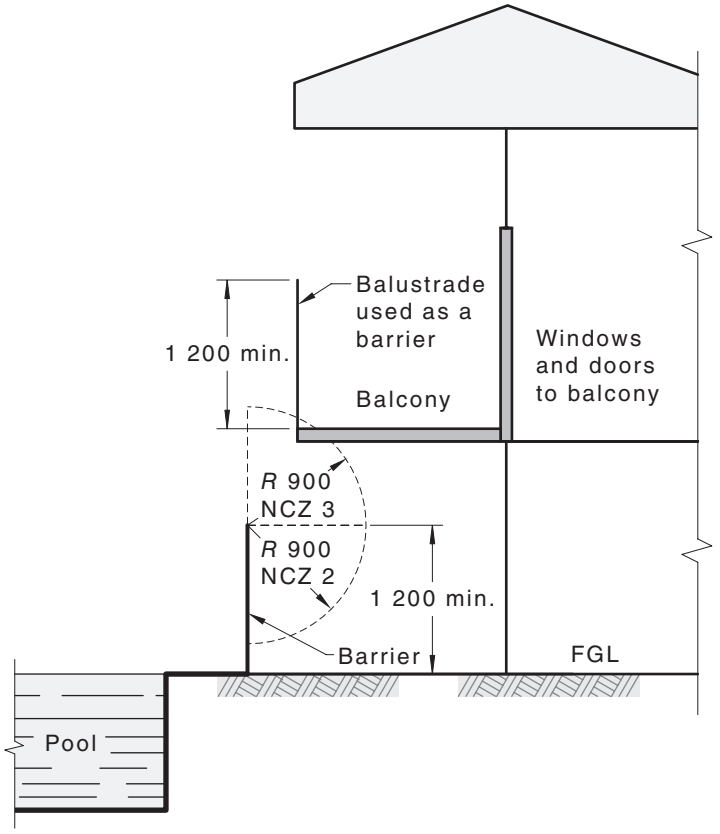


Figure 2.24(A) — Balcony intruding into NCZ

Dimensions in millimetres

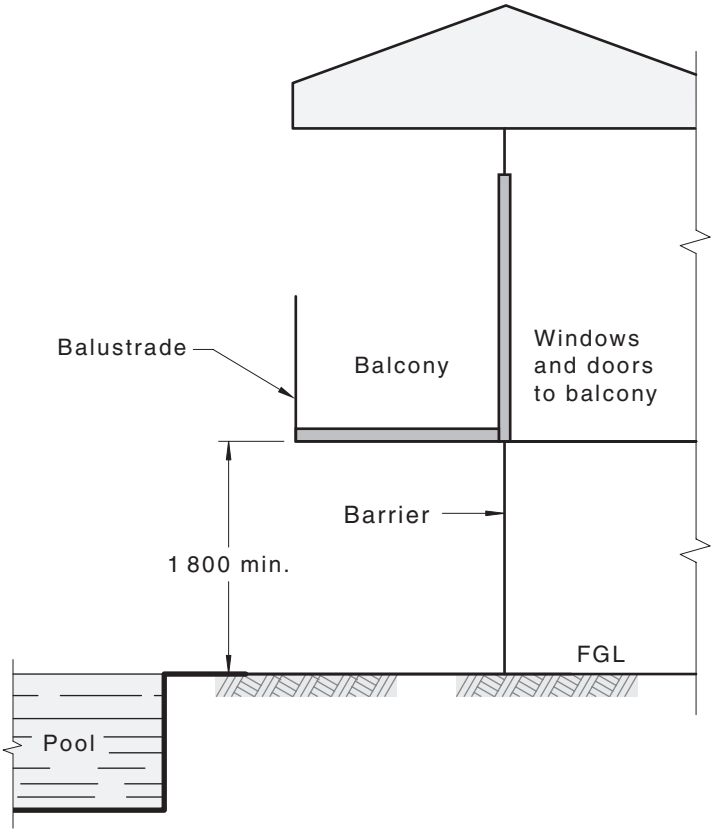


Figure 2.24(B) — Balcony projecting into pool area but not intruding into NCZ

Dimensions in millimetres

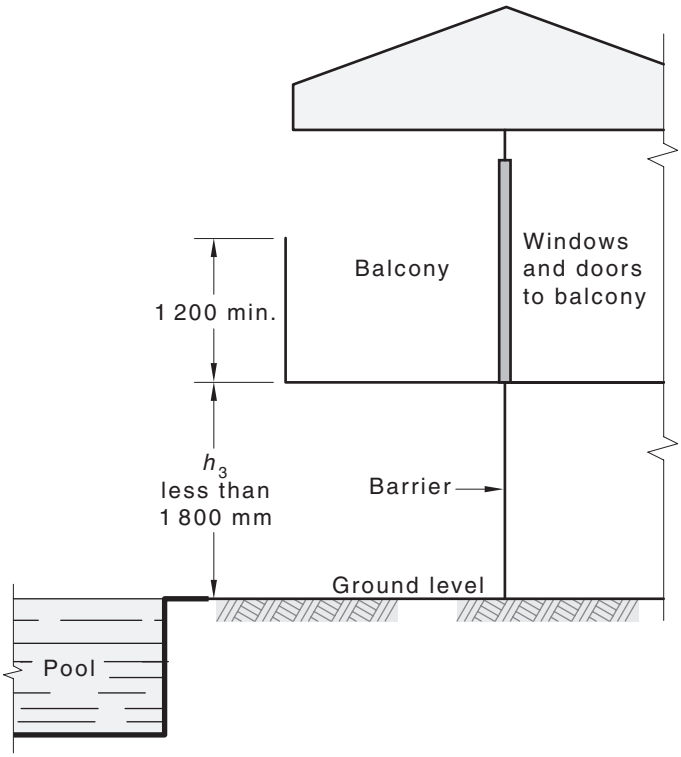


Figure 2.25(A) — Balustrade used as a barrier

Dimensions in millimetres

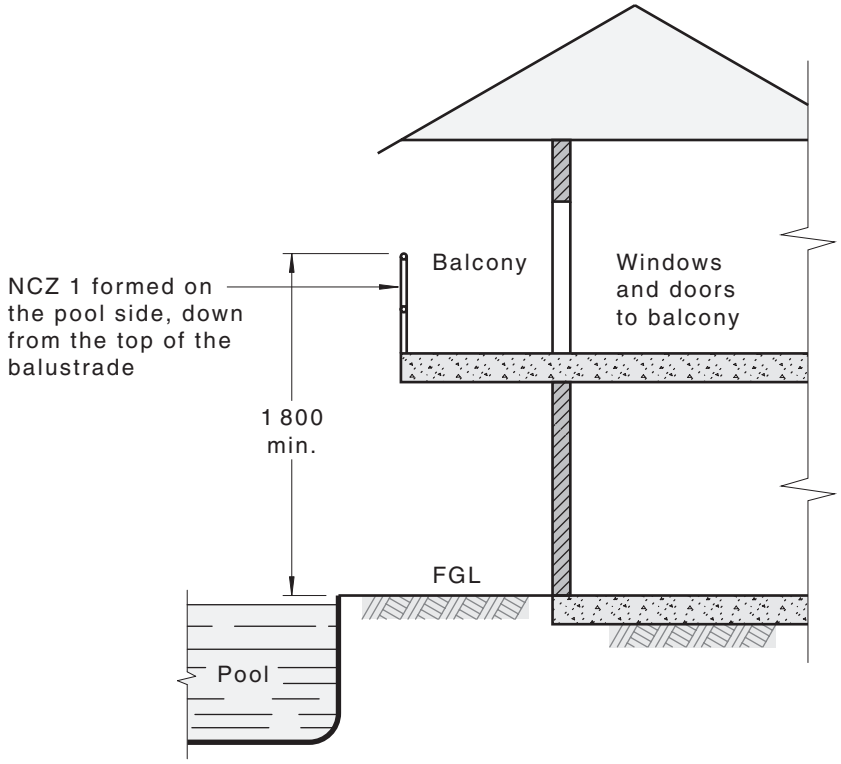


Figure 2.25(B) — Balcony barrier option – area outside balustrade

2.9 Above-ground pools

For above-ground pools that are factory fabricated and designed for assembly and installation on site, including inflatable pools, the walls of the pool shall be considered a barrier provided they conform to the relevant provisions of Clauses 2.1 to 2.3.

A barrier conforming to Clauses 2.1 to 2.4 shall be placed around any access points.

NOTE Above-ground pools pose a particular hazard because of the tendency to leave climbable objects against or near the pool, which may be used for access into the pool.

3 Loading requirements

3.1 Strength and rigidity of openings

A barrier with vertical openings wider than 10 mm shall have vertical components with sufficient strength and rigidity such that a 105 mm + 0 mm, −0.5 mm diameter metal cone cannot pass through the opening under the application of a force of 150 N. When tested in accordance with Appendix A the test object shall not pass through the openings.

3.2 Strength of posts and footings

Each post and footing shall withstand a horizontal force of 330 N at 1 200 mm above finished ground level. After loading, there shall be no permanent damage to any post, and the footings shall not loosen to impair the effectiveness of the barrier.

NOTE 1 A method that may be used to test posts and footings is provided in Appendix B.

NOTE 2 330 N is approximately 33 kg. This test can be conducted in the field by fastening one end of a calibrated force measuring device to the post 1 200 mm above ground level and pulling on the other end of the balance until a load of 33 kg is achieved. After application of the load, inspect the post and footing for any looseness or damage.

3.3 Strength of barrier components

3.3.1 Rigid components

Structural components, such as panel infills, top and bottom rails, rods, palings, pickets, and the like, shall be capable of sustaining a force of 330 N without any component —

(a) breaking;

(b) showing signs of fracture;

(c) loosening so the effectiveness of the panel is impaired; or

(d) becoming permanently deformed by more than a factor of 1/200 over its length.

Testing of non-glass pool barrier panels shall be in accordance with Appendix C. Testing for glass pool barrier panels shall be in accordance with Appendix G.

3.3.2 Flexible material and components

Flexible barrier components and materials, and the manner in which they are installed, shall be capable of withstanding the dynamic forces imparted with no permanent deformation when tested in accordance with Appendix D.

3.4 Closing and latching of gates

In addition to the requirements of Clauses 2.4.1 to 2.4.3, each gate shall conform to the following:

(a) The gate shall close and latch from fully open to resting on the latch, under both of the following conditions:

  (i) Under the natural weight of the gate.

  (ii) With the gate open and after a weight of 25 kg, or equivalent force of 250 N, has been placed on the top rail or component at a point 100 mm from the outer edge of the latching gate frame stile of the gate for 30 s and then removed.

  NOTE This requirement is intended to indicate whether the automatic closing and latching mechanism is likely to remain effective after the gate has been subject to deflection, either under its own weight or as a result of children swinging on it.

(b) With the gate closed, the latch and posts of the barrier to which the gate is attached shall be capable of retaining the gate in a closed position when the weight in Item (a)(ii) is placed at the same location and remains on the gate.

3.5 Strength and rigidity of a gate

When tested in accordance with Appendix E, no component of the gate shall fracture, break or loosen so the effectiveness of the gate is impaired or permanently deformed by a factor of more than 1/200 over its length. The latch shall not unintentionally release. The gate shall still conform to Clause 2.4 at the end of the test.

3.6 Durability of gate components

When a gate is tested in accordance with Appendix F, it shall —

(a) be capable of conforming to the requirements of Clauses 2.4.1 to 2.4.3 after 25 000 operations; and

(b) the force required to release the latch shall not be greater than 50 N both before and after the test.

Appendix A
(normative)

Test for strength and rigidity of barrier openings

A.1 Scope

This appendix is to be used by manufacturers to gain certification for their barrier. It is not designed for in-field testing. This appendix sets out a method for determining whether a barrier is sufficiently strong and rigid to prevent an opening from being forced to a size that would allow a young child to gain entry.

WARNING — THIS TEST SHALL NOT BE USED ON A GLASS POOL BARRIER.

A.2 Principle

A horizontal force is applied to the test object in an attempt to force it through the openings in the barrier panel.

A.3 Apparatus

The following apparatus shall be used:

(a) A cylindrical solid-faced test object 105 mm+ 0 mm, −0.5 mm in diameter with a body length of 300 mm to 400 mm, as shown in Figure A.1.

One end shall be conical and shall be shortened to a nominal diameter of 20 mm to provide a flat base for the attachment of fittings, as shown in Figure A.1.

The test object shall be mild steel and have a smooth machined finish.

(b) A calibrated force-measuring device with an accuracy of 2 % of the test loads and a resolution of 1 N or less.

(c) A stable supporting structure to suspend the conical test object from and to hold the barrier panel in a vertical position, as shown in Figure A.1.

(d) A means of attaching the force-measuring device to the conical test object, as shown in Figure A.1.

(e) A force activating device.

A.4 Procedure

The procedure shall be as follows:

(a) Secure the panel into the supporting structure (jig) in the vertical position.

(b) Hang the test object from the supporting structure. The test object shall be suspended horizontally at two points by using a suspension method that minimizes the effects of friction and allows free movement, as shown in Figure A.1.

(c) Attach the force measuring device to the conical end of the test object, as shown in Figure A.1. Connect the other end of the force measuring device to the force activating device.

(d) Each panel shall be tested in three locations, across the width of the panel at the middle of each third of the panel.

(e) Place the conical end of the test object into the opening being tested and steadily apply a force up to 150 N in an attempt to force the object through the opening. If the test object oscillates during the test, it shall be stabilized.

(f) Record the force at which the test object pulled through the panel or that it failed to pull through the panel.

A.5 Report

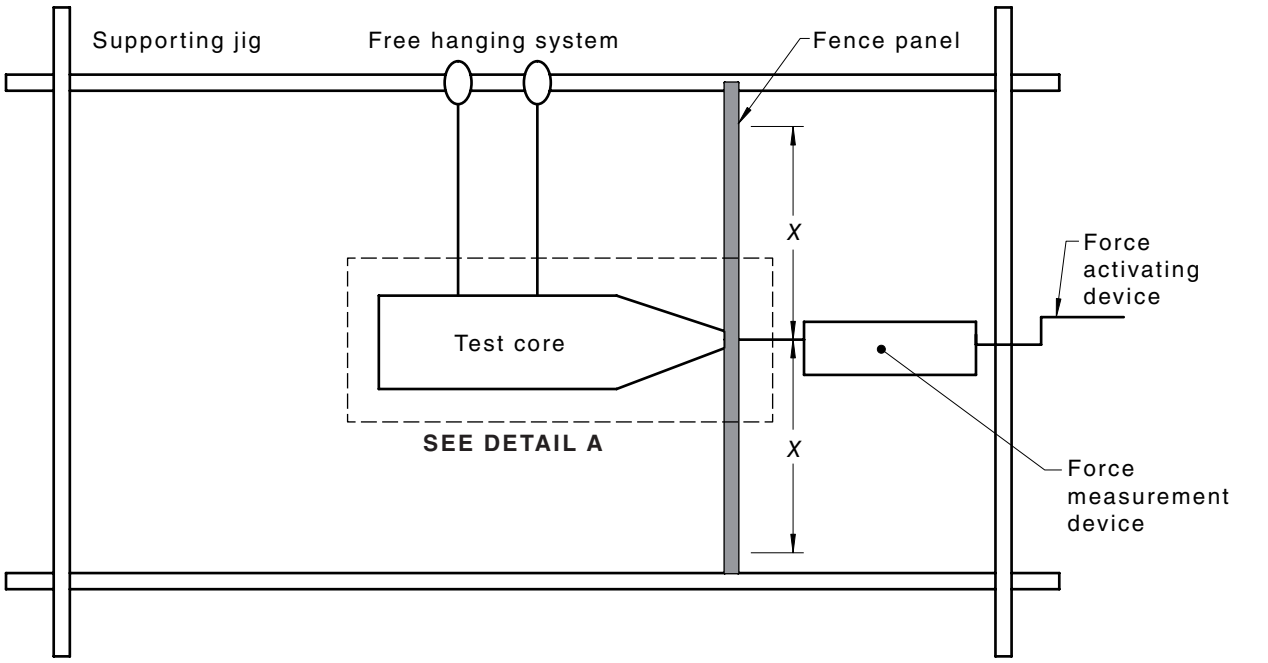
The report shall include the information shown in Figure A.2 and clearly show the following:

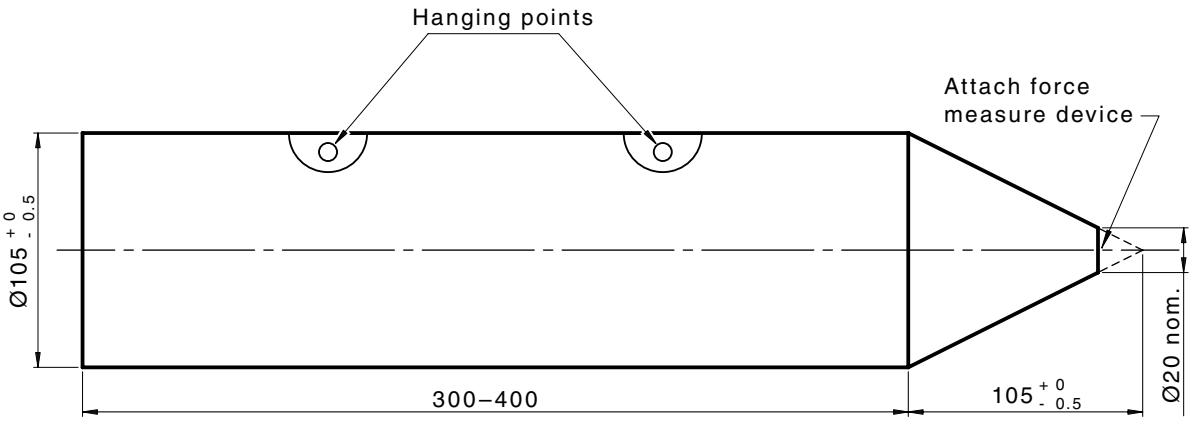
(a) The pull-through force at which the conical test object passed through the panel openings or that it failed to pass through the panel when tested in the three locations specified in Clause A.4(d).

(b) Reference to this test method, i.e. AS 1926.1:2024 Appendix A.

(c) The conclusion of whether the panel has passed or failed the test in accordance with the criteria in Clause 3.1.

Dimensions in millimetres





DETAIL A

NOTE $X = L/2$ where L is the distance between the lower top and higher bottom horizontal members.

Figure A.1 — Apparatus for testing openings and other components

Date:

Test Report No.:

Product: Name of product

Material: Specify product material

Source: Name of manufacturer/supplier/consumer

Specifications: AS 1926.1:2024, *Swimming pool safety*: Part 1: *Safety barriers for swimming pools*, Appendix A, Test for strength and rigidity of barrier openings

Wire-based panel

Panel dimensions:

Item No.	Product	Wire size (mm)		Horizontal wire spacings (mm)			Upright wire openings CC (mm)	Results — Pull-through force (N)		
1	Product name									

Tubular panel

Panel dimensions:

Item No.	Product	Tube size (mm)		Horizontal rail spacings (mm)			Upright tube openings CC (mm)	Results — Pull-through force (N)		
1	Product name									

Conclusion, comments and pass/fail:

Name of individual conducting the test:

Individual's title:

Authorized signatory:

Name and location of testing facility:

Figure A.2 — Example test report—Barrier panel

Appendix B
(informative)

Strength test for posts and footings

B.1 Scope

This appendix sets out a method for testing whether barrier posts have adequate strength and have been correctly installed.

WARNING — THIS TEST SHOULD NOT BE APPLIED TO A GLASS POOL BARRIER.

B.2 Principle

A force is applied to the barrier post, and it is then inspected for signs of fracture, loosening of footings or any damage or deformation of the post or, if to a gate post, any damage or deformation that would prevent the gate from closing and latching from any position.

B.3 Apparatus

The apparatus is as follows:

(a) A cylindrical test object of diameter 105 mm ± 1 mm, having at least one solid flat-faced end.

(b) A calibrated force-measuring device with an accuracy of 2 % of the test load and a resolution of 1 N or less.

(c) A means of applying and measuring the applied force being applied.

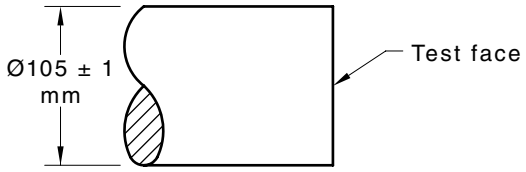


Figure B.1 — Test object

B.4 Procedure

The procedure is as follows:

(a) Place the flat end of the test object against the post under test at a height of 1 200 mm above finished ground level at 90° to the barrier.

(b) Apply a horizontal force of 330 N, without shock, to the test component.

(c) Apply the test force for a minimum of 30 s.

(d) Remove the force and inspect the post for damage or loosening of the footings.

(e) For gate posts, the test is carried out with the gate held or chocked in a partly open position. After testing check that the gate closes and latches when released from various positions from a 90° opening to resting on the latch.

B.5 Report

The report should include the following information:

(a) Breakage or sign of fracture of any post.

(b) Loosening of any part of the barrier that will impair its effectiveness.

(c) Any damage to the gate that would prevent it from closing and latching from any position.

(d) Whether the post or gate passed or failed the test.

(e) Reference to this test method, i.e. AS 1926.1:2024 Appendix B.

Appendix C
(normative)

Strength test for rigid barrier components

C.1 Scope

This appendix is to be used by manufacturers to gain certification for their barrier. It is not designed for in-field testing. This appendix sets out a method for testing whether barrier components have adequate strength.

WARNING — THIS TEST SHALL NOT BE APPLIED TO A GLASS POOL BARRIER.

C.2 Principle

A force is applied to the component or components of the barrier, and it is then inspected for signs of fracture, permanent deformation or loosening of components.

C.3 Apparatus

The following apparatus shall be used:

(a) A cylindrical test object of diameter 105 mm ± 1 mm, having at least one solid flat-faced end (see Figure C.1).

(b) A calibrated force-measuring device with an accuracy of 2 % of the test load and a resolution of 1 N or less.

(c) A means of applying the force.

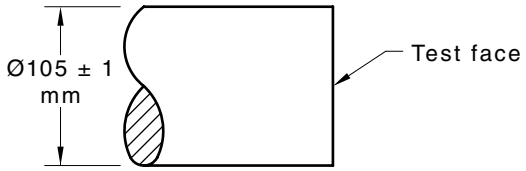


Figure C.1 — Test object

C.4 Procedure

The procedure shall be as follows:

(a) Connect the force measuring device to test object.

(b) Place the flat end of the test object against the test component at its most flexible point.

(c) Using the force measuring device, apply a pre-load force of 50 N for a minimum of 30 s. Remove the force and measure the zero load displacement.

(d) Using the force measuring device apply a force of 330 N, without shock, for a minimum of 30 s.

(e) Remove the test force and measure and record the amount of permanent deformation of the component relative to the zero load displacement.

(f) Inspect the component for —

(i) breakage or sign of fracture of any component; and

(ii) loosening of any component that will impair the effectiveness of the panel.

C.5 Report

The report shall include the following information:

(a) The amount of permanent deformation recorded in Clause C.4(e).

(b) Whether the barrier panel conforms to the requirements of Clause 3.3.1 after testing.

(c) Reference to this test method, i.e. AS 1926.1:2024 Appendix C.

Appendix D
(normative)

Strength test for flexible materials and components

D.1 Scope

This appendix is to be used by manufacturers to gain certification for their barrier. It is not designed for in-field testing. This appendix sets out a method for testing whether flexible materials and components have adequate strength and whether such materials are adequately fixed to ensure they comprise a suitable barrier.

D.2 Principle

A dynamic force is applied to the material or component, and it is then inspected for signs of penetration, breakage, tearing or signs of fracture or loosening of components.

D.3 Apparatus

The following apparatus shall be used:

(a) *Test object* — a 9.1 kg half spherical solid-faced test object 50 mm ± 1 mm diameter.

(b) A means of swinging the test object through an arc of radius 1 400 mm.

D.4 Procedure

The procedure shall be as follows:

(a) Suspend test object A at the distance of 1 400 mm below a pivot point to allow a pendulum action and place the test object against the material or component.

(b) Raise the test object to a 40° angle to the vertical (see Figure D.1) and release.

(c) The test shall be carried out from both sides of the component and at the weakest points.

(d) Inspect for the following:

  (i) Breakage, tearing or signs of fracture.

  (ii) Loosening of any component or fixings.

D.5 Report

The report shall include the following:

(a) Whether there was —

  (i) breakage, tearing or signs of fracture of any material and component; or

  (ii) loosening of any components or fixings that impaired the effectiveness of the barrier.

(b) Whether the material and component passed or failed the test.

(c) Reference to this test method, i.e. AS 1926.1:2024 Appendix D.

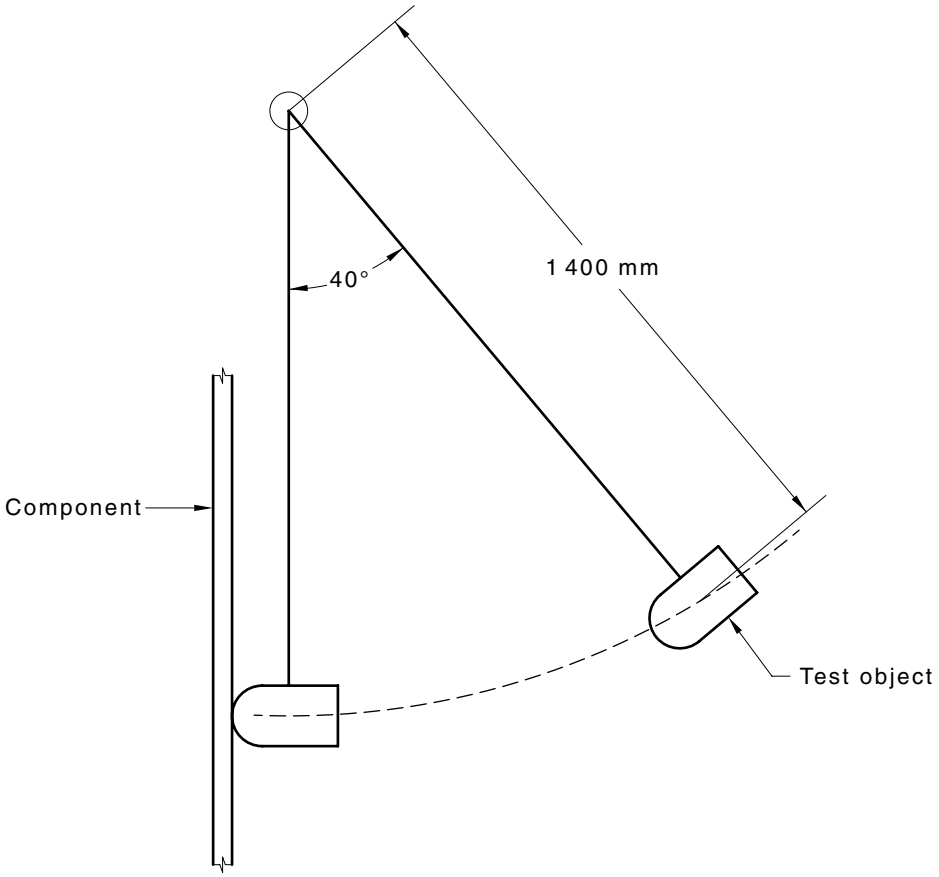


Figure D.1 — Test object

Appendix E
(normative)

Strength test for rigid components of gates and gate components

E.1 Scope

This appendix is to be used by manufacturers to gain certification for their gates and gate components. It is not designed for in-field testing. This appendix sets out a method for testing whether the strength of structural components of gates and gate components are sufficiently robust to provide a barrier throughout the life of the barriers.

WARNING — THIS TEST SHALL NOT BE APPLIED TO A GLASS GATE.

E.2 Principle

A force is applied at a number of locations on the gate, and it is then inspected for signs of fracture, permanent deformation and any faulty operation of the latching and hinging devices.

E.3 Apparatus

The following apparatus shall be used:

(a) A cylindrical test object of diameter 105 mm ± 1 mm, having at least one solid flat-faced end (see Figure B.1).

(b) A calibrated force-measuring device with an accuracy of 2 % of the test load and a resolution of 1 N or less.

(c) A means of applying the force.

E.4 Procedure

The procedure shall be as follows:

(a) Close and latch the gate.

(b) Using the test object, apply a force of 330 N in a horizontal direction to the centre of the gate panel.

(c) Using the test object, apply a force of 330 N in a horizontal direction to each of the four corners of the gate.

(d) Repeat Steps (b) and (c) from the other side of the gate.

(e) Using the test object, apply a force of 330 N in a horizontal direction to any part of the gate at, or below, 1 200 mm above finished ground level, which is a point of potential weakness.

(f) Inspect the gate for any breakage, fracture or permanent deformation.

(g) Record whether the latch was released during the test.

(h) Open the gate and hold it in a position so that it is just ajar with the components of the latch on the gate post and the latching gate frame stile disengaged and clear of each other.

(i) Using the test object, apply a force of 250 N in a vertical direction to the top rail of the gate at a point 100 mm from the outer edge of the latching stile. Where the design of the gate precludes access to the top rail at that point, the force may be applied closer to the latching gate frame stile of the gate.

(j) Remove the test force and check that the gate automatically closes and the latch operates.

(k) Inspect the gate for any breakage, fracture or permanent deformation.

(l) All required forces shall be applied and held for 30 s.

E.5 Report

The report shall include the following:

(a) A description of the sample tested, including the identity of the latch and hinge.

(b) The number of this test method, i.e. AS 1926.1:2024 Appendix E.

(d) The results, including —

(i) the distance than any part deformed, in millimetres;

(ii) whether the latch was unintentionally released during the test procedure;

(iii) whether the gate conformed to the requirements of Clause 2.4 at the end of the test; and

(iv) pass or fail.

(e) Any deviations from the procedure.

(f) Any unusual features observed.

(g) The date of the test.

Appendix F
(normative)

Test of durability of gate, latch and hinges

F.1 Scope

This appendix sets out a method of assessing the ability of a gate, including its hinges and latch, to withstand repeated operations at point of manufacture.

F.2 Principle

The gate set up is subject to a number of repeated opening and closings, and it is then inspected for conformance to the design requirements.

F.3 Apparatus

The following apparatus shall be used:

(a) A means of releasing the latch and opening the gate to the 90° position.

(b) A means of measuring the force applied to release the latch.

F.4 Procedure

The procedure shall be as follows:

(a) Install the gate, latch and hinges in accordance with the product instructions on a site which simulates the *in situ* condition with the gate posts securely anchored into the ground.

(b) Ensure that the gate, its latch and hinges conform to Clause 2.4.

(c) Measure and record the force in Newtons required to release the latch. This shall be measured with a calibrated force-measuring device that has an accuracy of 2 % of the test load and a resolution of 1 N or less.

(d) Release the latch and open the gate to the 90° position.

(e) Release the gate and allow it to close under the action of the self-closing device.

(f) Repeat Steps (d) and (e) for a total of 25 000 operations or until the latch fails to operate, whichever occurs first.

(g) After every 2 500 cycles the gate shall be checked for conformance with the following requirements:

  (i) The gate shall close and operate the latch from an open position 25 mm from the latch keeper.

  (ii) The gate shall operate the latch when resting on the latch mechanism.

(iii) The latch shall not be lubricated or adjusted during this test. The hinges may be adjusted for tension during this test.

(h) Inspect the gate to see whether it still conforms to Clause 2.4.

(i) Measure and record the force [as per Step (c)] required to release the latch.

(j) Inspect the gate, including the hinges and latch together with the gate posts, for any damage which would affect the ability of the gate to conform to the requirements of Section 2.

F.5 Report

The report shall include the following:

(a) A description of the sample tested, including the identity of the latch and hinge.

(b) The number of this test method, i.e. AS 1926.1:2024 Appendix F.

(d) The results, including —

(i) the number of gate operations that were completed;

(ii) the ability of the gate to close from 25 mm for the entire test;

(iii) the ability of the gate to close from resting on the mechanism for the entire test;

(iv) whether the gate conformed to the requirements of Clause 2.4 at the end of the test;

(v) the force required to release the latch at the start and at the end of the test;

(vi) any damage to the gate, hinges, latching device or gate frame and posts at the end of the test.

(e) Any deviations from the procedure.

(f) Any unusual features observed.

(g) The date of the test.

Appendix G
(normative)

Glass pool barriers: Structural test methods and determination of results

G.1 Scope

This appendix sets out a test method for determining the structural performance of a glass pool barrier. It is not designed for in-field testing.

WARNING — THIS TEST SHALL NOT BE APPLIED TO A WINDOW.

G.2 Principle

A force is applied to the glass barrier assembly, and it is then inspected for signs of deflection, failure or loosening of components.

NOTE The glass barrier assembly is inclusive of the components.

G.3 Apparatus

The following apparatus shall be used:

(a) A cylindrical test object of diameter 105 mm ± 1 mm, having a minimum of one solid flat-faced end with a rubber pad of 6 mm to 12 mm thick IRHD 60 ± 5.

(b) A calibrated force-measuring device with an accuracy of 2 % of the test load and a readability of 1 N or less.

(c) A means of applying the force.

G.4 Procedure

The procedure shall be as follows:

(a) Connect the force measuring device to test object.

(b) Place the flat end of the point load cylinder perpendicular against the test component at either the left or right top corners of the tested glass panel. Repeat on the centre top of the glass panel.

(c) For glass pool gates the load is applied at the top corner opposite the hinge edge.

(d) Using the force measuring device, apply a pre-load force of 50 N for a minimum of 30 s. Remove the force and measure the zero-load displacement.

(e) Using the force measuring device, apply a force [as per G.4(b) of 330 N (SLS)], without shock, for a minimum of 30 s to measure deflection while the load is applied.

(f) Record the amount of deflection of the component relative to the zero-load displacement. The glass deflection is limited to span/60 for two, three and 4 edge support or height/30 (or cantilever length /30) for cantilevered, spigot fixed or point fixed panels.

(g) Using the force measuring device, apply a force [as per G.4(b) of 495 N (ULS)], without shock, for a minimum of 30 s. The barrier shall not fail by collapse or breakage when subjected to this load.

(h) Remove the test force and inspect the component for —

(i) breakage or sign of fracture of any component; and

(ii) loosening of any component that will impair the effectiveness of the panel.

(i) If any component is loose, broken or fractured it is considered a failure. An exception to this is if the glass panel is fractured, not deformed, and remains in place.

G.5 Test report

The report shall include the following:

(a) Identification and general description of the test specimens.

(b) Drawings of the test sample (including fixings and dimension) showing modifications, if any.

(c) Details of testing facility.

(d) Date and time of the test.

(e) Names, positions and relevant qualifications of personnel carrying out or supervising the test.

(f) Names, positions and relevant qualifications of witnesses, if any, to the test.

(g) Test results for each load and note as Pass/Fail.

(h) Reference to the test method, i.e. AS 1926.1:2024 Appendix G.

(i) Identify type of connection/fixing.

G.6 Interpolation of test results

The following shall apply to the interpolation of test results:

(a) The distance from the point fixing to the edge of the panel remains as per the tested sample.

(b) The distance between point fixings is not greater than the tested sample.

(c) It does not result in the aspect ratio of the panel being less than 1:0.75 (H:W).

Where the conditions described in (a) to (c) are not present, interpolation shall not be permitted.

Bibliography

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AS 2208, *Safety glazing materials in buildings*

AS 4687.4, *Temporary fencing and hoardings — Part 4: Temporary swimming pool fencing*

AUSTRALIAN BUILDING CODES BOARD. *National Construction Code*

Amendment control sheet

AS 1926.1:2024

Amendment No. 1 (2024)

Correction amendment

Summary: This amendment applies to Figure 2.6, Clause 2.4.2.1 and Clause 2.4.2.2.

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