Government of **Western Australia**
Department of **Commerce**
Building Commission

Building Commission

Rules for POOLS AND SPAS

May 2016

Foreword

In Western Australia, the design, construction and installation of private swimming and spa pools and their safety barriers is subject to strict building requirements under the Building Regulations 2012 (the Regulations). Owners and occupiers also have ongoing legal obligations to maintain their safety barriers at all times.

On 1 May 2016 the Regulations relating to private swimming and spa pools changed.

This edition of *Rules for Pools and Spas* replaces the previous 2012 edition and reflects the safety barrier requirements that apply to private swimming and spa pools in Western Australia.

Referenced document

Standards Australia International Ltd, Strathfield

Australian Standard AS 1926.1-1993 - Part 1: Fencing for swimming pools

(Incorporating Amendment No. 1)

SAI Global Limited, Sydney

Australian Standard AS 1926.1-2012 – Part 1: Safety barriers for swimming pools

Australian Standard AS 1926.2-2007 – Part 2: Location of safety barriers for swimming pools (Incorporating Amendment Nos 1 and 2)

Australian Building Codes Board, Canberra

National Construction Code Series, Volumes One and Two, Building Code of Australia

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Section 1 - Why legislate?

Forty children under the age of five drowned in Western Australia in the decade between 2003 and 2013. Approximately 40 per cent of toddler drowning deaths occur in domestic pools. For every drowning death 10 children will be admitted to hospital. A number of these children will be left with some long-term impairment as a consequence of drowning[1].

These tragic incidents can be significantly reduced if we are all aware of the potential hazards of water in our everyday life - using simple prevention methods and learning the life-saving skill of resuscitation.

There are specific laws in Western Australia that mandate the installation of safety barriers to enclose private swimming and spa pools. The laws are intended to protect the safety of young children by restricting their access to the area containing the swimming or spa pool.

Causes of accidental drowning

Despite the swimming and spa pool regulations, young children continue to drown.

The Royal Life Saving Society Australia has identified a number of contributory factors associated with drowning and near drowning incidents through its 'Keep Watch' program and associated research.

Factors relating to parents/ carers:

- Absence of or poor supervision.
- Parental 'vulnerable period' such as when family routine is broken (ie parents acutely ill, visitors call, domestic duties).
- Underestimating the young child's capacity to gain access to areas where parental supervision is necessary.
- Unrealistic expectations of young children's behaviour and self-control.
- False sense of security when each parent or carer mistakenly assumes that the other is supervising the young child.
- False belief that the pool safety devices such as retractable ladders and lockable covers; or an inadequate barrier will provide adequate protection.
- False belief that the presence of several or older children reduces the threat of drowning.
- Other children may not appreciate a child is in danger and simply assume they are 'playing'.

[1](Royal Lifesaving Society WA - Keep Watch 10 year Review of Drowning Data).

Factors relating to children:

- Young children have limited strength, judgement and physical coordination.
- Young children are attracted to water.
- A young child is not able to understand the concept of danger and therefore may have difficulty in understanding that water can cause harm.
- An active, intensely curious child does not understand the consequences of falling into the water.
- Infants and toddlers generally are not coordinated well enough to swim and breathe at the same time.
- Very young children are susceptible to drowning because they are top heavy. A young child leaning forward to look into the water or reach for an object easily topples over and drowns even in several millimetres of water.
- Child drowning is silent and coughs or splashing may not even be heard.
- Children may disobey parent/carer instructions.

Factors relating to the swimming or spa pool:

- Absence of a barrier between the residence and swimming or spa pool.
- Ineffective gates or doors.
- Gates and barriers not being maintained.
- Ineffective placement or design of barrier.
- Tempting objects floating in the water.

Section 2 - The rules and regulations

All private swimming and spa pools that contain water that is more than 300 mm deep must have a compliant barrier installed that restricts access by young children to the pool and its immediate surrounds.

In Western Australia the legislative framework that mandates the requirement to provide a barrier to a private swimming and spa pool comprises:

- the *Building Act 2011* (the Act); and
- the Building Regulations 2012 (the Regulations).

A private swimming or spa pool contains water to a depth of at least 300 mm and is associated with:

- a Class 1a dwelling (eg house, villa, town house);
- less than 30 sole-occupancy units in a Class 2 building (eg apartments, flats); or
- a Class 4 part of a building (eg caretaker's dwelling).

Private swimming or spa pools include:

- in-ground and above-ground pools (including inflatable and portable pools);
- in-ground and above-ground spa pools (but not spa baths that are normally emptied after each use); and
- bathing or wading pools.

Pools that are not considered to be private swimming or spa pools are controlled under the Health (Aquatic Facilities) Regulations 2007. More information can be found in the Code of Practice for the design, operation, management and maintenance of aquatic facilities.

What is required?

The legislation requires a compliant barrier to be installed around private swimming and spa pools that restricts access to the pool by young children.

A building permit is required under the Act and the Regulations prior to installing, constructing or altering swimming and spa pool barriers, including windows, doors and gates that restrict access to a swimming or spa pool area. A building permit is also required for the construction of swimming and spa pools.

What is the role of local government?

Local government, as the permit authority, is responsible for granting building permits for swimming and spa pools and their associated barriers. The approval process ensures that the building and barrier standards are satisfied. Pools are registered with the local government so that periodic inspections of the installed barrier can occur. These inspections should occur at least once every four years.

Are there penalties for non-compliance?

Owners and occupiers are responsible for ensuring that any fence or barrier restricting access to a swimming or spa pool is maintained and operating effectively. If you do not comply with the Regulations you risk the lives of young children and may face substantial fines.

Portable swimming pools

The requirement to provide a compliant safety barrier for private swimming and spa pools extends to portable swimming pools that contain water more than 300 mm deep.

Additionally, the Consumer Goods (Portable Swimming Pools) Safety Standard 2013 requires portable swimming pools to display a safety label warning of the potential of drowning and advising that children must be supervised by an adult at all times. The label also advises

consumers to empty and store the pool safely after use. These labelling requirements apply to:

- an inflatable swimming pool, of any depth;
- a soft-sided swimming pool, of any depth; and
- a rigid-sided swimming pool that is not deeper than 300 mm.

The mandatory standard to label portable swimming pools does not apply to spas, hot tubs or whirlpool tubs unless they meet the definition above.

If the depth of the portable swimming pool is 300 mm or more, or is capable of being filled to that depth, the warning label must include advice that pool fencing laws apply and that local government authorities should be consulted about fencing requirements.

Suppliers of portable pools including manufacturers, importers, distributors and retailers must ensure that they are complying with the consumer safety standard in regard to warning labels. More information on portable pool safety is available on the Product Safety Australia website www.productsafety.gov.au/portablepools

Section 3 – How do you comply?

Private swimming and spa pool barrier regulations have changed over time, and depending on when your swimming or spa pool was constructed, installed or approved, different requirements and standards may apply to the barrier.

Barriers to pre-May 2016 pools

A pre-May 2016 pool is a private swimming or spa pool:

- installed before 1 May 2016; or
- installed on or after 1 May 2016 in accordance with plans, drawings and specifications submitted to the permit authority for approval before that day.

Barriers to pre-May 2016 pools may consist of any fence, wall or gate as long as each part complies with relevant requirements of Australian Standard AS 1926.1-1993 Part 1: Fencing for swimming pools [incorporating Amendment No. 1 only] (AS 1926.1-1993).

A concession exists for pools that were constructed, installed or approved prior to 5 November 2001 that allows a wall that includes a door to be used as part of the barrier providing that door complies with AS 1926.1-1993.

All other pre-May 2016 pools must not include a door as part of the barrier unless the door is permanently fixed using a device other than a key locking mechanism.

Owners of pre-May 2016 pools have the option of complying with the post-May 2016 requirements if they so choose. A building permit is generally required from the relevant permit authority (local government) in order to modify the barrier.

See Section 4 of this document for guidance on pre-May 2016 swimming and spa pools.

Barriers to post-May 2016 pools

From 1 May 2016, barriers to new swimming and spa pools are required to comply with the Building Code of Australia (BCA).

The BCA adopts Australian Standard AS 1926.1-2012 – Part 1: Safety barriers for swimming pools (AS 1926.1-2012) and AS 1926.2-2007 – Part 2: Location of safety barriers for swimming pools [Incorporating Amendment Nos 1 and 2] (AS 1926.2-2007) as the minimum technical requirements that apply to the barrier.

The barrier to a post-May 2016 pool can include a wall, fence, or other barrier or a combination of them that complies with the requirements of AS 1926.1-2012 and AS 1926.2-2007.

These standards do not allow the use of a door as part of the barrier to an outdoor pool. Windows may be used providing they comply with the requirements of AS 1926.1-2012.

See Section 5 of this document for guidance on post-May 2016 swimming and spa pools.

With the adoption of the BCA barrier provisions, there is **no retrospective requirement for owners to upgrade** existing compliant barriers for pre-May 2016 pools to the post-May 2016 barrier requirements.

Section 4 - Pre-May 2016 pools

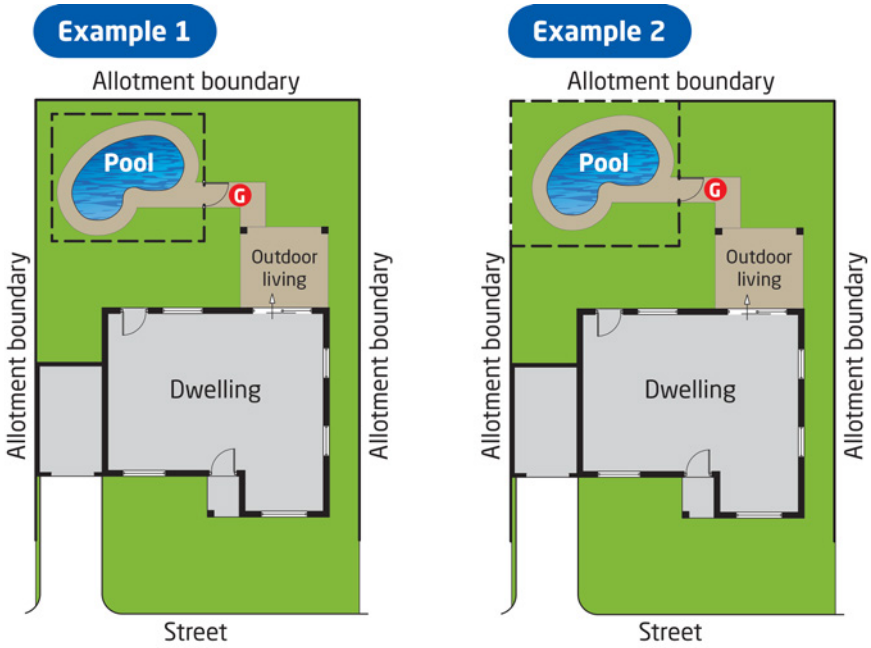
Pre-May 2016 private swimming and spa pools must comply with the Regulations and **Australian Standard AS 1926.1-1993 Part 1: Fencing for swimming pools [Incorporating Amendment No. 1] (AS 1926.1-1993)**.

Where should barriers be located?

The following diagrams are graphical examples of where the barrier can be located around the swimming or spa pool. Examples 1, 2, 3, and 4 are valid for pre-May 2016 swimming and spa pools. Pre-May 2016 pools require an isolation barrier between the pool and the residence.

Examples 5, 6 and 7 refer to pre-May 2016 swimming and spa pools using the pre-November 2001 concession which allows for a door opening directly into the pool area provided that door complies with AS 1926.1-1993.

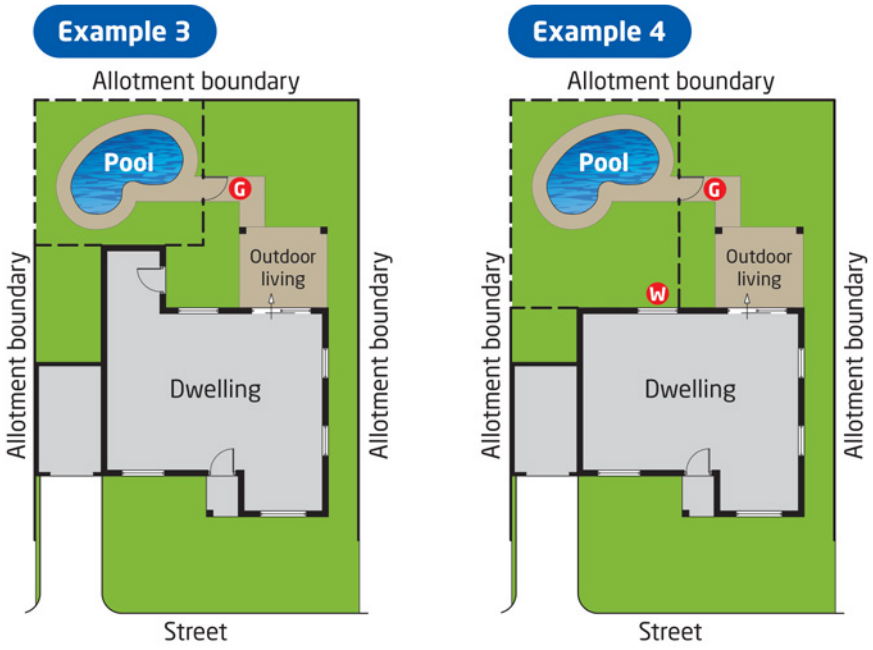
Pre-May 2016 pools



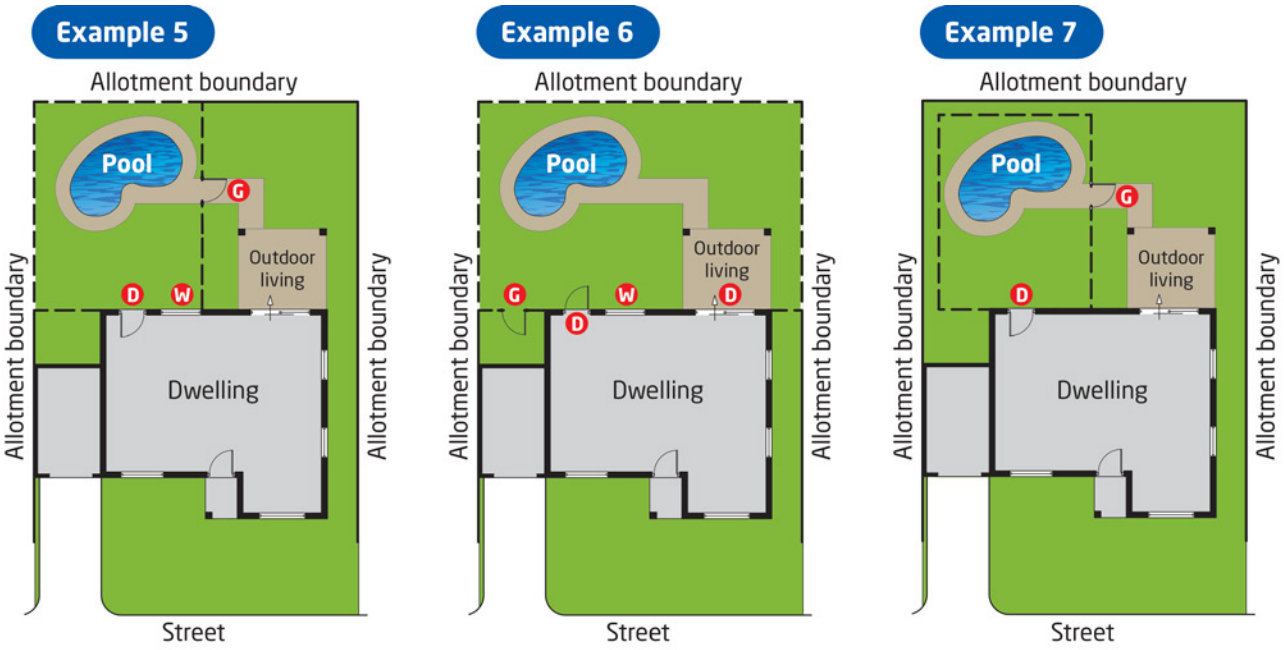
Legend

- G — Gate complying with AS 1926.1
- D — Child-resistant doorset complying with AS 1926.1
- W — Child-resistant openable window complying with AS 1926.1
- Openable window NOT complying with AS 1926.1
- Sliding door NOT complying with AS 1926.1
- Fence, retaining wall or other such barrier complying with AS 1926.1
- Wall of dwelling with no openings

Pre-May 2016 pools



Pre-May 2016 pools using the pre-November 2001 concession



Legend

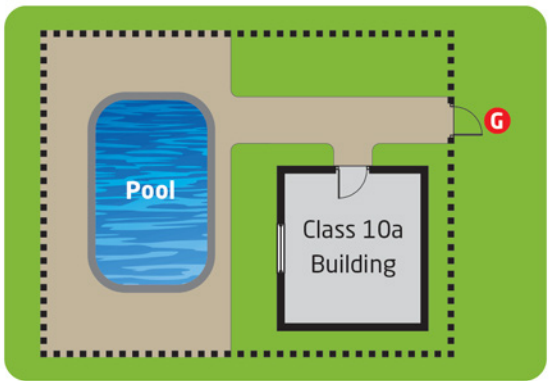
- G — Gate complying with AS 1926.1
- D — Child-resistant doorset complying with AS 1926.1
- W — Child-resistant openable window complying with AS 1926.1
- Openable window NOT complying with AS 1926.1
- Sliding door NOT complying with AS 1926.1
- Fence, retaining wall or other such barrier complying with AS 1926.1
- Wall of dwelling with no openings

Class 10a buildings

The external doors and windows of a Class 10a building that is wholly contained within the enclosed area do not need to comply with these requirements (example A). Where the walls of the Class 10a building are used as part of the barrier and contain doors or windows that provide access to the pool area from outside the barrier, these doors or windows must comply with AS 1926.1-1993 (examples B and C below).

Pre-May 2016 pools

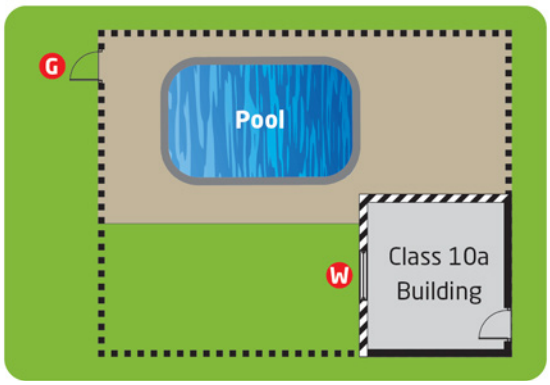
Example A



Pre May 2016 pool

The Class 10a building is wholly within the pool area and does not provide access to the pool through the barrier. As the building is not habitable, access between it and the pool does not need to be restricted to comply with AS 1926.1-1993.

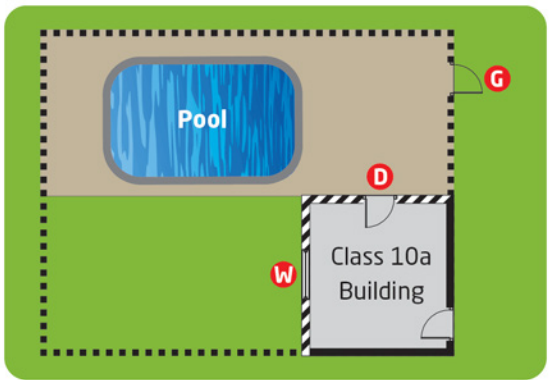
Example B



Pre May 2016 pool

The Class 10a building provides access into the pool area through the barrier which consists of part of the building's wall. For this reason the window of the building must comply with AS 1926.1-1993 or a barrier between the Class 10a building and the pool must be installed. The door is not permitted to be the effective barrier, unless the pre-November 2001 concession applies or the permit authority has granted approval.

Example C



Pre 5 November 2001 pool

The Class 10a building provides access into the pool area through the barrier which consists of part of the building's wall. This example also includes a child resistant doorset complying with AS 1926.1-1993 which is permissible under the pre-November 2001 concession.

Legend

G	Gate complying with AS 1926.1
D	Child-resistant doorset complying with AS 1926.1
W	Child-resistant openable window complying with AS 1926.1
▨	Wall forming part of enclosure
▬	Openable window NOT complying with AS 1926.1
▬	Wall of dwelling with no openings
– – –	Fence, retaining wall or other such barrier complying with AS 1926.1

Barrier design and construction

The information in this section should not be seen as a replacement for referring to AS 1926.1-1993 and the Regulations.

The design and construction of barriers must be such that they comply with the requirements of AS 1926.1-1993 and the barriers must be maintained so they comply with this standard at all times. It is important to be aware that all dimensions provided are maximum or minimum dimensions that must not be either exceeded or reduced respectively.

Types of materials

The barrier may be made of any materials providing they are of a durable nature and the components that make up the barrier, when finished, comply with the requirements contained within AS 1926.1-1993, in particular strength and rigidity of openings.

Safety barriers must be permanent in nature, which means they must not be able to be removed without the use of tools.

Barrier height

All parts of a barrier must have an effective height at least 1200 mm from the top of the barrier to the finished ground surface (See Diagram 1). This is measured on the outside of the pool or spa barrier. Where the barrier has horizontal members, the highest of the low members must be at least 1100 mm from the top of the barrier.

Barriers must be designed to be near vertical and where this cannot be achieved, they must not lean towards the swimming or spa pool by more than 15° to the vertical.

Effective barrier height

DIMENSIONS IN MILLIMETRES

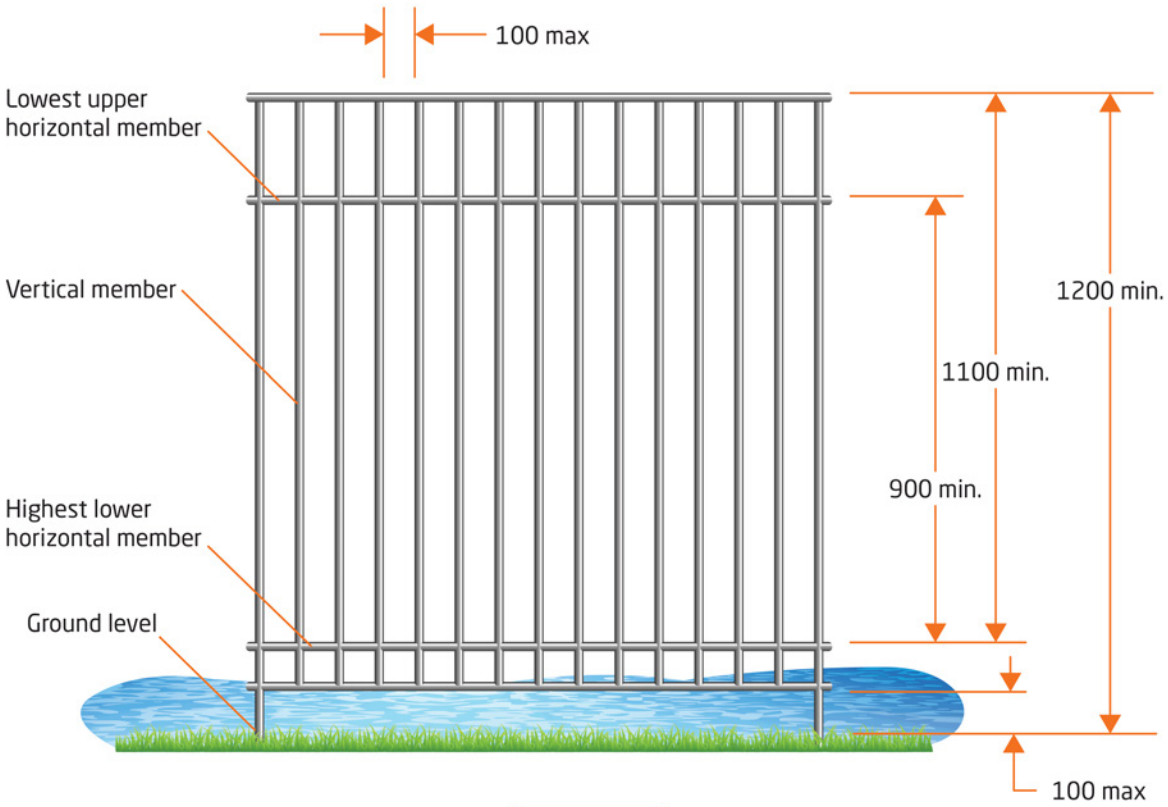


Diagram 1

Perforated materials or mesh

Any barrier that uses a material made of mesh or other perforated material (rather than vertical uprights or solid infill panels) that has holes or gaps that exceed 13 mm, but that are not more than 100 mm, must have a barrier height at least 2400 mm from the finished ground surface.

Should gaps be 13 mm or less, the barrier may have a height as low as 1200 mm.

Where a crank is provided on top of the fence (common for cyclone wire fencing) an effective vertical height of 1800 mm up to the crank must be met.

This type of fence must include a strainer wire or rail at the top and bottom of the vertical section of the fence.

Climbable objects

To maintain compliance of the barrier and an effective minimum height of 1200 mm, the following conditions must be met on the inside and outside of the barrier:

Outside of the barrier (non-pool side)

When measured from the top of the barrier, objects that may create a foothold for young children to climb over, must not be within 1200 mm of the barrier (See Diagram 2).

Objects like BBQs, garden retaining walls, garden furniture, water features/ornaments, and trees/ shrubs can provide footholds.

Inside the fence (pool side)

For barriers that are designed with vertical openings that exceed 10 mm, but are not more than 100 mm, substantial horizontal surfaces on the inside of the barrier must be located no closer than 300 mm (See Diagram 2). This design requirement is to ensure that horizontal surfaces on the inside of the barrier cannot be used to aid climbing of the barrier.

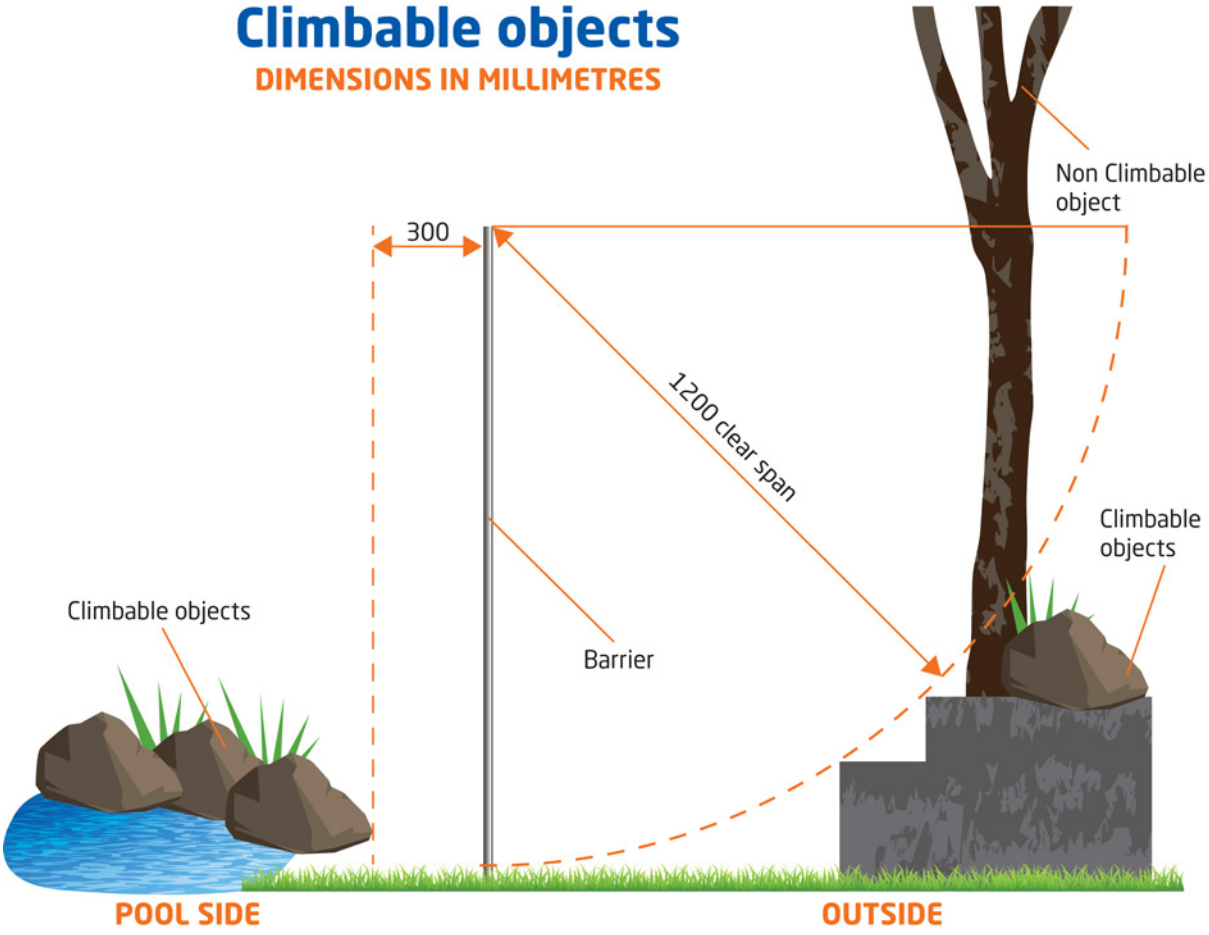


Diagram 2

Barrier with projections and indentations

DIMENSIONS IN MILLIMETRES

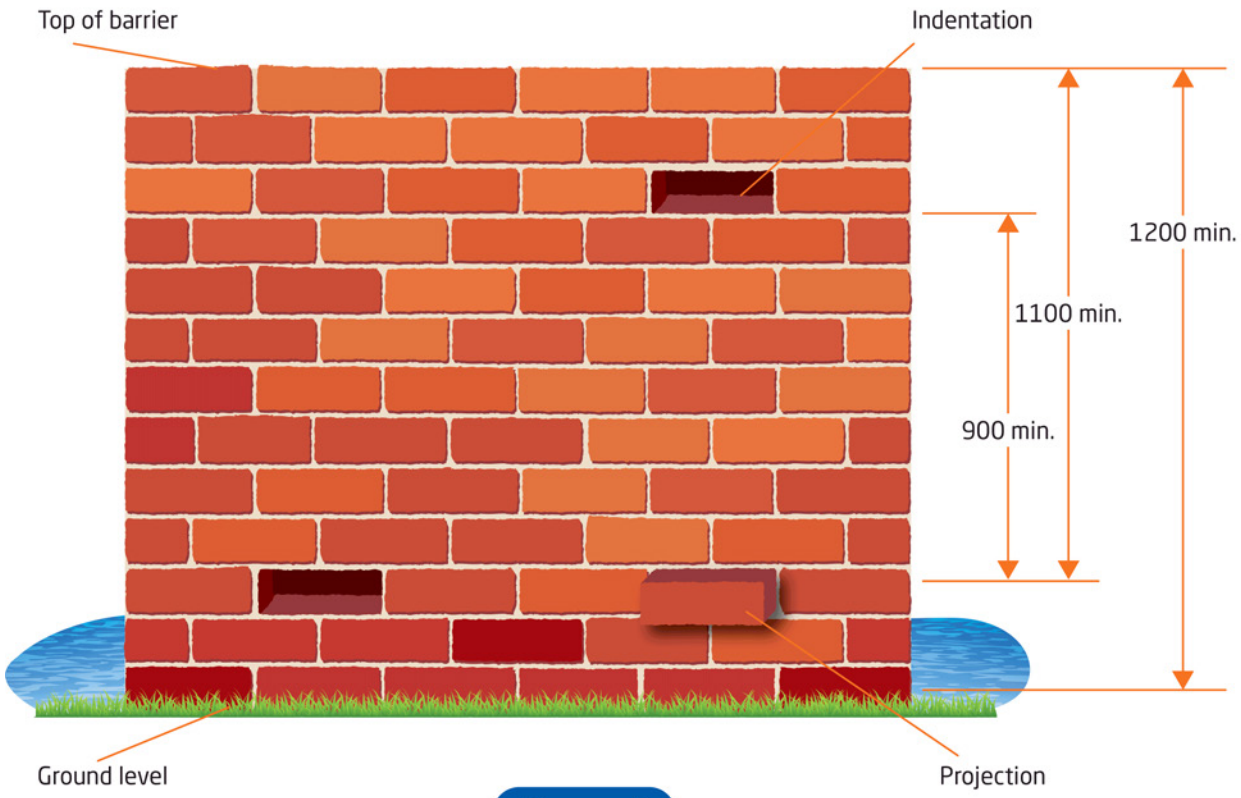


Diagram 3

Boundary or dividing fences

AS 1926.1-1993 requires that where fences are used to form part of the barrier, the effective height of 1200 mm should be maintained on the outside of the barrier. However in the case of boundary or dividing fences it is common to have objects positioned against them on the neighbour's side of the fence (non-pool side) that would be considered climbable. In these cases it is very difficult for the swimming or spa pool owner to have any influence over what a neighbour does within the confines of their property that may impact on the compliance of the barrier.

This situation has been recognised by the Regulations whereby a boundary/dividing fence is considered to comply if the requirements are satisfied in relation to either side of the fence.

Swimming and spa pool owners and occupiers are encouraged to discuss with neighbours any barrier requirements so that all parties are aware that any modifications they may make to or near their side of the dividing fence may have an impact on the compliance of the barrier.

Substantial horizontal surface in a barrier

A substantial horizontal surface is any horizontal or near horizontal surface that is greater than 10 mm either in depth or protrusion (such as steps, pot plants, trees/shrubs with low branches, brickwork, render, window sills). Any substantial horizontal surface(s) on the outside of the barrier must be spaced at least 900 mm apart. The highest of the low projection/ indentation must be a minimum of 1100 mm below the top of the barrier (See Diagram 3).

Horizontal members

If the barrier has been designed so that horizontal members brace the barrier (ie rails, rods, wires, bracing) on the outside of the fence; or where vertical members have openings greater than 10 mm, but not more than 100 mm, then the following conditions must be maintained:

- The horizontal members must not be less than 900 mm apart. Measurements are to be taken from the top surface of the highest of the low members to the top surface of the lowest of the high members.
- If the barrier or sections of it are on sloping land then these measurements must be maintained when taken perpendicular from the ground.
- The top surface of the highest of the low members must be at least 1100 mm from the top of the barrier (See Diagram 4).

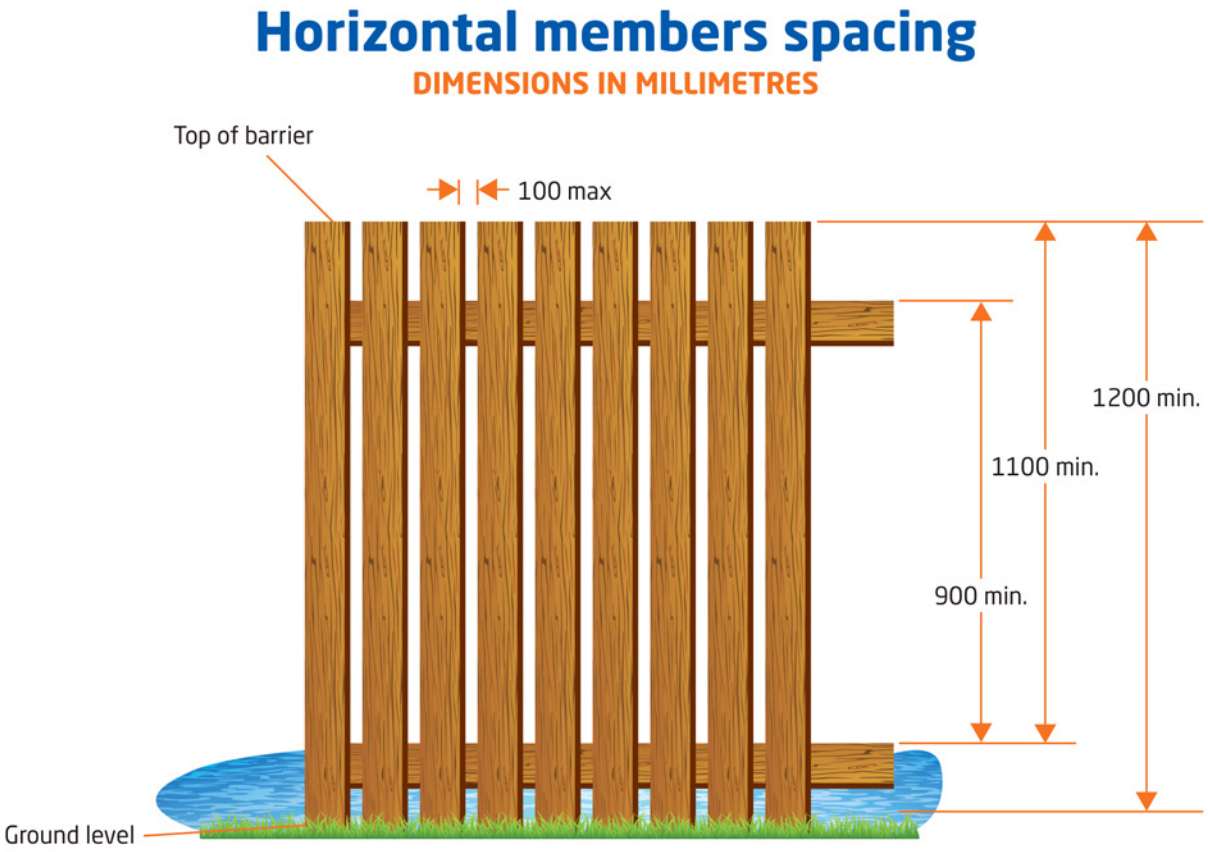


Diagram 4

Possible treatment of horizontal surfaces

Horizontal members that are located within 900 mm or 1100 mm as detailed above, are not permitted unless a 60 degree wedge has been fixed to the top of the horizontal surface. This applies to barriers that have vertical members spaced no more than 10 mm apart (See Diagram 5).

Vertical members

Any barrier that is designed with vertical uprights must not have a clear space between them that is greater than 100 mm.

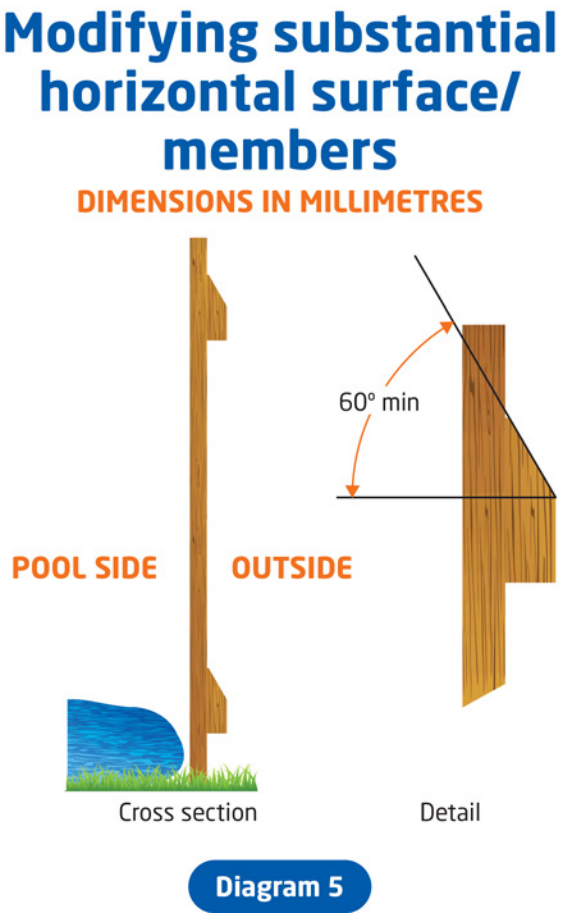


Diagram 5

Ground clearance

The bottom of the pool barrier cannot be more than 100 mm from the finished and stabilised ground surface.

Stabilised ground surface

The surface directly beneath the pool barrier must be stable and not able to be eroded by weather, children or animals. Examples of suitable materials include pavers, concrete, wood sleepers, garden rocks/stones, grass etc.

Retaining walls

If the swimming or spa pool is located on either side of a retaining wall this wall may form part of a barrier.

High side

A retaining wall or other such barrier on the high side of the pool must have a height at least 2400 mm to the finished ground surface on the inside of the pool barrier. The outside surface of the wall must meet the design requirements of AS 1926.1-1993; and the retaining wall must not slope away from the pool by more than 15° to the vertical.

Low side

A retaining wall or other such barrier on the low side of the pool must not be less than 1200 mm high. The outside surface of the wall must meet the design requirements of AS 1926.1-1993 unless it is at least 2400 mm in height.

The retaining wall must not slope toward the pool by more than 15° to the vertical.

Where a fence sits atop and intersects a retaining wall, the fence must extend to the outer edge of the retaining wall and return 900 mm along the retaining wall in either direction.

Gates and fittings

Direction of opening

Gates must be hung so that they swing away from the swimming or spa pool area because children can use their weight to push a gate forward.

Automatic self-closing device

All gates must be fitted with a device that will return the gate to the closed position without the use of manual force. The self-closing function must operate from any position that the gate is capable of opening, including when resting on the latch. The self-closing function should not allow the gate to inadvertently bounce back open.

When selecting and installing a gate it should be noted that the effectiveness of self-closing devices can be reduced subject to prevailing wind direction and loads. This wind may prevent the gate closing as it moves through its arc of operation. Care should be taken when selecting the gate type and position within the barrier to ensure the wind does not impact on the self-closing and latching operations.

Gate clearance

The bottom of the gate cannot be more than 100 mm from the finished and stabilised ground surface. When installing the gate, the need for sufficient clearance to enable it to swing freely through its arc of operation must be considered.

It is recommended that all surfaces beneath the gate be hard stand and not grass, as grass can quickly overgrow and reduce the self-closing and latching functionality of the gate.

Gate hinges

Traditional self-closing techniques have been to affix a tension spring to the gate and barrier frame.

Hinges that perform a self-closing function should not project more than 10 mm from the gate or frame because such projections may create a foothold or hand grip for young children to climb over. Where hinges do project more than 10 mm from the gate or frame, they must be spaced to ensure that the top surfaces of the hinges are more than 900 mm apart.

Latching device

A latching device must be fitted to the gate that will secure the gate closed unassisted. The latching device must not allow the gate to re-open without the proper use of the latch.

Latch release mechanism

The latch release must be located at least 1500 mm above the finished ground level when measured on the outside of the pool barrier.

The latch release must not be less than 1400 mm above the highest of any low horizontal members that may be part of the barrier design (See Diagram 6).

Location of latch

DIMENSIONS IN MILLIMETRES

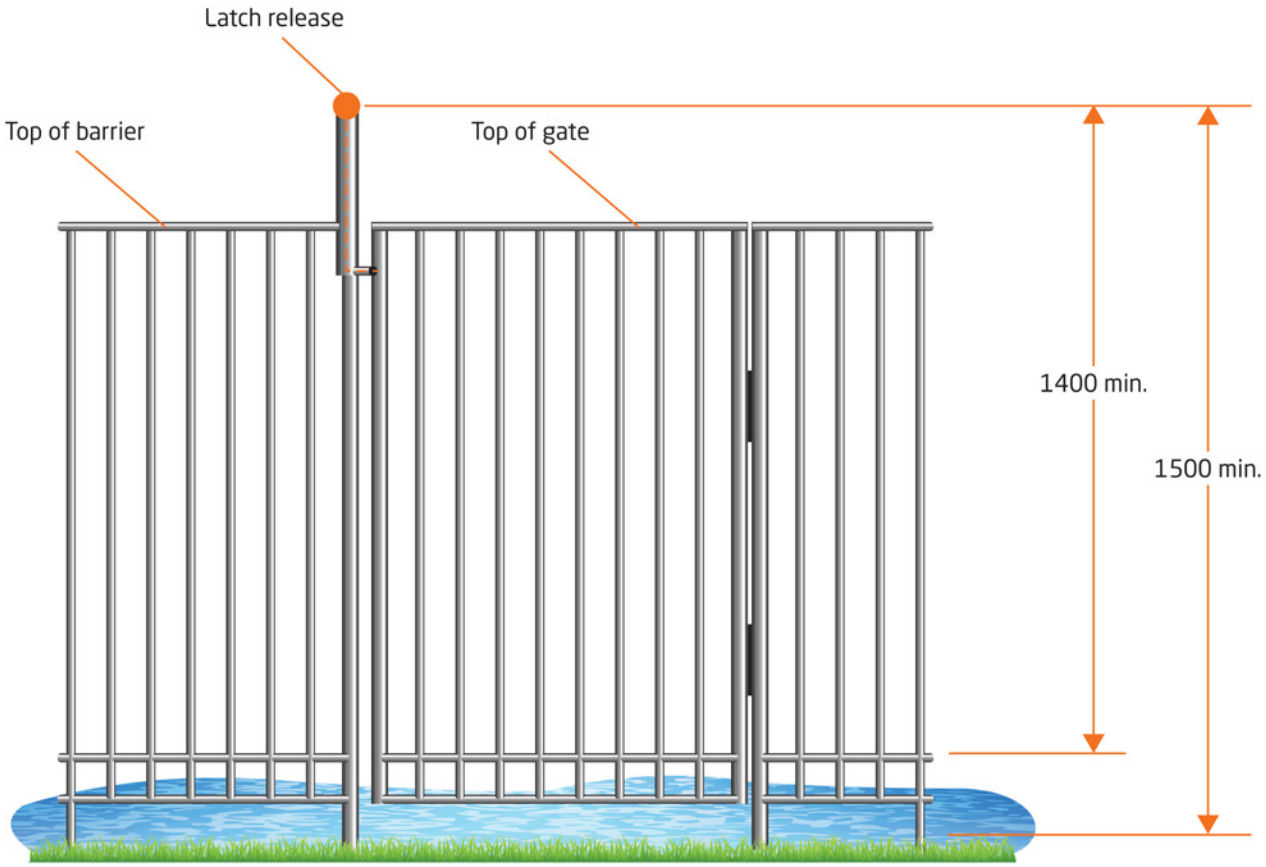


Diagram 6

Latch location where shield is required

DIMENSIONS IN MILLIMETRES

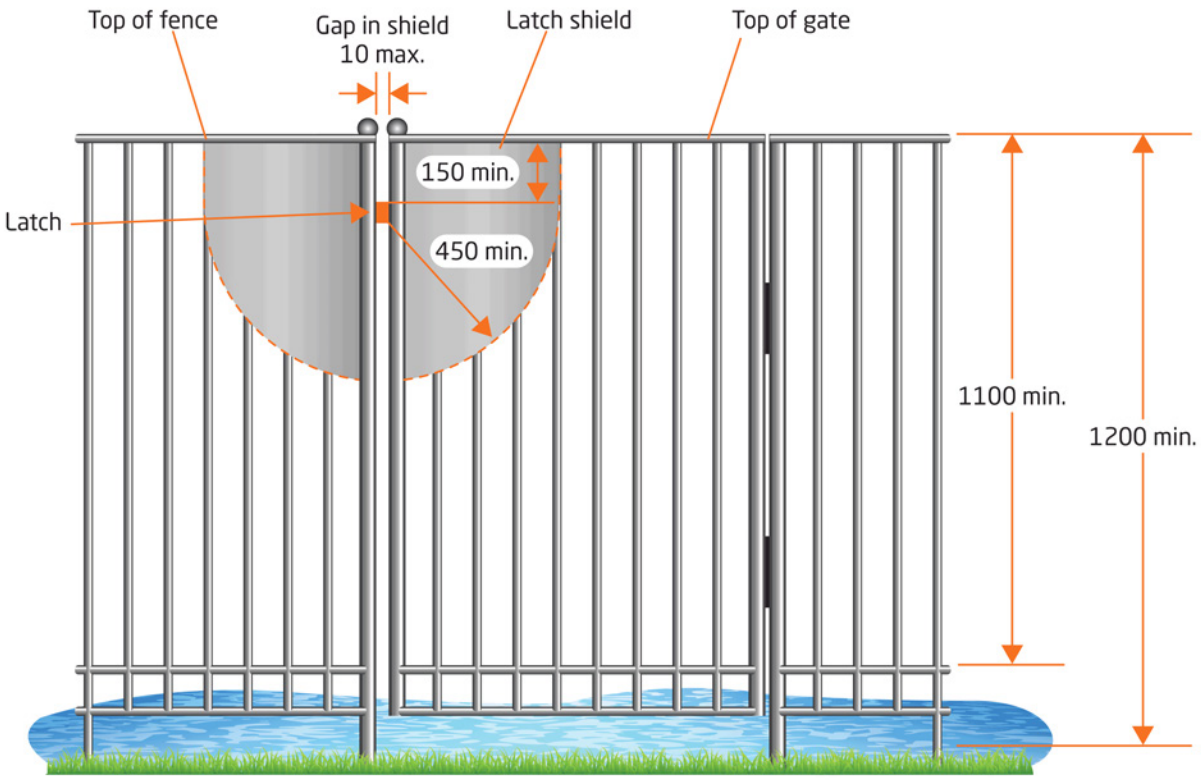


Diagram 7

Alternatively, where the latch release is not located as described above, the gate will comply if:

- the latch release is on the inside of the pool barrier and shielded;
- the latch release is positioned so that releasing the latch device would require a young child to reach over or through the barrier:
  - at a height at least 1200 mm above ground level; and
  - at a height at least 1100 mm above the highest of the low horizontal members.
- the latch release is at least 150 mm below the top of the gate or away from the edge of the handhold where one has been installed (See Diagram 7).

Shielding of latches for open design gates

Where the gate is designed so that vertical members are spaced more than 10 mm apart and the latch release is less than 1500 mm above the finished ground level then:

- the latch release must be shielded to restrict the opening of a gate by a young child by reaching up and through the gate; either by hand or with the aid of an implement; and
- the latch release must be shielded with material that has an effective radius at least 450 mm when measured out from the latch release. Within the shielded area no gaps of more than 10 mm are permissible (See Diagram 7).

Above-ground swimming or spa pools

Above-ground swimming or spa pools that have side walls at least 1200 mm high from the finished ground surface may not require an additional barrier if the walls are free of:

- bracing with horizontal surfaces;
- substantial horizontal surfaces; and
- climbable objects.

Where bracing is required to support the swimming or spa pool and the bracing extends out from the pool wall to the finished ground surface, the top surface of the supports must be greater than 60° from the horizontal.

However, any features that constitute a climbable object, such as entry/exit ladders or steps, or pool pumps, require a barrier with a self-closing and self-latching gate. Removal of the ladders or steps after each use is not acceptable.

All owners or occupiers with above-ground swimming or spa pools are recommended to install an appropriate barrier regardless of the design of the walls.

Lockable swimming or spa pool covers do not meet the requirements of the Regulations.

Portable and climbable objects in and around the property remain a constant danger.

Balcony

If the height of a balcony is less than 2400 mm to the finished ground surface and projects into the inside of a swimming pool or spa enclosure, then either of the following modifications to a balcony access must be made:

- if using the pre-November 2001 concession, the doors and windows that lead directly to the balcony area must meet the requirements as described in the following sections 'Doors' and 'Windows'; or
- if the doors and windows do not comply then a barrier that meets the design and construction requirements as described in this section must be installed and maintained on the balcony.

Windows

A window may form part of the barrier as long as it is modified so that it meets the requirements of AS 1926.1-1993.

Opening windows

If the lowest panel of a window that is capable of opening is less than 2400 mm to the finished ground surface when measured from inside the pool barrier, then one of the following options must be completed:

Sill height less than 900 mm

a) If the sill height is less than 900 mm above the finished floor surface when measured from the inside of the building, the window must have **one** of the following modifications:

- be covered by bars or mesh screens that are fixed into position with fasteners that require the use of a hand tool to remove (such as an Allen key, spanner, or screwdriver). Key locking devices are not acceptable; or
- be fixed in such a way that the window is not capable of opening more than 100 mm. This 100 mm clearance applies to windows that open in either a horizontal or vertical plane. Key locking devices are not acceptable and the stopping device must be permanently fixed.

Sill height between 900 mm and 1200 mm

b) If the sill height is between 900 mm and 1200 mm above the floor, the window must comply with either of the requirements described in (a) or be fitted with a securely fixed fly screen frame that has a screen fixed to it and is in good condition. The screen fitted to the frame must be either powder coated aluminium or stainless steel. Nylon based fly wire is not of acceptable strength.

Sill height between 1200 mm or greater

c) Any window that has a finished sill height of 1200 mm or greater above the floor does not require treatment.

While option (c) does not require a treatment, it is recommended that treatment options as described above in (a) or (b) are considered. Many objects in a room can provide a young child with a climbable object to breach the 1200 mm window sill and access the swimming or spa pool area through the window.

Child-resistant doorsets

A wall of a building that is used as part of the barrier may contain a door that complies with AS 1926.1-1993, only if the swimming or spa pool was given building approval on or before 5 November 2001.

Opening doors

Doors that form part of the pool barrier, that are permitted by the Regulations, must have the following characteristics:

- be fitted with a self-closing device that will automatically return the door to the closed position. It must allow the self-latching device to operate without the application of manual force from any position that the door is capable of opening, including when resting on the latch;
- be fitted with an automated self-latching device that will prevent the door from being re-opened without the application of manual force on the latch release mechanism;
- the operating part of the latch release mechanism must not be less than 1500 mm above the floor; and
- not contain footholds protruding more than 10 mm on the door or its frame. This is to restrict the opportunity for a young child using the foothold to climb the door and release the latching device. This must be observed in between the release of the latching device to 100 mm above the floor.

Owners and occupiers must remain aware that young children are resourceful and are capable of using a climbable object found within the house to reach up and release the latching mechanism of the door. Great care should be taken not to leave objects lying around that may be attractive to a young child or easy for them to use.

Doors, unlike gates, are permitted to open in any direction, including sliding.

Garage doors

Automated garage or perimeter gates do not comply with the requirements of the Regulations. It should not be taken for granted that these can be used as part of the barrier and any consideration to their use must be authorised by the permit authority prior to swimming or spa pool installation.

Section 5 - Post-May 2016 pools

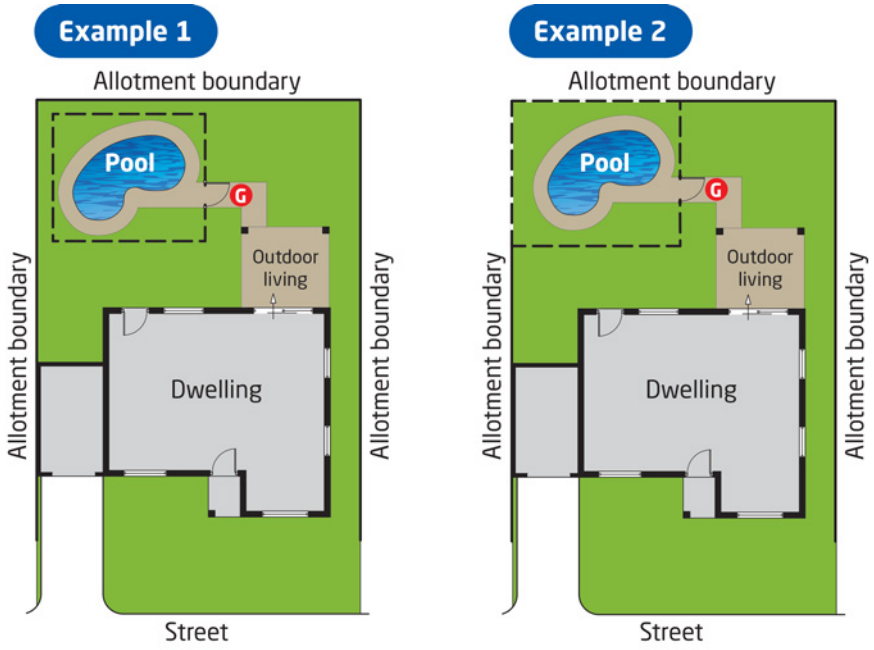
For post-May 2016 private swimming and spa pools, the Regulations require compliance with the Building Code of Australia (BCA). The BCA references **Australian Standard 1926.1-2012 (AS 1926.1-2012)** which details the minimum technical requirements applicable to swimming and spa pool barriers and **Australian Standard 1926.2-2007 (AS 1926.2-2007)** which details the barrier location requirements.

Where should barriers be located?

The following diagrams are examples of where the barrier can be located around the swimming pool. Post-May 2016 pools require an isolation barrier between the pool and the residence.

Child-resistant doorsets are only permitted to be used for indoor pools or for the indoor portion of an indoor/outdoor pool.

Post May 2016

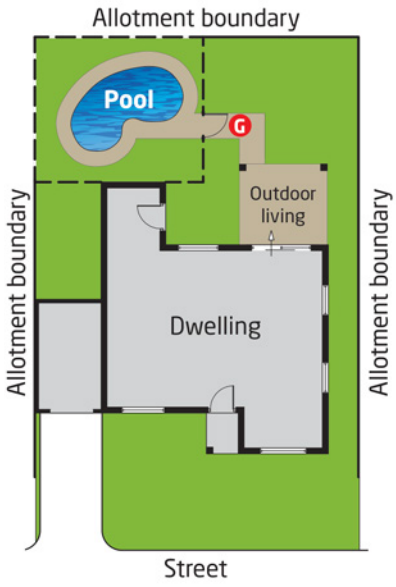


Legend

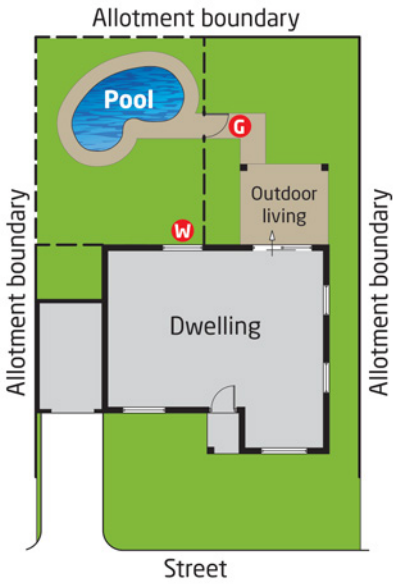
- G — Gate complying with AS 1926.1
- D — Child-resistant doorset complying with AS 1926.1
- W — Child-resistant openable window complying with AS 1926.1
- Openable window NOT complying with AS 1926.1
- Sliding door NOT complying with AS 1926.1
- Fence, retaining wall or other such barrier complying with AS 1926.1
- Wall of dwelling with no openings

Post May 2016

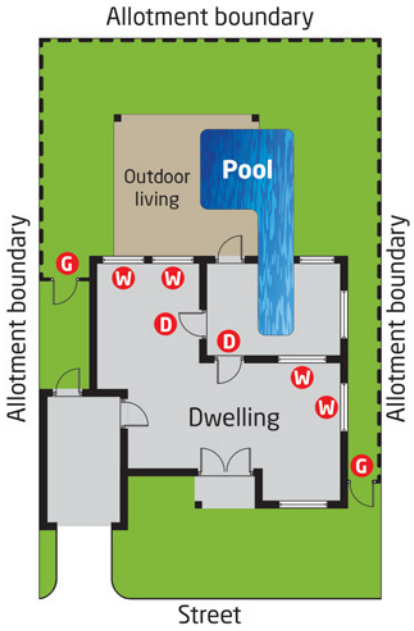
Example 3



Example 4



Example 5



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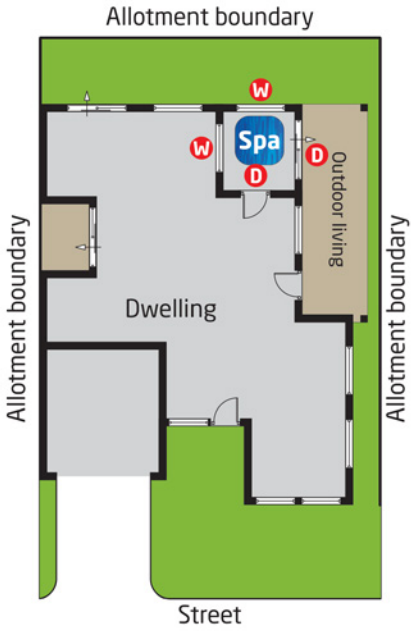


Legend

- G — Gate complying with AS 1926.1
- D — Child-resistant doorset complying with AS 1926.1
- W — Child-resistant openable window complying with AS 1926.1
- Openable window NOT complying with AS 1926.1
- Sliding door NOT complying with AS 1926.1
- Fence, retaining wall or other such barrier complying with AS 1926.1
- Wall of dwelling with no openings

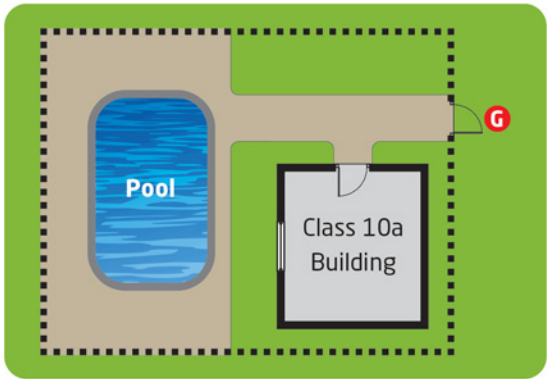
Class 10a buildings

A Class 10a building is a non-habitable building being a private garage, carport, shed, or the like.

The external doors and windows of a Class 10a building that is wholly contained within the enclosed area do not need to comply with these requirements (example A). Where the walls of the Class 10a building are used as part of the barrier, components of the wall that form the barrier must comply with AS 1926.1-2012 (example B).

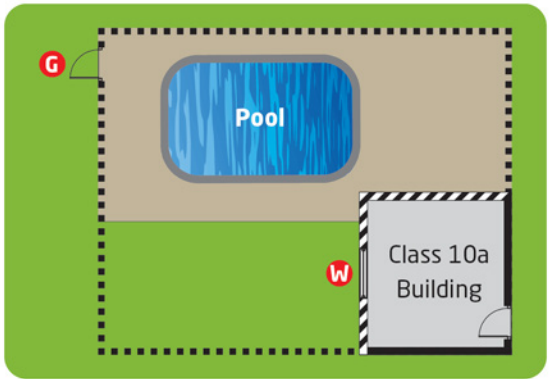
As doors are not permitted without permit authority approval, they must be permanently fixed closed using a device other than a key locking mechanism if they form part of the barrier.

Example A



The Class 10a building is wholly within the pool area and does not provide access to the pool through the barrier. As the building is not habitable, access between it and the pool does not need to be restricted to comply with AS 1926.1-2012.

Example B



The Class 10a building provides access into the pool area through the barrier which consists of part of the building's wall. For this reason the window of the building must comply with AS 1926.1-2012 or a barrier between the Class 10a building and the pool must be installed. The door is not part of the effective barrier and as such does not need to be restricted.

Legend

- G — Gate complying with AS 1926.1
- D — Child-resistant doorset complying with AS 1926.1
- W — Child-resistant openable window complying with AS 1926.1
- Wall forming part of enclosure
- Openable window NOT complying with AS 1926.1
- Wall of dwelling with no openings
- Fence, retaining wall or other such barrier complying with AS 1926.1

Barrier design and construction

The information in this section should not be seen as a replacement for referring to the Regulations, the BCA, AS 1926.1-2012 and AS 1926.2-2007.

The design and construction of barriers must be such that they comply with the requirements of AS 1926.1-2012 and AS 1926.2-2007 and the barriers must be maintained so they comply with these standards at all times. It is important to be aware that all dimensions provided are maximum or minimum dimensions that must not be either exceeded or reduced respectively.

General

The barrier may be made of any materials providing they are of a durable nature and the components that make up the barrier, when finished, comply with the requirements contained within AS 1926.1-2012 and AS 1926.2-2007, in particular strength and rigidity of openings.

Safety barriers must be permanent in nature, which means unable to be removed without the use of tools.

All parts of a barrier must have an effective height at least 1200 mm from the top of the barrier to the finished ground surface (See Diagram 1) measured on the outside of the pool or spa barrier.

Barriers must be designed to be near vertical and where this cannot be achieved, they must not lean towards the swimming or spa pool by more than 15° to the vertical.

Effective barrier height

DIMENSIONS IN MILLIMETRES

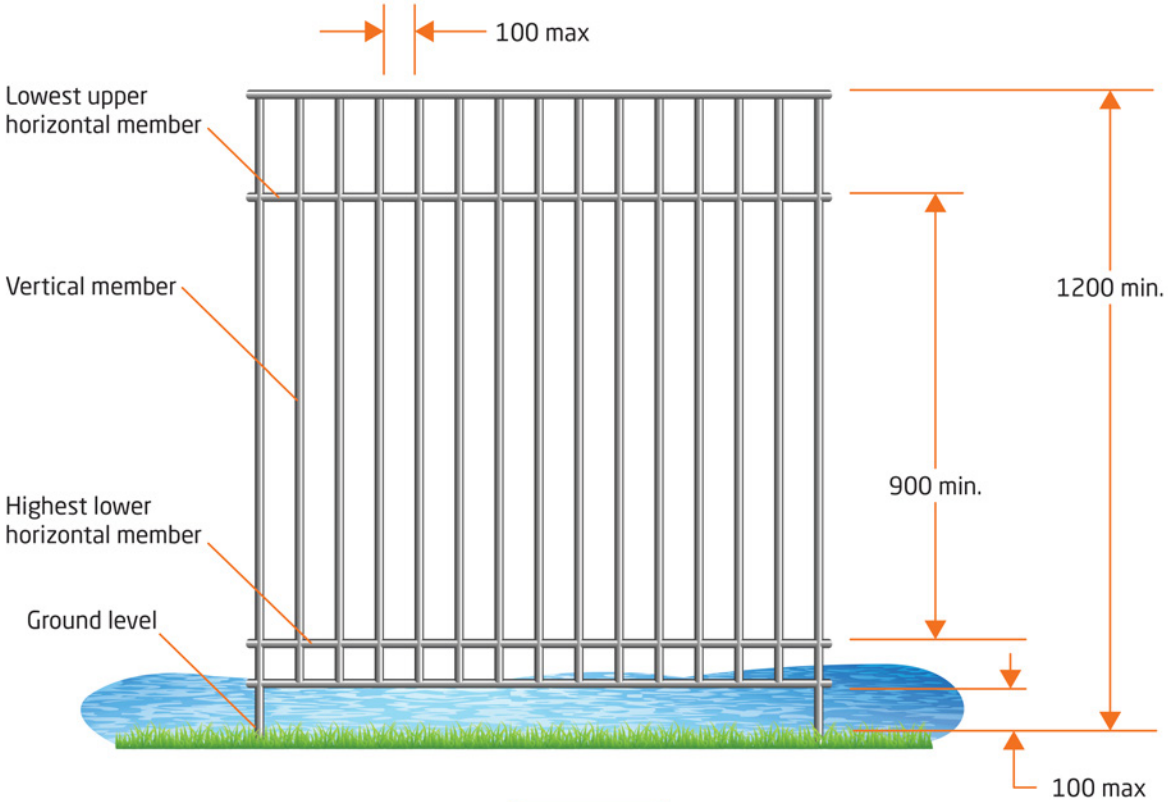


Diagram 1

Non-Climbable Zones (NCZ)

The minimum height of an internal pool barrier is 1200 mm. Where internal pool barriers are less than 1800 mm in height, they must have compliant non-climbable zones.

Non-climbable zones are to be free of handholds, footholds, objects or plants that will facilitate climbing.

NCZ 1

NCZ 1 is a 900 mm vertical measurement between horizontal components or handholds and footholds (See Diagram 2).

NCZ 2

NCZ 2 is a 900 mm quadrant, located between 3 o'clock and 6 o'clock, located aligned with NCZ 1 (See Diagrams 3 and 4).

NCZ 3

NCZ 3 is a 900 mm quadrant located between 12 O'clock and 3 O'clock, located at the top of the barrier. Additionally the NCZ extends down to the top of NCZ 1 (See Diagram 5).

NCZ 4

For barriers that are designed with vertical openings that exceed 10 mm, substantial horizontal surfaces on the inside of the barrier, aligning with NCZ 1, must be located no closer than 300 mm to the barrier (See Diagram 6). Children may stick feet through the openings in the barrier to utilise a foothold on the inside of the barrier. Having the climbable object 300 mm away from the barrier helps prevent climbing.

NCZ 5

NCZ 5 is only applicable to boundary (dividing) fences. It is an internal 900 mm quadrant located between 3 o'clock and 6 o'clock (See Diagram 7).

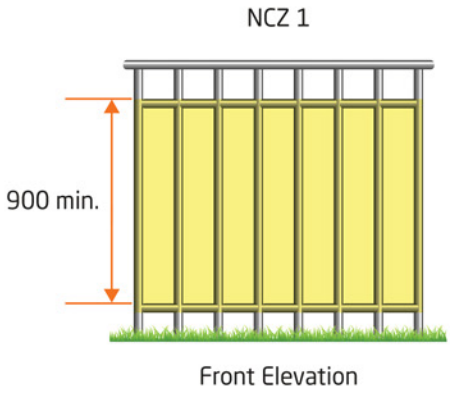


Diagram 2

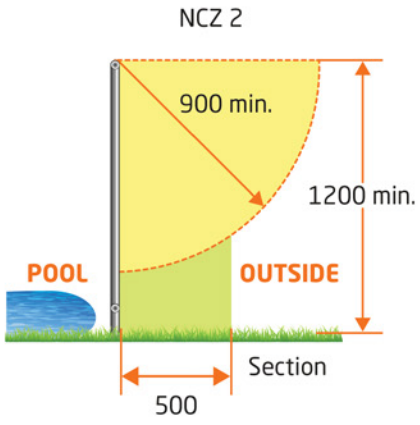


Diagram 3

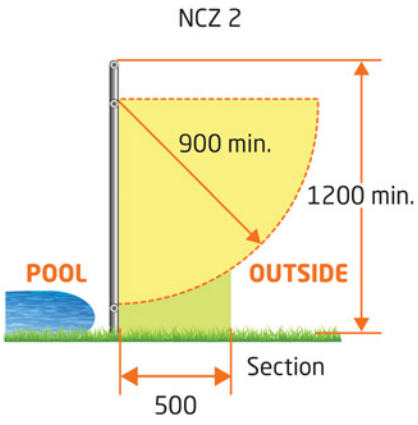


Diagram 4

No climbable objects within 500 mm of the pool fence.

Features and objects near a barrier

In all instances, regardless of the NCZs, there must be no objects, steps, retaining walls or ground level changes within 500 mm of the barrier that would reduce the minimum height of the barrier as required on that side (See Diagrams 3 and 4 above).

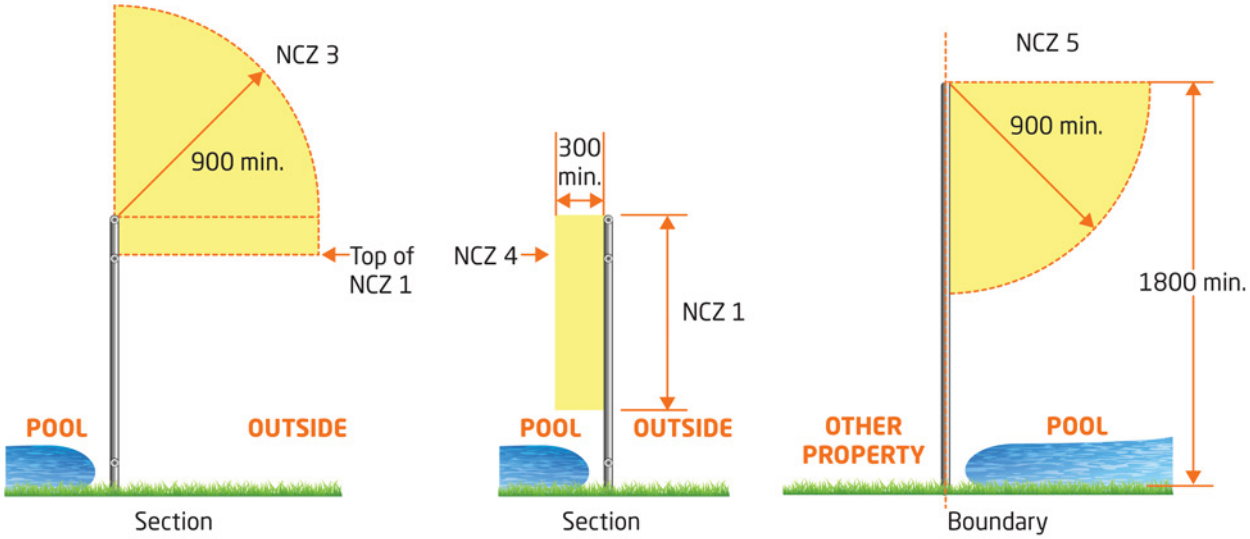


Diagram 5 | Diagram 6 | Diagram 7

Horizontal components

There must be no climbable objects, horizontal components, hand holds, footholds, indentations, projections, deeper than 10 mm within non-climbable zones (NCZ) (See Diagram 8).

Where barriers may be sloping or stepped, the NCZ is to be maintained throughout.

Where the gap between vertical members is 10 mm or less, climbable objects, including horizontal components, if located on the inside of the barrier, are permitted as a child would not be able to reach them.

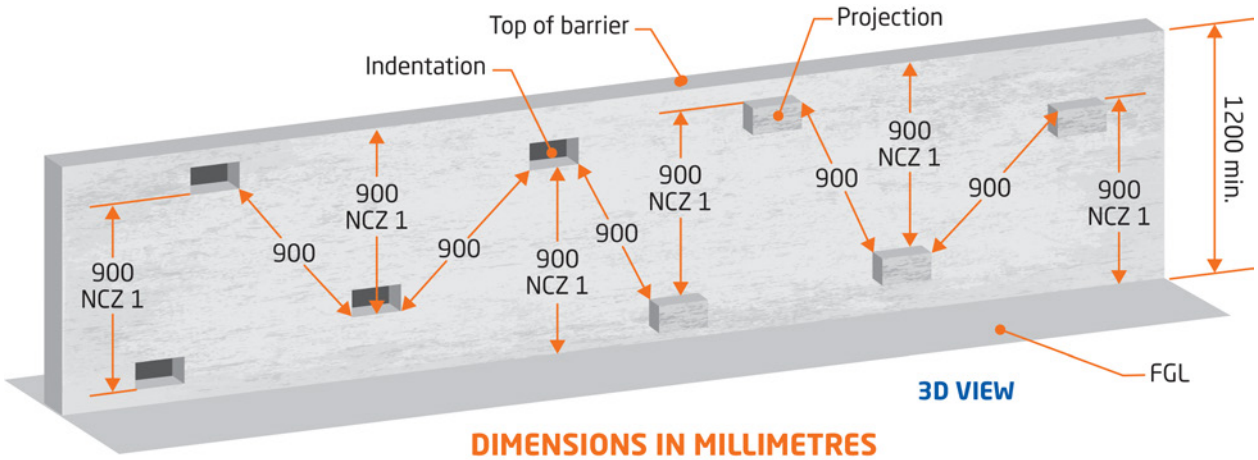


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Diagram 8

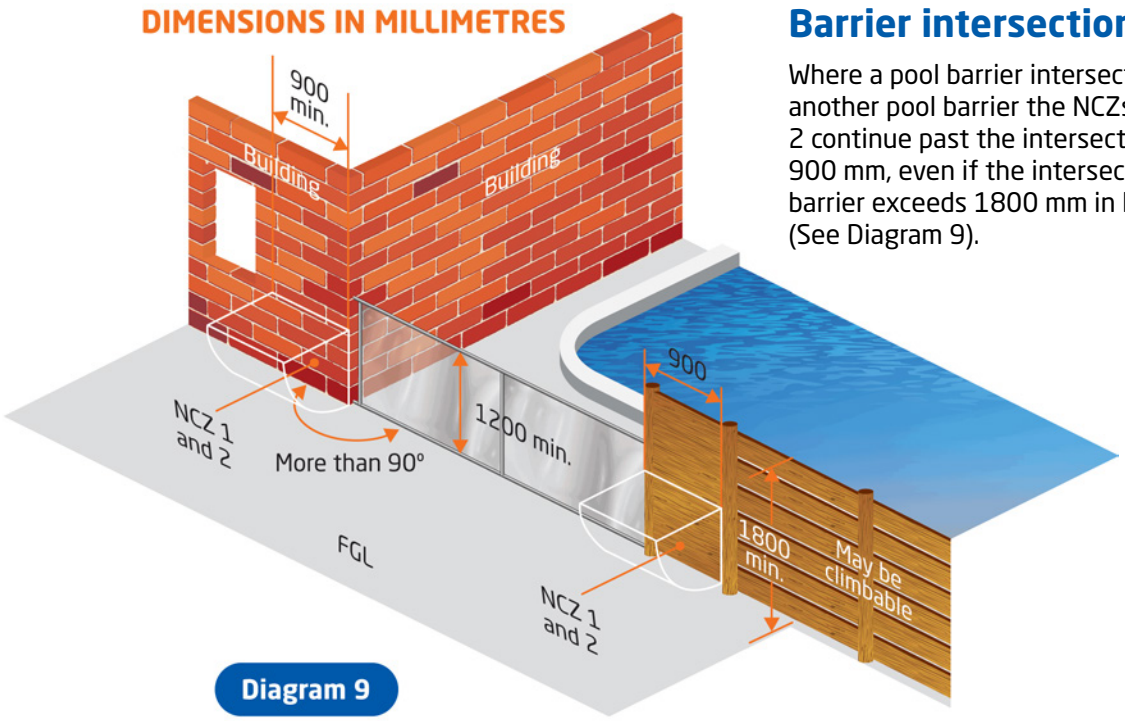


Diagram 9

Barrier intersections

Where a pool barrier intersects with another pool barrier the NCZs 1 and 2 continue past the intersection by 900 mm, even if the intersecting barrier exceeds 1800 mm in height (See Diagram 9).

Boundary or dividing fences

AS 1926.1-2012 requires that where boundary fences are used to form part of the barrier, the effective height of 1800 mm should be maintained on the inside of the barrier. NCZ 5 is to be provided on the pool side of the barrier. The outside of the boundary barrier may be less than 1800 mm in height and may be climbable.

Boundary or dividing fence intersections with internal barriers

The NCZ 5 of the boundary barrier is permitted to be encroached upon by an internal barrier. However:

- if the top of the internal barrier is wider than 50 mm the internal barrier must be at least 1800 mm high within NCZ 5 (See Diagram 10); and
- if the top of the internal barrier is less than 50 mm wide the internal barrier must be located between an angle of 45 and 135 degrees to the boundary fence (See Diagram 11).

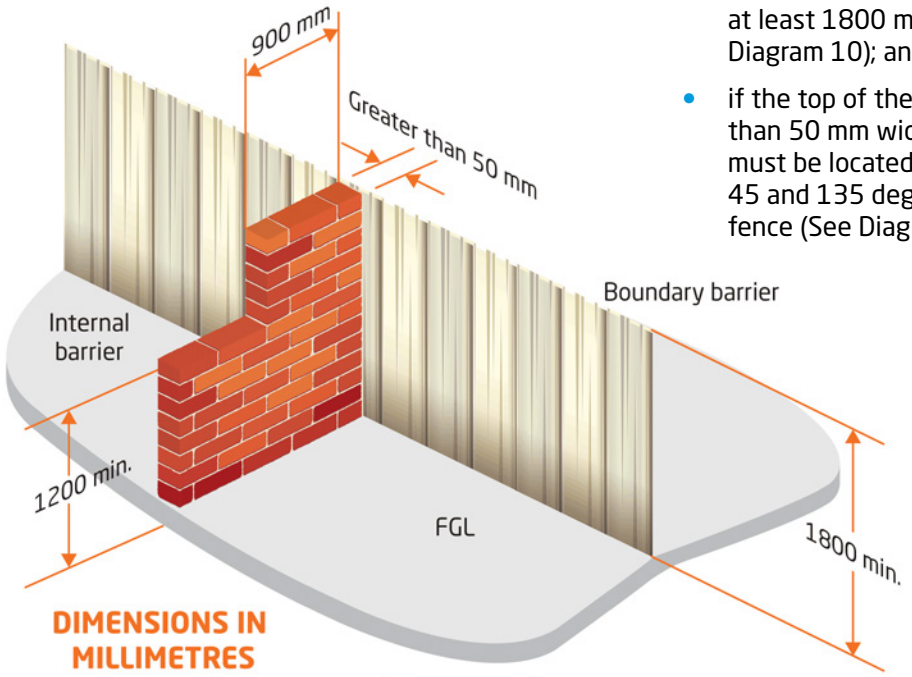


Diagram 10

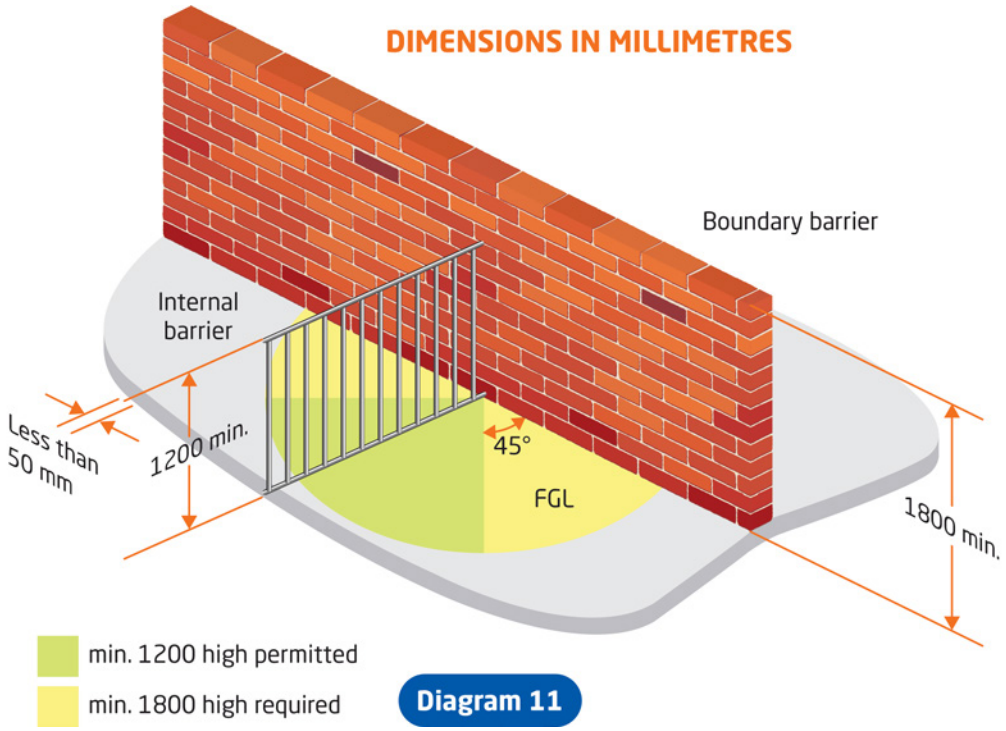


Diagram 11

Perforated materials or mesh

Any barrier that uses a material made of mesh or other perforated material (rather than vertical uprights or solid infill panels) that has holes or gaps that exceed 13 mm, but that are not more than 100 mm, must have a barrier height at least 1800 mm from the finished ground surface.

Should gaps be 13 mm or less, the barrier may have a height as low as 1200 mm.

This type of barrier must be sufficiently stable so that under application of a force, as designated in AS 1926.1-2012 (cl. 2.3.2):

- a gap that exceeds 100 mm under the fence is not created; and
- the height of the barrier is not reduced to be less than 1200 mm.

Glass barriers

Glass barriers are permitted to be used as part of a pool barrier. The system must comply with the AS 1926.1-2012 and AS 1288-2006 Glass in buildings – selection and installation which requires the glass to be Type A safety glass.

Possible treatment of horizontal surfaces

Horizontal members that are located within a NCZ are not permitted unless a 60 degree wedge has been fixed to the top of the horizontal surface. This applies to barriers that have vertical members spaced no more than 10 mm apart (See Diagrams 12 and 13).

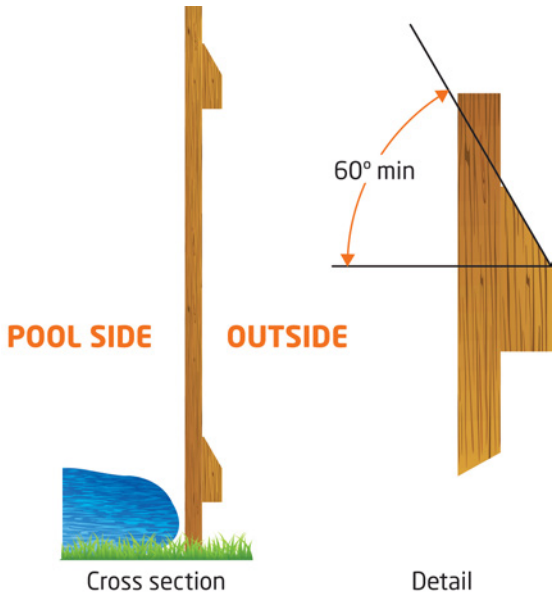


Diagram 12

Diagram 13

Vertical members

Any barrier that is designed with vertical uprights must not have a clear space between them that is greater than 100 mm.

Ground clearance

The bottom of the pool barrier cannot be more than 100 mm from the finished and stabilised ground surface.

Stabilised ground surface

The surface directly beneath the pool barrier must be stable and not able to be eroded by weather, children or animals. Examples of suitable materials include pavers, concrete, wood sleepers, garden rocks/stones, grass etc.

Retaining walls

If the swimming or spa pool is located on either side of a retaining wall this wall may form part of a barrier (See Diagrams 14, 15 and 16).

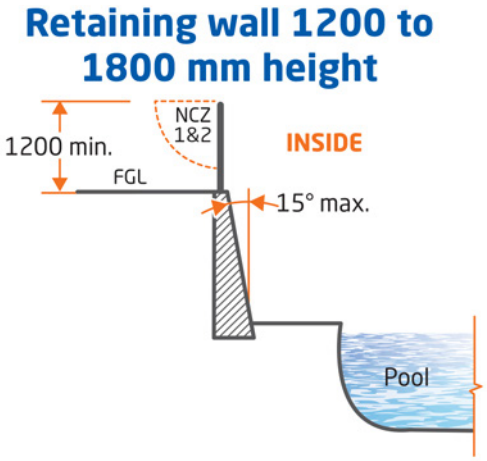


Diagram 14

High side

A retaining wall or other such barrier on the high side of the pool must have a height at least 1800 mm to the finished ground surface on the inside of the pool barrier.

The retaining wall must not slope away from the pool by more than 15° to the vertical.

If the retaining wall is less than 1800 mm an alternative compliant pool barrier must be provided.

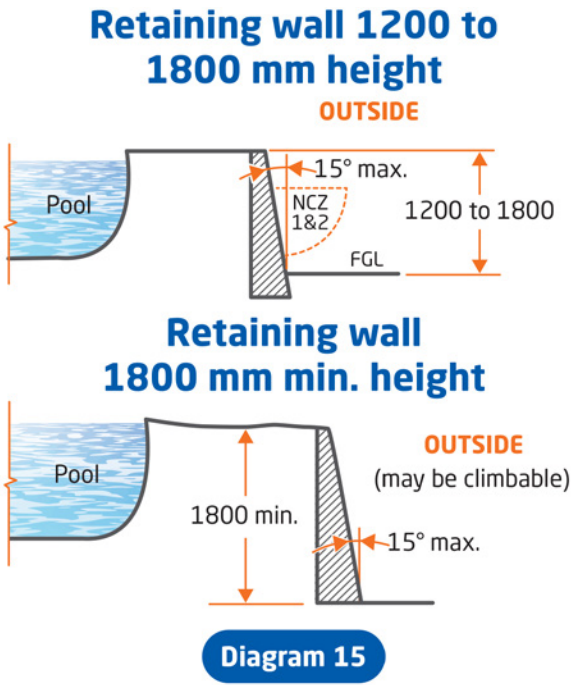


Diagram 15

Low side

A retaining wall or other such barrier on the low side of the pool must not be less than 1200 mm high. The outside surface of the wall must meet the design requirements of the AS 1926.1-2012, including NCZs, unless it is at least 1800 mm in height.

The retaining wall must not slope toward the pool by more than 15° to the vertical.

Where a barrier sits atop and intersects a retaining wall, the barrier must either extend past the outer edge by 900 mm or extend to the edge of the retaining wall and return 900 mm along the retaining wall in either direction. The outside surface of the barrier must be flush against the face of the retaining wall.

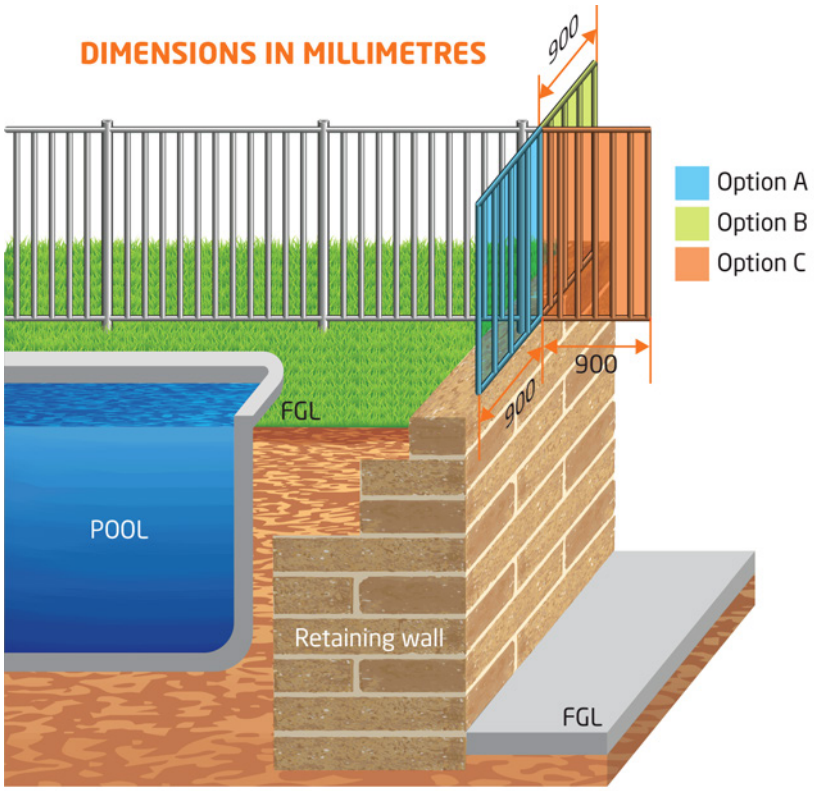


Diagram 16

Gates and fittings

Direction of opening

Gates must be hung so that they swing away from the swimming or spa pool area because children can use their weight to push a gate forward.

Automatic self-closing device

All gates must be fitted with a device that will return the gate to the closed position without the use of manual force. The self-closing function must operate from any position that the gate is capable of opening, including when resting on the latch. The self-closing function should not allow the gate to inadvertently bounce back open.

When selecting and installing a gate it should be noted that the effectiveness of self-closing devices can be reduced subject to prevailing wind direction and loads. This wind may prevent the gate closing as it moves through its arc of operation. Care should be taken when selecting the gate type and position within the barrier to ensure the wind does not impact on the self-closing and latching operations.

Gate clearance

The bottom of the gate cannot be more than 100 mm from the finished and stabilised ground surface. When installing the gate, the need for sufficient clearance to enable it to swing freely through its arc of operation must be considered.

It is recommended that all surfaces beneath the gate be hard stand and not grass, as grass can quickly overgrow and reduce the self-closing and latching functionality of the gate.

Gate hinges

Traditional self-closing techniques have been to affix a tension spring to the gate and barrier frame.

Hinges that perform a self-closing function should not project more than 10 mm from the gate or frame because such projections may create a foothold or hand grip for young children to climb over. Where hinges do project more than 10 mm from the gate or frame, they must be spaced to ensure that the top surfaces of the hinges are not located within NCZ 1 or NCZ 2.

Latching device

A latching device must be fitted to the gate that will secure the gate closed unassisted. The latching device must not allow the gate to re-open without the proper use of the latch.

Latch release mechanism

The latch release must be located at least 1500 mm above the finished ground level when measured on the outside of the pool barrier (See Diagram 17).

Alternatively, where the latch release is not located as described above, the gate will comply if:

- the latch release is on the inside of the pool barrier and shielded;
- the latch release is positioned so that releasing the latch device would require a young child to reach over or through the barrier:
  - at a height at least 1200 mm above ground level; and
  - at a height at least 1000 mm above the highest of the low horizontal members.
- the latch release is at least 150 mm below the top of the gate or away from the edge of the handhold where one has been installed (See Diagram 17).

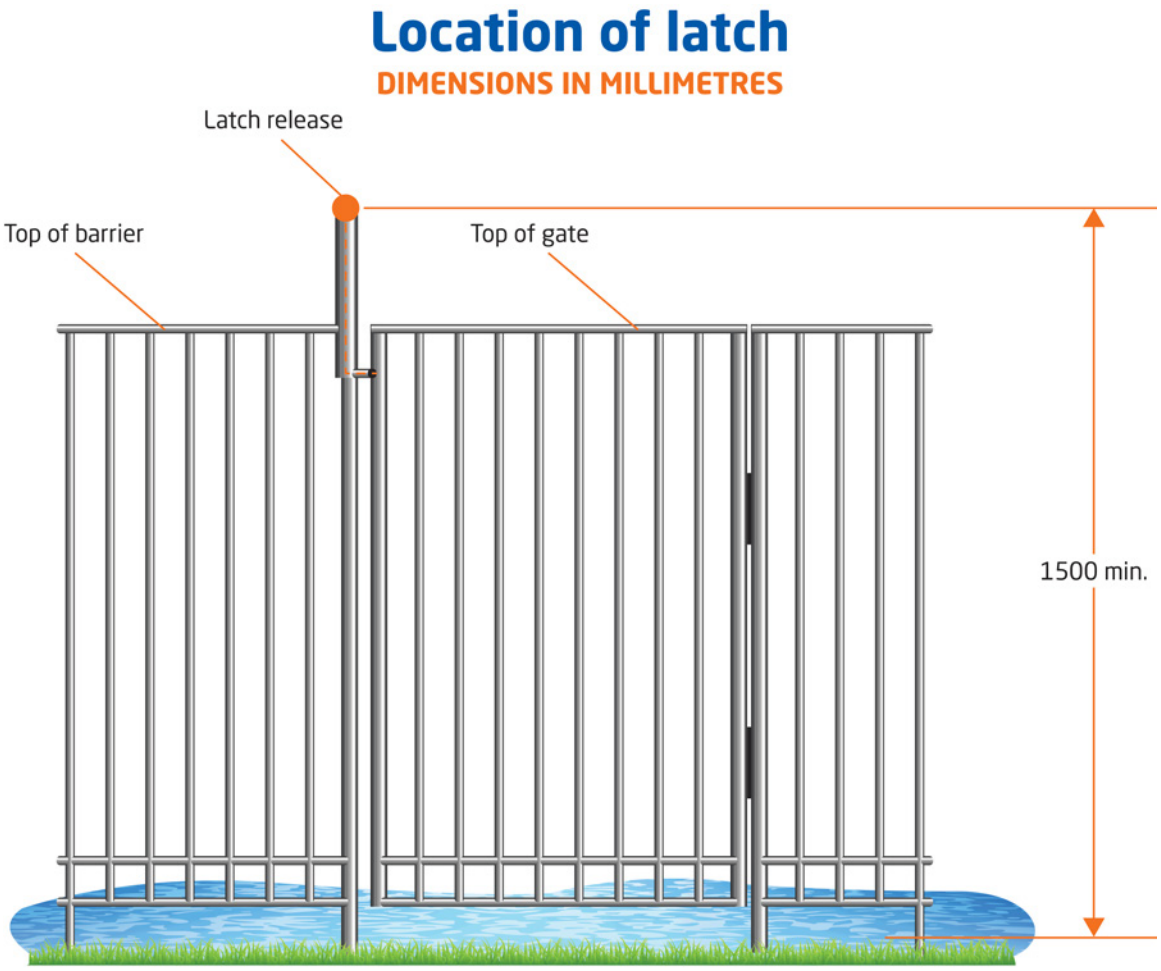


Diagram 17

Latch location where shield is required

DIMENSIONS IN MILLIMETRES

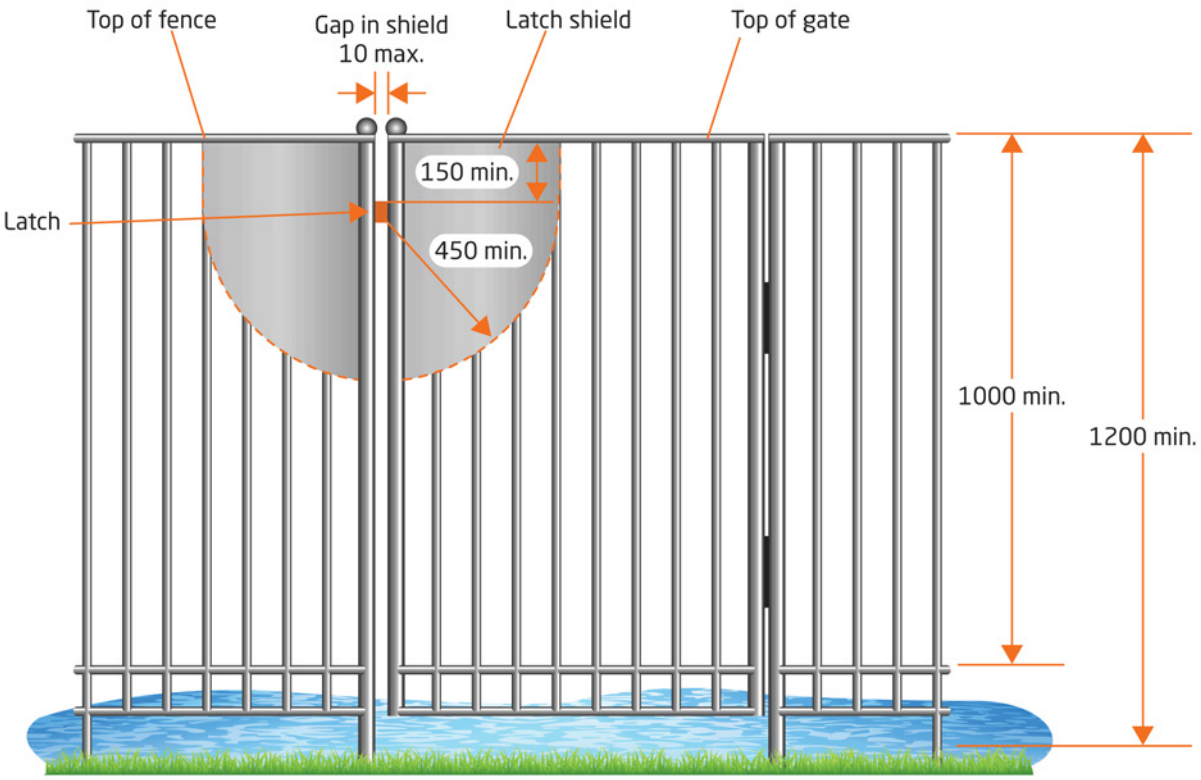


Diagram 18

Shielding of latches for open design gates

Where the gate is designed so that vertical members are spaced more than 10 mm apart and the latch release is less than 1500 mm above the finished ground level then:

- the latch release must be shielded to restrict the opening of a gate by a young child by reaching up and through the gate; either by hand or with the aid of an implement; and
- the latch release must be shielded with material that has an effective radius at least 450 mm when measured out from the latch release. Within the shielded area no gaps of more than 10 mm are permissible (See Diagram 18).

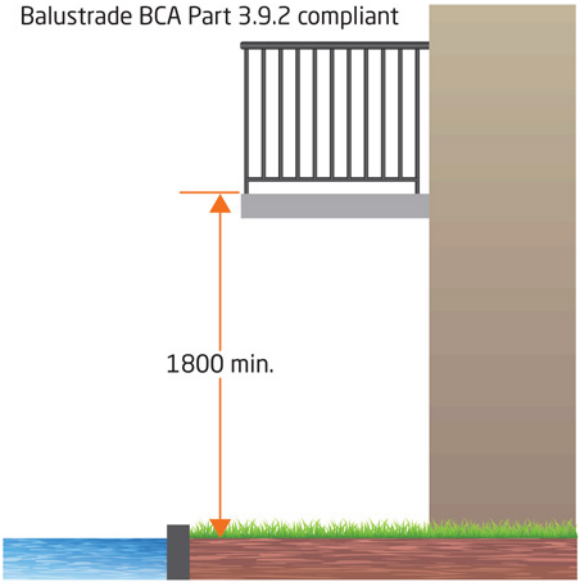
Above-ground swimming or spa pools

Above-ground swimming or spa pools that have side walls at least 1200 mm in height from the finished ground surface and that comply with clause 2.1-2.3 of AS 1926.1-2012 are able to be used as an effective barrier. However, a compliant permanent barrier is required to be erected around ladders and/or designated access points that may have removable ladders.

Where bracing is required to support the swimming or spa pool and the bracing extends out from the pool wall to the finished ground surface, the top surface of the supports must be greater than 60° from the horizontal.

All owners or occupiers with above-ground swimming or spa pools are recommended to install an appropriate barrier regardless of the design of the walls. Lockable swimming or spa pool covers do not meet the requirements of the Regulations.

Fixed and portable climbable objects in and around the pool area remain a constant danger.



DIMENSIONS IN MILLIMETRES

Diagram 19

Balcony

If the height of a balcony is less than 1800 mm to the finished ground surface and projects into the inside of a swimming pool or spa area then a barrier that meets the design and construction requirements as described in this section must be installed and maintained on the balcony. This may be achieved by ensuring that the balcony balustrade complies with AS 1926.1-2012 (See Diagram 19).

If a pool barrier is located between the balcony and the pool, the balcony must not project into a NCZ. If the balcony does project into a NCZ, the balcony's balustrade must comply with AS 1926.1-2012.

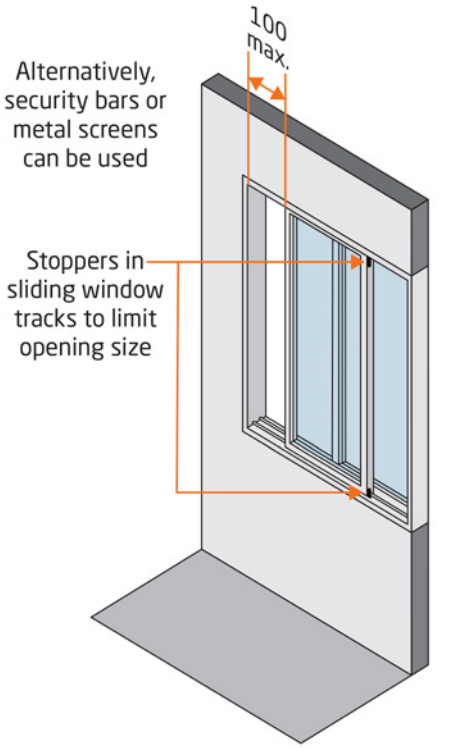
Windows

A window may form part of the barrier as long as it is modified so that it meets the requirements of AS 1926.1-2012.

Opening windows

If the lowest openable portion of a window is less than 1800 mm from the finished ground surface, when measured from inside the pool barrier, then the openable portion of the window must either:

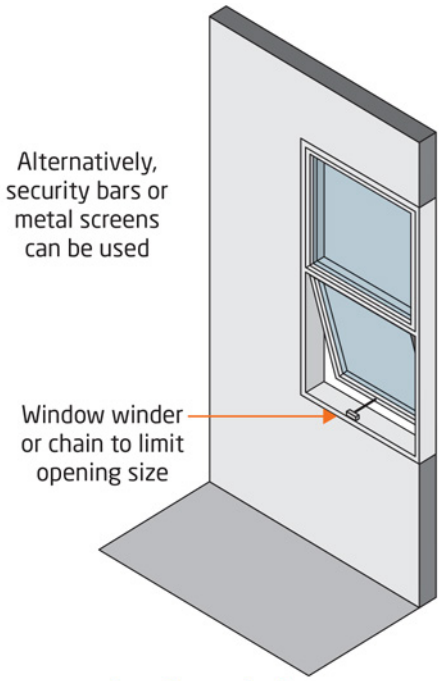
- be covered by bars or mesh screens that are fixed into position with fasteners that require the use of a hand tool to remove (such as an Allen key, spanner, or screwdriver). Key locking devices are not acceptable; or
- be fixed in such a way that the window is not capable of opening more than 100 mm. This 100 mm clearance applies to all openable windows including sliding and awning windows. Key locking devices are not acceptable and the stopping device must be a permanent fixture (See Diagram 20 and 21).



Sliding window

DIMENSIONS IN MILLIMETRES

Diagram 20



Awning window

Diagram 21

Child-resistant doorsets

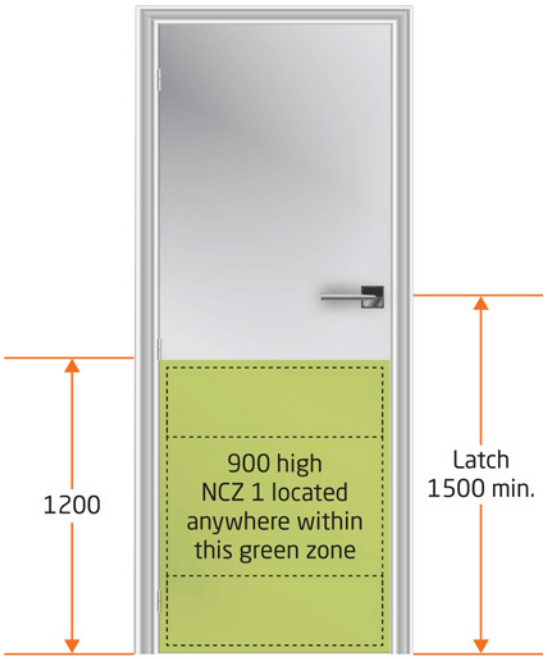
Doors are only permitted to form part of the pool barrier for indoor pools, or for the indoor portion of an indoor/outdoor pool providing they comply with AS 1926.1-2012.

Opening doors

Doors that form part of the pool barrier must have the following characteristics:

- be fitted with a self-closing device that will automatically return the door to the closed position. It must allow the self-latching device to operate without the application of manual force from any position that the door is capable of opening, including when resting on the latch;
- be fitted with a self-latching device that will prevent the door from being re-opened without the application of manual force on the latch release mechanism;
- the operating part of the latch release mechanism must not be less than 1500 mm above the floor;
- not contain footholds protruding more than 10 mm on the door or its frame for 900 mm in height within the bottom 1200 mm of the door (NCZ 1), on the opposite side of the door to the pool area. This is to restrict the opportunity for a young child using the foothold to climb the door and release the latching device; and
- not open towards the pool area. Doors are only permitted to slide side-ways or open away from the pool area.

Owners and occupiers must remain aware that young children are resourceful and are capable of using a climbable object found within the house to reach up and release the latching mechanism of the door. Great care should be taken not to leave objects lying around that may be attractive to a young child or easy for them to use.



DIMENSIONS IN MILLIMETRES

Diagram 22

Section 6 - Frequently asked questions

Does my spa pool require a barrier?

Yes. A spa pool, whether portable or fixed, comes under the definition of a 'private swimming pool' in the Regulations and must have a compliant barrier.

Who is responsible for ensuring the swimming or spa pool has a compliant barrier?

Each owner and occupier of a property on which there is a private swimming or spa pool containing water that is more than 300 mm deep must ensure that a compliant barrier is installed and maintained so that it is compliant with the Regulations at all times.

What is my local government's role in relation to my swimming pool?

Your local government is responsible for monitoring compliance with the requirements that apply to your swimming or spa pool barrier by:

- acting as a permit authority by receiving and processing building permit applications for swimming and spa pools and their associated barriers;
- arranging and conducting inspections of barriers at least once every four years; and
- issuing infringement notices or commencing legal proceedings if a barrier is found to be non-compliant.

Some local governments may provide additional services including pool safety barrier advice.

Is a building permit required to construct a pool and its safety barrier?

In most instances a building permit will be required to construct, erect or install a swimming or spa pool and its safety barrier. Please contact your local government (permit authority) to discuss whether an exemption under legislation applies to you.

My pool is completed, what happens now?

On completion of works, the person named as the builder on the building permit must obtain an inspection certificate (Reg. 28 and 29 of the Regulations) and submit it along with a **Notice of Completion** form to the permit authority (this notice is Building Commission form number BA7 available at: www.commerce.wa.gov.au/building-commission).

The owner/occupier is responsible for ongoing compliance and maintenance of the pool's safety barrier. The local government will inspect safety barriers at least once every four years.

Remember that supervision of young children is more effective at reducing the incidence of drowning than relying on pool safety barriers.

What can be used as a barrier?

A fence, wall, or other barrier, or a combination of them that is in accordance with the requirements of the applicable barrier standard can be used; a gate, that is in accordance with the requirements of the applicable barrier standard and that opens away from the swimming or spa pool and is self-closing and self-latching; and a window if it is in accordance with the requirements of the applicable barrier standard.

The barrier can be purpose built pool fencing, brickwork, limestone, glass, metal, fibro-cement and even brushwood as long as they meet the requirements of the applicable barrier standard. However, pools installed after 5 November 2001 are not permitted to use a door in a wall of a building that is used as part of the barrier.

Can I use my boundary/dividing fence as part of the barrier?

Yes, subject to the following:

Post-May 2016 pools - the boundary fence must be at least **1800 mm** high on the inside for the part of the fence used as a barrier. The fence must be non-climbable and have no climbable objects within NCZ 5.

Pre-May 2016 pools - the boundary fence must be at least **1200 mm** high. The fence should be non-climbable with no climbable objects within 1200 mm of the top of the fence. This applies to at least one side of the fence being either the pool side or the neighbour's side. Alternatively, pre-May 2016 pools may comply with the post-May 2016 barrier requirements.

If I use a wall of a building as part of the barrier can it contain a window?

Yes. As long as the window is child-resistant in accordance with the applicable barrier standard, it can be contained within a wall that is part of the barrier.

Can I use a door as part of my barrier?

Only under the following circumstances:

- if the pool is using the pre-November 2001 concession. The door must comply with AS 1926.1-1993;
- if the door forms part of a barrier to an indoor pool, or the indoor portion of an indoor/outdoor pool. The door must comply with AS 1926.1-2012; or
- the permit authority issues an approval under Reg. 51 of the Regulations.

Is a deadlock, key lock or pad lock suitable to limit or permanently secure gates, doors and windows?

No. A device that limits or permanently secures these parts of a barrier can only be removed by the use of a tool. Such tools may include Allen keys, pliers, spanners and screwdrivers.

I have an old pre-May 2016 swimming pool, do I need to upgrade my existing safety barrier?

There is **no retrospective requirement for owners to upgrade** existing compliant barriers for pre-May 2016 pools to the post-May 2016 barrier requirements.

I have an old pre-May 2016 pool that I will be replacing. Can I continue to comply with the pre-May 2016 barrier requirements?

No. The new pool requires a building permit. The pool barrier requirements are triggered by the submission date of the building permit application for the swimming pool.

As such, the pool will be a post-May 2016 pool and must comply with the post-May 2016 barrier requirements.

I have an outdoor pool that was installed after 5 November 2001, under what circumstances can the permit authority issue an approval to allow a door as part of the pool barrier?

The Regulations provide two options:

Option 1 - for all pools:

The permit authority may consider an alternative solution for the pool safety barriers where it is demonstrated that the pool safety barriers meet the performance requirements of the BCA. Where a permit authority approves the use of a door it must comply with the requirements of AS 1926.1-2012.

Option 2 - for pre-May 2016 pools:

The permit authority may consider approval of a door as part of the barrier only where:

- it is the opinion of the permit authority that to install a barrier between the premises and the pool would create a structural problem that cannot be controlled by the owner or occupier of the property;
- the pool is totally enclosed by a building; or
- if it is the opinion of the permit authority that a separate barrier between the premises and pool would create a sufficient problem for a person with a disability who is a resident at the premises and wishes to have access to the pool.

For the purposes of approving the use of a door for a person with a disability, that person needs to produce a certificate that has been issued by the National Disability Services (ACN 008445485), certifying that the person has a disability that makes it difficult for the person to use a gate of the kind that would be required by the Regulations in a swimming pool barrier.

Prior to deciding whether to give approval for the use of a door, the permit authority must have regard as to whether or not a young child resides at the premises. Where a permit authority approves the use of a door it must comply with the requirements of AS 1926.1-1993.

I have an existing pre-May 2016 outdoor pool using the pre-November 2001 concession and I want to install bi-fold doors as part of the barrier to replace the old door. Are these permissible?

No. Bi-fold doors are not permitted as they do not meet the requirements of AS 1926.1-1993. French Doors may only be used if one side is permanently fixed closed and the other side complies with AS 1926.1-1993 ie self-closing with a child-resistant doorset that meets the requirements of AS 1926.1-1993.

I have an existing pre-May 2016 outdoor swimming pool using the pre-November 2001 concession and I want to install a new spa pool. Part of the barrier is a wall with a compliant door. Do I need a separate safety barrier for the new spa pool?

Yes. Whilst the barrier to your existing swimming pool is permitted to include a child- resistant door because of the concession for swimming pools installed prior to 5 November 2001, your new spa and its safety barrier must comply with the BCA (post-May 2016 requirements). The post-May 2016 requirement does not permit doors to form part of the barrier.

Does my above-ground pool require a barrier?

The walls of the above-ground pool may be used as part of the barrier if they are 1200 mm high; non-climbable and comply with the applicable barrier standard. Where a permanent or temporary ladder is used to gain access to the pool, there must be a separate compliant barrier around the ladder. There must be no climbable objects to facilitate climbing, such as the filter and pumps.

I have recently purchased lockable hard covers for my swimming and spa pool. Is this sufficient to comply with the barrier requirements?

No. Placing a cover, even if it is lockable, over a swimming or spa pool does not meet the barrier requirements under the Regulations and the applicable barrier standard. When the cover is off there is no barrier. Your statutory obligations are to provide a permanent compliant barrier to restrict access to the swimming or spa pool area by young children at all times.

Do I need to put a safety barrier around my fish pond?

As fish ponds are not used for swimming, wading, paddling or the like they are not required under the Regulations to have a compliant safety barrier. However, fish ponds still pose a risk for young children and it is suggested that owners/ occupiers consider providing safety barriers, or other devices.

Does my toddler's wading pool need a safety barrier?

If the toddler's wading pool contains water that is more than 300 mm deep, it will require a compliant safety barrier.

These types of pools, regardless of their depth, are still a constant source of danger to young children.

Section 7 - Further information

Building Commission

www.commerce.wa.gov.au/building-commission

Local Government (permit authority)

Information on compliance of your swimming or spa pool barrier, please contact your local government. A directory of local governments can be found at the Department of Local Government website:

www.dlgc.wa.gov.au/AdviceSupport/Pages/Local%20Government%20Directory.aspx

Royal Life Saving Society Western Australia

www.lifesavingwa.com.au

www.keepwatch.com.au

The Keep Watch program is funded by the Department of Health, Western Australia.

www.swimandsurvive.com.au

Kidsafe

www.kidsafe.com.au

Department of Health

www.health.wa.gov.au

Code of Practice for the design, operation, management and maintenance of aquatic facilities.

State Law Publisher

Obtain copies of the *Building Act 2011* and Building Regulations 2012.

www.slp.wa.gov.au

Australian Building Codes Board (ABCB)

Register to receive a free online copy of the Building Code of Australia, being Volumes One and Two of the National Construction Code Series.

www.abcb.gov.au

SAI Global

To obtain copies of Australian Standards.

www.saiglobal.com

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Level 1, 303 Sevenoaks Street
Cannington WA 6107

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National Relay Service: 13 36 77

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Great Southern	(08) 9842 8366
South-West	(08) 9722 2888
Mid-West	(08) 9920 9800
Goldfields	(08) 9026 3250
North-West	(08) 9185 0900
Kimberley	(08) 9191 8400

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