



AGWA Guide Series

# **AS 1428.1 DESIGN ACCESS AND MOBILITY**

2009 AND 2021 EDITIONS AND VARIATIONS



AUSTRALIAN  
**GLASS &  
WINDOW**  
ASSOCIATION

# AS 1428.1 Guide

## How the new NCC2022 aligns AS 1428.1 Design for Access and Mobility Standards 2009 and 2021 Versions

Over 4 million people in Australia experience disability. That's around 1 in 5 Australians, and many more of us will experience a disability at some stage in our lives, either permanent or temporary, as we age or due to injury. Overall building design, especially features such as doorways, ramps, and thresholds, can have an impact on the accessibility of buildings for people who use a wheelchair, or those with ambulatory or sensory disabilities. These requirements are covered in AS 1428.1.

The National Construction Code released in 2022 and subsequently Amendment 1 released May 2025 both continued to reference AS 1428.1: 2009. However, with the release of NCC2022 Amendment 2 this now references AS 1428: 2021 so please check which version is called up in your contract.

If your design approval for the project is to either NCC22 or NCC Amendment 1 then the Deemed to Satisfy document pathway would be 2009's edition and using the 2021 edition of AS 1428.1 would be a Performance Solution that the certifier would need to approve.

At all times, it is the building designer's responsibility to nominate the specific requirements which should be clearly defined in the building design documentation. In the absence of specific design information, it may become difficult to navigate these discrepancies as it becomes a question of working out what the parties to the particular contract were most likely to have intended. This Guide is intended to provide guidance on compliance requirements in each version of the Standard, as well as clarifying any differences. It is not intended to replace or be read in lieu of the Standards.

### Continuous Accessible Path of Travel

The AS 1428.1 Standard requires that new buildings provide a continuous accessible path of travel (and circulation spaces) for people who use wheelchairs and people with ambulatory or sensory impairment.

A continuous accessible path of travel is defined as an uninterrupted route to or within a premises or a building, which provides access to all services and

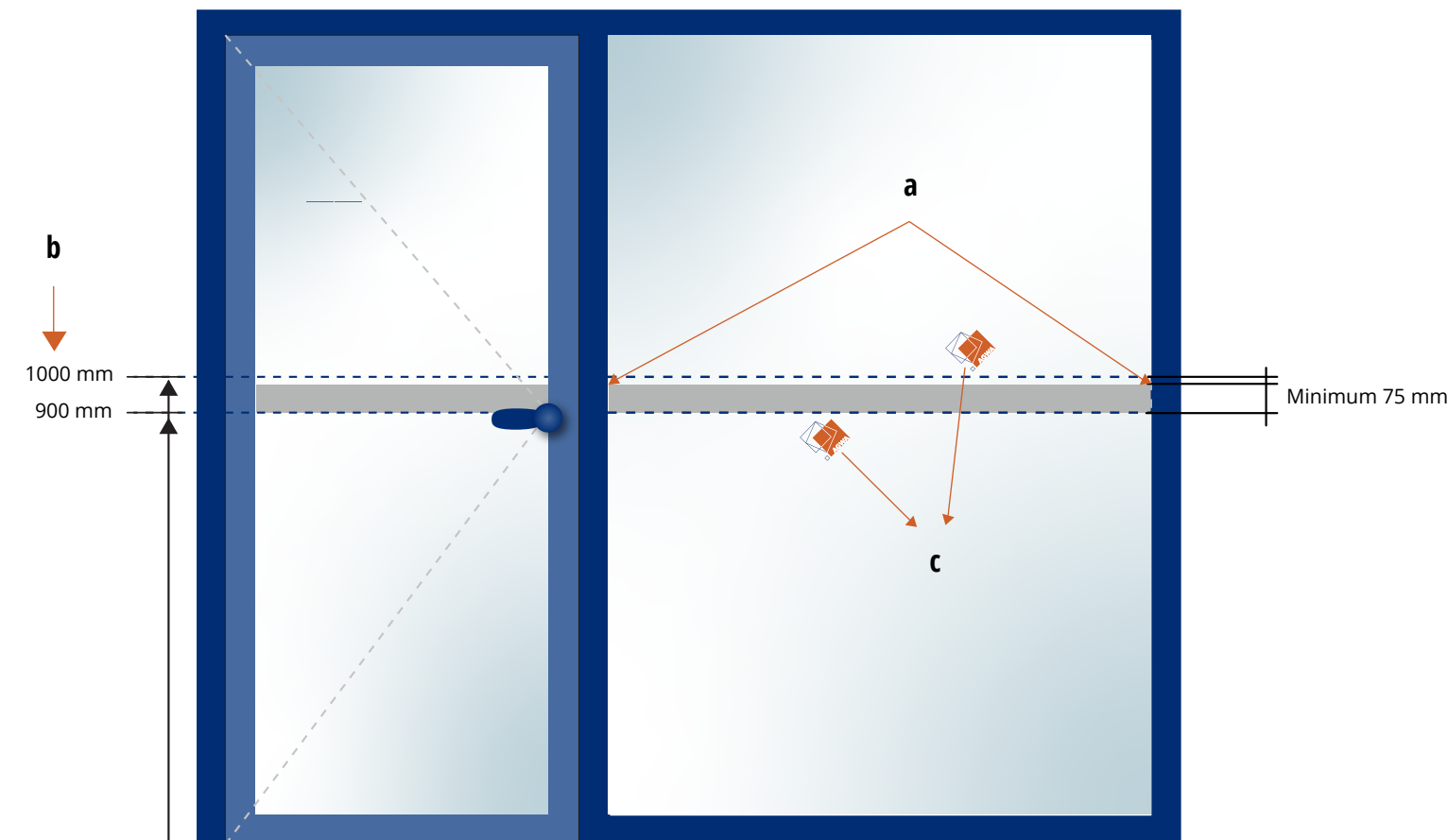
facilities. It should not incorporate any step, stairway, turnstile, revolving door, escalator, hazard, or other impediment which would prevent it from being safely negotiated by people with disabilities.

It should be clearly marked on drawings which doors are required to be compliant. Not all doors inside a building will be required to comply with this Standard if outside of this route. If in doubt this should be queried prior to order/supply.



# Visual indicators on glazing

AS 1428:2021 (Section 3.6) /AS 1428:2009 (Section 6.6)



### a. 2009 and 2021

The contrasting line shall not be less than 75 mm high and shall extend across the full width of the glazing panel.

### AGWA NOTE:

For Luminance Contrast see appendix

### b. 2009 and 2021

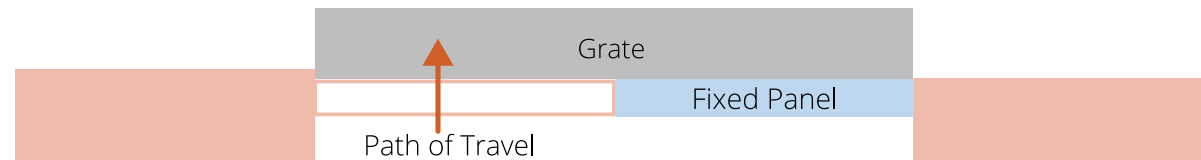
The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level.

### c. 2021

Any logo, branding, company name or the like may be added to the visual indicator strip, but these should be fully above or fully below the min 75 mm wide unbroken, solid and opaque contrasting line.

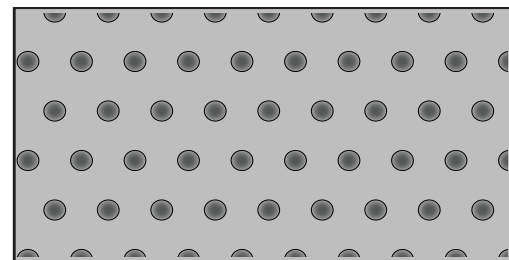
# Grates (e.g. Strip Drains)

AS 1428:2021 (Section 4.4) / AS 1428:2009 (Section 7.5)



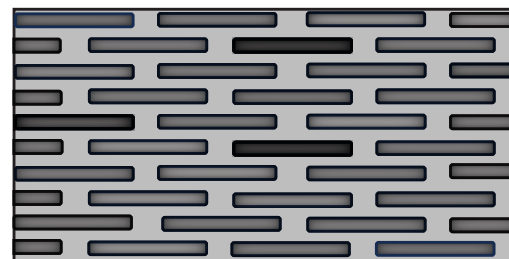
## Circular Openings 2009 and 2021

Circular openings shall be not greater than 13 mm in diameter.



## Slotted Openings 2009

Slotted openings shall be not greater than 13 mm wide and be oriented so that the long dimension is transverse to the dominant direction of travel.

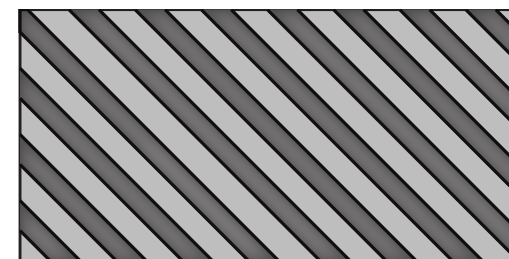


## 2021

Slotted openings shall be not greater than 13 mm wide and not greater than 150 mm long and be oriented so that the long dimension is transverse to the dominant direction of travel.

## Linear Openings 2021

Linear openings shall be oriented so that the longer dimension is transverse (ie 90°) to the dominant direction of travel, except where linear openings are less than 8 mm wide. Then orientation is optional.



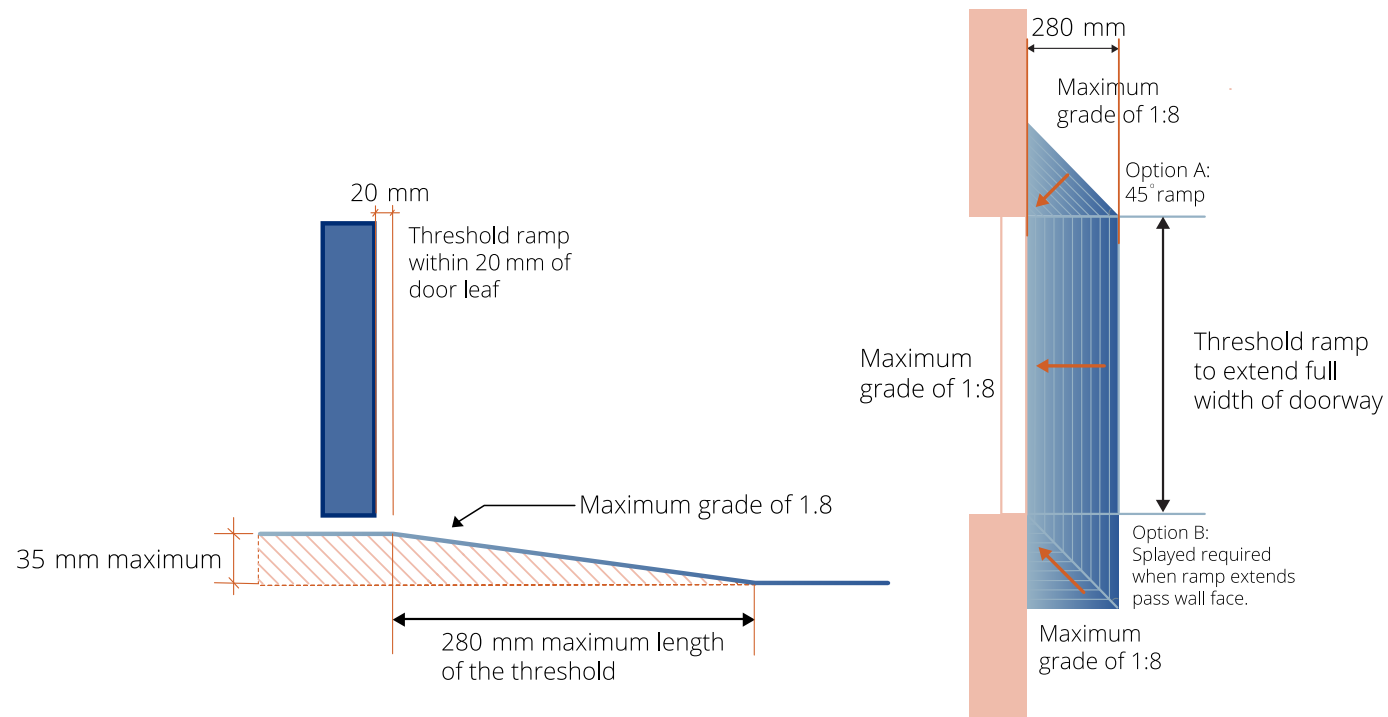
## AGWA NOTE:

Waterproofing requirements of **AS 4654.2 Waterproofing membranes for external above-ground use - design and installation** may apply.



# Door Thresholds (ramps)

AS 1428:2021 (Section 7.5) AS 1428:2009 (Section 10.5)



## 2009 and 2021

Threshold ramps at doorways on a continuous path of travel shall have:

- a maximum rise of 35 mm;
- a maximum length of 280 mm;
- a maximum gradient of 1:8; and
- be located within 20 mm of the door leaf which it serves,

## 2021 addition

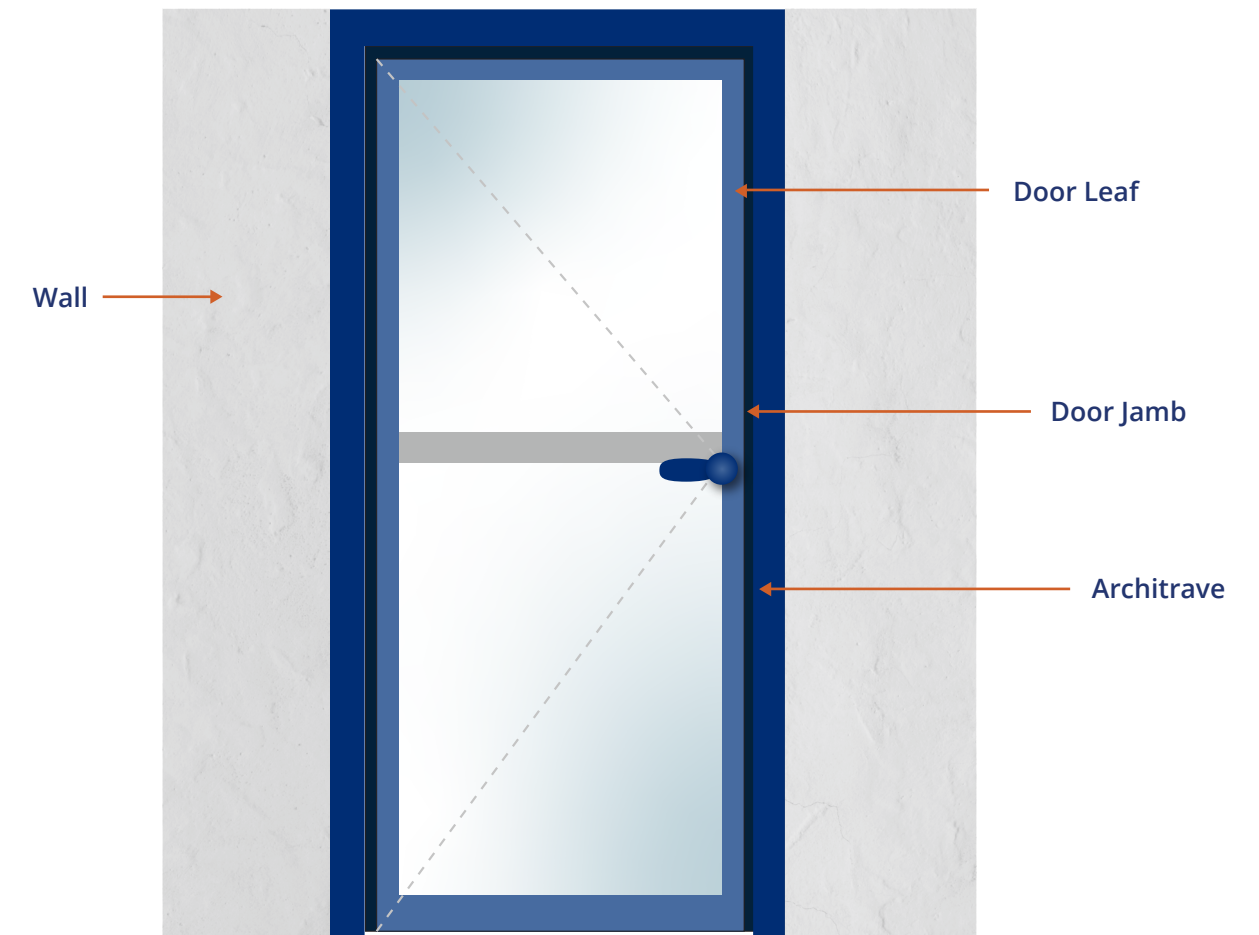
- Sharp transition at top and bottom; and
- Sharp transition at tapered or splayed edges

## AGWA NOTE:

Door sills that meet the requirements of AS 1428.1 may not meet the minimum Water Penetration Resistance (WPR) of AS 2047. In such situations, the building design should provide sufficient protection against the ingress of water through an alternative solution; we would recommend highlighting any such doors that may be affected within your quotation and any shop drawings.

# Door way Identification / Luminance Contrast

AS 1428:2021 (Section 10.1) and AS 1428:2009 (Section 13.1)



## 2009 and 2021

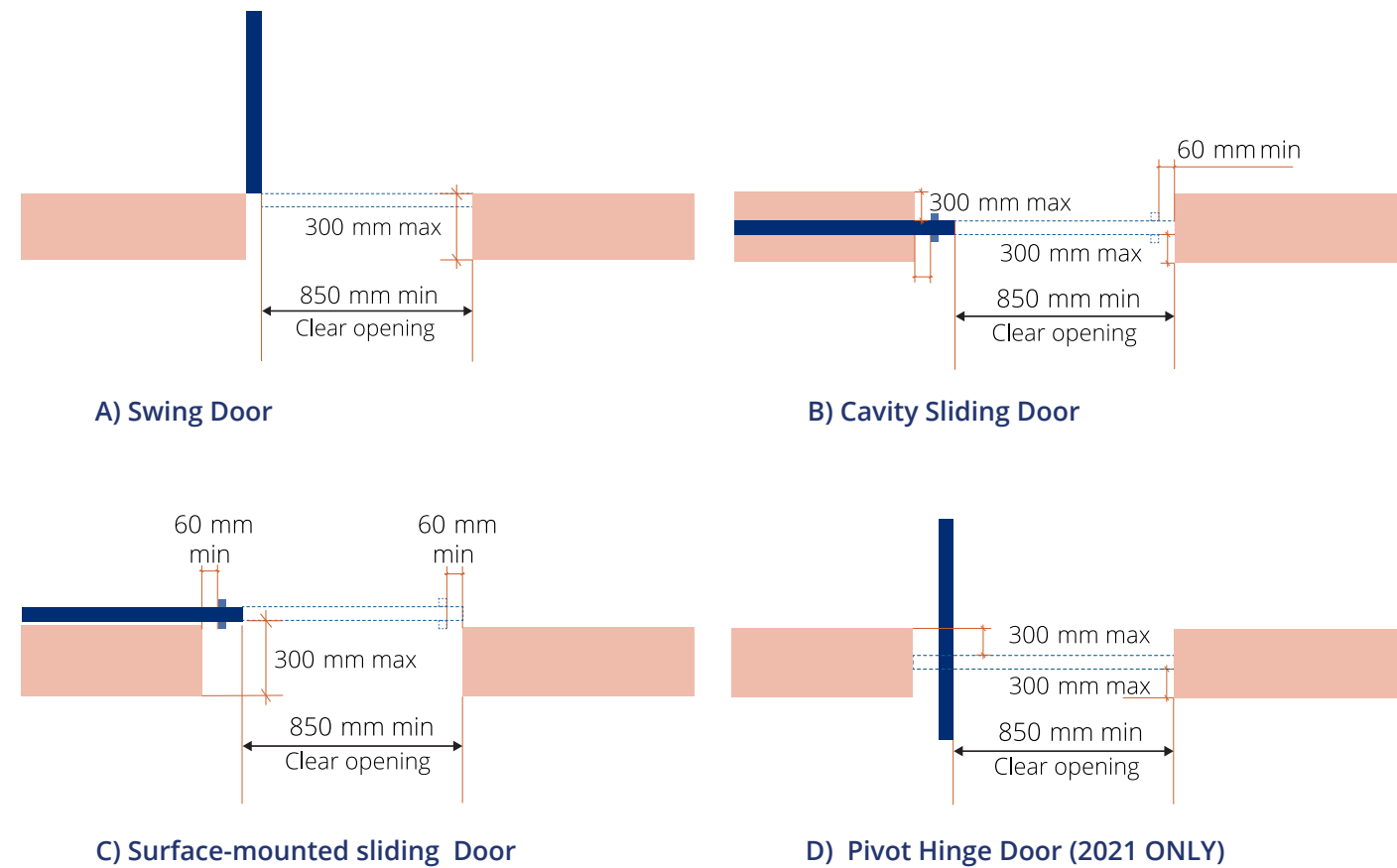
All doorways shall have a minimum luminance contrast of 30% provided between:

- Door leaf and door jamb; or
- Door leaf and adjacent wall; or
- Architrave and wall; or
- Door leaf and architrave or
- Door jamb and adjacent wall

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

# Clear Opening of Doorways

AS1428:2021 (Section 10.2) and AS 1428:2009 (Section 13.2)



## 2009 and 2021

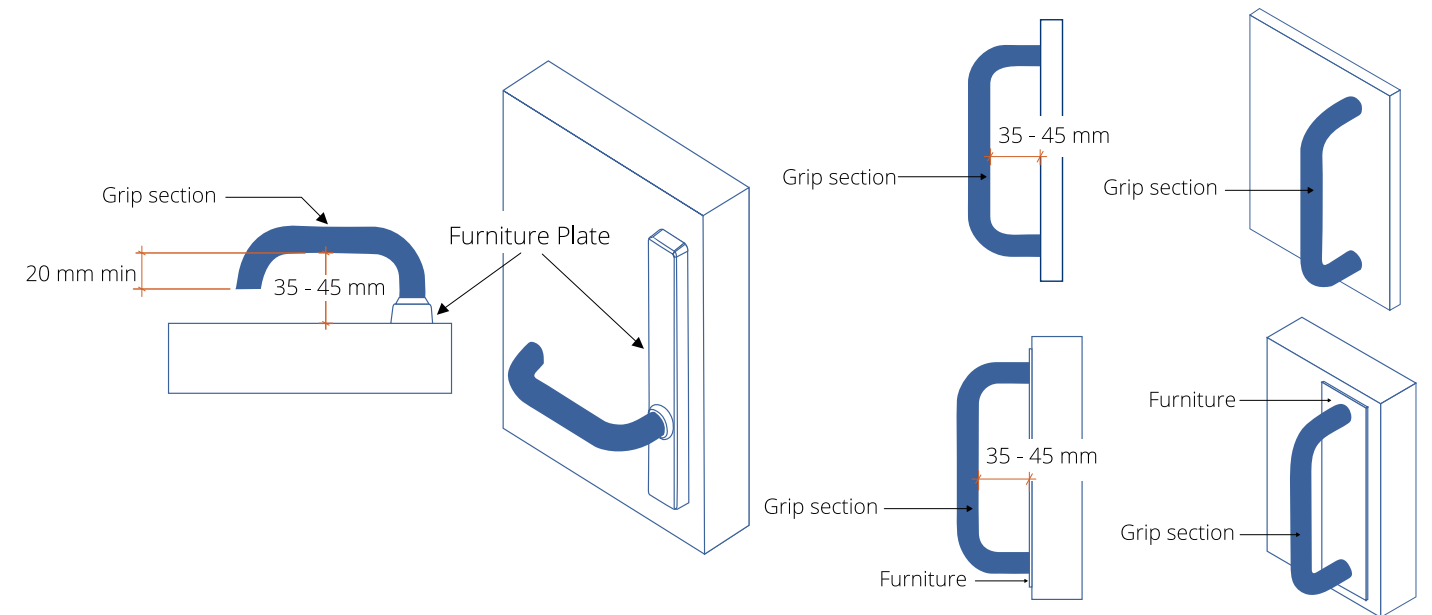
The minimum clear opening of a doorway on a continuous accessible path of travel shall be 850 mm when measured from the face of the opened door to the doorstop. Where double doors are used, the 850 mm minimum clear opening shall apply to the active leaf.

## AGWA NOTE:

While hardware is not noted as part of the clear opening width, we recommend that the selection is reviewed and size/style considered in how it may impact the clear opening width.

# Door Handles, Related Hardware and Accessories

AS 1428:2021 (Section 10.4.2) and AS 1428:2009 (Section 13.5.2)



## Design and Performance of Door Controls

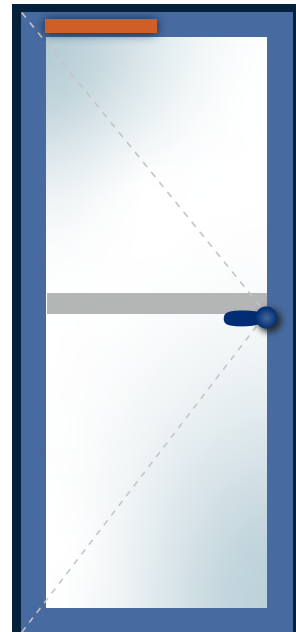
Door handles and related hardware shall be in accordance with the following:

- Allows the door to be unlocked and opened with one hand. The finish shall be non-slip for a person unable to grip the handle during operation.
- Throughout the operation the clearance between centre grip point on the handle and backplate/door face (whichever closer) shall be between 35 mm and 45 mm.  
**NOTE:** The word 'throughout' only appears in the 2021 edition
- D type handles shall be used on sliding doors.
- Snibs to have a lever arm no less than 45 mm where installed.



# Swing Door Operating Force

AS 1428:2021 (Section 10.4.2 e) and AS 1428:2009 (Section 13.5.2 e)



## 2009 Edition

For doors other than fire doors and smoke doors where a door closer is fitted, the force required at the door handle to operate the door shall not exceed the following:

- (i) To initially open the door.....20 N
- (ii) To swing the door.....20 N
- (iii) To hold the door open between 60° and 90°.....20 N

## 2021 Edition

The force required at the door handle to operate the door shall not exceed the following, ie, the force requirements now apply to doors with or without a fitted closer:

- (i) To initially open the door.....20 N
- (ii) To swing the door .....20 N
- (iii) To hold the door open between 60° and 90°.....20 N

### NOTE 3:

These requirements do not apply to fire or smoke doors.

Where a closer is fitted at doors other than fire doors and smoke doors it shall have adjustable delayed action or hold open function.

# Sliding Door Operating Force

AS 1428:2021 (Section 10.4.2 e) and AS 1428:2009 (Section 13.5.2 e)



## 2009 Edition

For doors other than fire doors and smoke doors where a door closer is fitted, the force required at the door handle to operate the door shall not exceed the following:

- (i) To initially open the door .....20 N
- (ii) To slide the door.....20 N

## 2021 Edition

The force required at the door handle to operate the door shall not exceed the following:

- (i) To initially open the door.....20 N
- (ii) To slide the door.....20 N

### NOTE 3:

These requirements do not apply to fire or smoke doors.

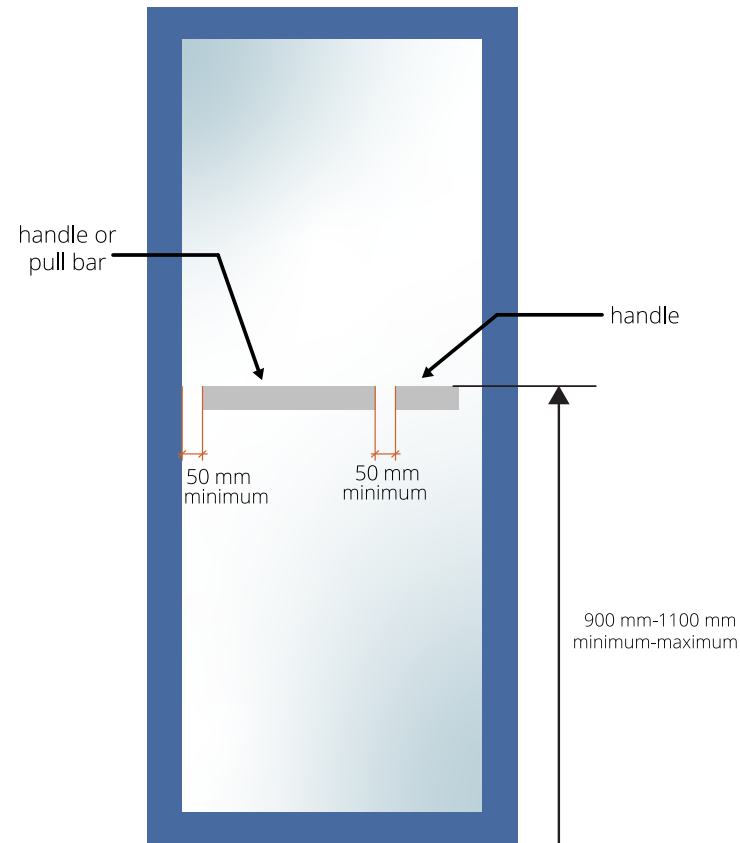
Where a closer is fitted at doors other than fire doors and smoke doors it shall have adjustable delayed action or hold open function, i.e. the force now apply to doors with or without a fitted closer.

# Locations for Hardware

AS 1428: 2021 (Sections 10.4.2g & 10.4.3) and AS 1428: 2009 (Sections 13.5.2f & 13.5.3)

## 2009 Edition only notes:

- Controls that need to be grasped or turned shall be not less than 900 mm and not more than 1100 mm above the plane of the finished floor.
- Controls that only need to be pushed, such as panic bars on egress routes, shall be not less than 900 mm, and not greater than 1200 mm above the plane of the finished floor.
- Controls that only need to be touched shall be not less than 900 mm, and not greater than 1250 mm above the plane of the finished floor, and not less than 500 mm from an internal corner except as specified in AS 1735.12.
- Handles on sliding doors shall be not less than 60 mm from the door jamb or doorstop when in the open or closed position.
- Manual controls to power-operated doors shall be located on the continuous accessible path of travel no closer than 500 mm from an internal corner and between 1000 mm to 2000 mm from the hinged door leaf in any position or clear of a surface-mounted sliding door in the open position.



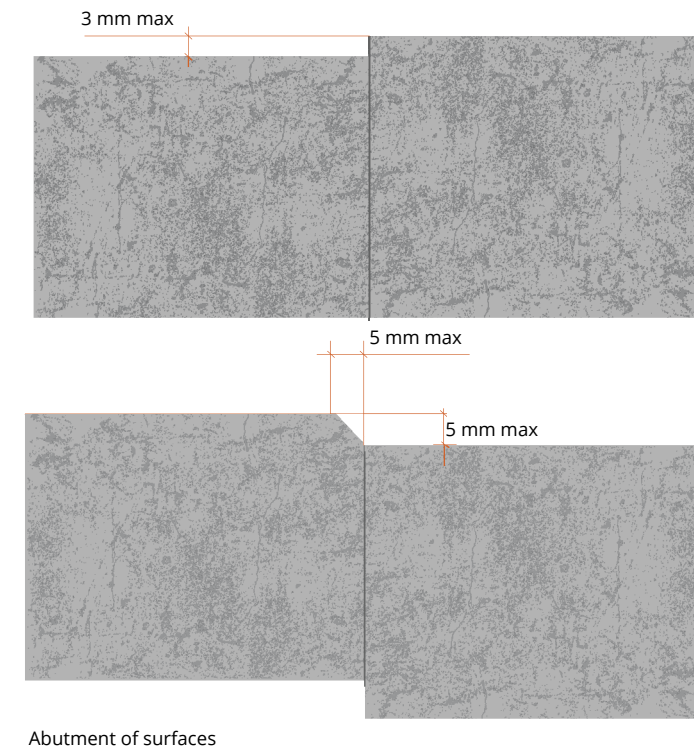
## 2021 Edition

Points a, b, c, d and e are as per the 2009 edition except for the extra text below on each point. Read both together.

- ...and not less than 500 mm from an internal corner except as specified in AS 1735.12
- As per 2009
- As per 2009
- As per 2009
- Manual controls to power-operated doors shall be located on the continuous accessible path of travel no closer than 500 mm from an internal corner and between 500 mm to 1000 mm from the arc of the hinged door leaf or clear of a surface-mounted sliding door in open position.

# Construction Tolerances for Abutment of Surfaces

AS 1428: 2021 Section 4.2 and AS 1428: 2009 Section 7.2



Abutment of surfaces

## Both 2009 & 2021 Editions

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

- 0 +/- 3 mm vertical; and
- 0 +/- 5 mm, provided the edges have a bevelled or rounded edge to reduce the likelihood of tripping

# Appendix A

## Luminance Contrast

The measurement of luminance contrast between building elements is outlined in Appendix B of AS 1428.1 (both 2009 and 2021 editions)

The appendix outlines two methods for measuring the luminance contrast between building elements, which can be done either in a laboratory or on-site. Achieving sufficient luminance contrast typically involves using very dark or very light materials. The process involves measuring the luminous reflectance of the first building element and comparing it with that of the second building element.

Luminance contrast refers to the difference in the amount of light reflected from the first building element compared to the second. The first element must have a minimum luminance contrast of 30% relative to the second element. Testing may need to be conducted under both wet and dry conditions, with results then compared for consistency.

Unless otherwise stipulated in contractual arrangements; it should not be the responsibility of the window supplier to decide what contrasting colour is to be applied. Window suppliers should note on any quote or order that compliance with AS 1428 is the responsibility of the purchaser.

# Beyond AS 1428.1: Key Considerations

## in Associated Applications

### NDIS (National Disability Insurance Scheme) Housing

PB SDA Design Standards 2019 is the NDIS Specialist Disability Accommodation Design Standard. AS 1428.1 is referenced multiple times within this design standard. There are four categories Improved Liveability (IL); Robust (R); Fully Accessible (FA); and High Physical Support (HPS) In relation to door and window products these are the key topics:

#### Clause 4.1.5 (all categories within NDIS) -

A step-free doorway threshold shall be provided to an external entry doorway. Where the threshold at an external entry doorway exceeds 5mm and is less than 35mm, a doorway threshold ramp in accordance with AS1428.1 shall be provided with a maximum 1:8 grade.

Ideally, flush floor entry is preferred at the external entry doorway threshold in lieu of a threshold ramp. Where provided, a threshold ramp is considered to be suitable to overcome small level differences and afford some weather protection.

#### Clause 4.1.6 (only FA & HPS) -

A step-free doorway threshold shall be provided to external doorways leading to common or private open spaces.

Where the threshold at the external doorway exceeds 5mm and is less than 35mm, a doorway threshold ramp in accordance with AS1428.1 shall be provided with a maximum 1:8 grade. Required to enable all users to use both indoor and outdoor spaces.

#### Clause 4.2.6 – (IL, FA & HPS)

Door handles selection and location shall comply with AS1428.1 To enable access for all regardless of manual dexterity abilities.

### Liveable Housing Design Standard

AS 1428.1 is not a reference document within the Liveable Housing Design Standard. Indeed, in its scope it clearly states it is not intended to achieve equivalence with AS 1428.1. However, products and systems that are designed to comply with AS 1428.1 requirements are likely to provide solutions to the accessibility requirements in the Liveable Housing Design Standard.

#### Operating Force on Sliding Doors:

AS 4420.1 covers the testing methodology for doors and windows. With regard to operating force on sliding doors it states – Each sliding sash of the test specimen shall be tested separately. So, for a stacking door you must not test the overall force to open both panels together but one after the other.

#### Slip Resistance:

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

Door sills adjacent to drains

There is an absence of any specific guidance for door sills/thresholds in AS 1428.1, and by extension the various other codes and standards for disabled access (NDIS, SDA, etc). Technically, the Standard is silent on the matter and consequently there are many interpretations on what this means.

Feedback from the technical committee responsible for AS 1428.1 have indicated the Standards assumes in all cases there would be no sill or threshold at all (think hinged door or auto sliding) and so in their view guidance in AS 1428.1 is not necessary. In practice doors need to do more than just provide access but also need to be reasonably weatherproof and energy efficient. The ABCB have indicated that compliance with Australian Standards is only one means to achieve compliance (DTS) and that a performance solution is equally appropriate.

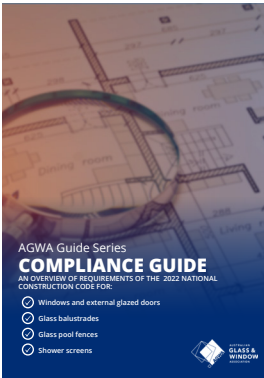
Thus, meeting AS 2047 and AS 1428.1 simultaneously would almost always require a performance solution of some kind due to the conflicting requirements, which means that installations are assessed on a case-by-case basis and therefore what may be applicable in one situation may not be in another.

Under the NCC, the AS 1428.1 requirements apply to “required” accessways only – meaning not every door will need to comply in every scenario. These provisions are outlined in D4D3 which in summary requires the primary accessway and not less than 50% of other entrances to comply with the access requirements which means that in many cases, especially for sliding doors, there may be no requirements at all...

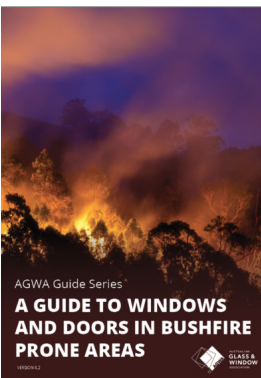
The grate provisions were updated in the 2021 revision and Clause 4.4 (previously CI 7.5 in 2009), sub-clause (c) provides more reasonable guidance – noting there is no minimum width for a ‘linear’ opening provided it is oriented transvers to the direction of travel, though as mentioned above its application/relevance to door sills is questionable. On this point, however, please note that NCC 2022 references the 2009 revision so these new provisions (2021 revision) cannot be applied under the DTS pathway and can only be used as part of a performance solution.

AGWA Guide Series

Compliance



Windows and Doors in Bushfire Prone Area



Energy Efficiency



Glass and Glazing



Window and Door Selection



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