



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.

Regulatory Requirements

The National Construction Code (NCC) sets out requirements for access and egress provisions in all new buildings. Volume 1 of the NCC covers building Class 2 to 9 and Class 1b buildings, and sets out additional requirements for access for people with a disability under Part D3.

Table D3.1 sets out provisions for multi-unit and public access buildings (and parts of buildings) required to be accessible.

NOTE: For the purposes of the NCC, accessible means having features to enable use by people with a disability.

The NCC references **Australian Standard (AS) 1428.1 - Design for Access and Mobility** is to provide building designers and users (architects, property owners and regulators) with the minimum design requirements to be implemented in new building work to enable access for people with disabilities.

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



Figure 1 Wheelchair User Entering a Building

Continuous Accessible Path of Travel

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. by ensuring that the band contrasts with the background or by increasing the height of the band.

Clear openings of door ways

The minimum clear opening of a doorway on a continuous accessible path of travel must be no less than 850 mm. This is measured as the minimum unobstructed width of the opening and must take into account any door stops or handles. Where double doors are used, the minimum clear opening applies to the active leaf.

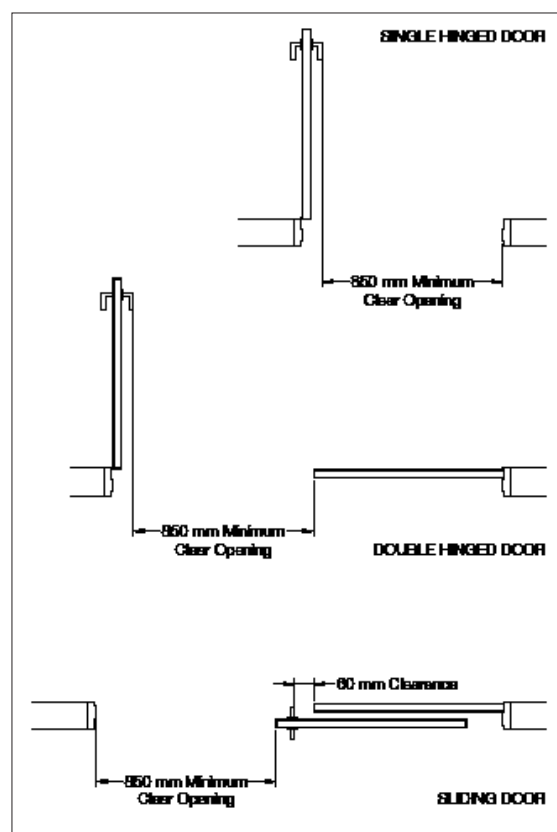


Figure 2 AS 1428.1 Clear Opening of Doorways



Door Thresholds

Door thresholds can often present access problems for people who use wheelchairs and those with ambulant disabilities that include difficulty lifting their feet.

If a threshold at the entry is unavoidable, a threshold ramp must be provided so that a small change in level ensures a relatively comfortable access solution into the premises.

AS 1428.1 requires that threshold ramps must have a maximum slope of 1:8, a maximum length of 280 mm and a maximum rise of 35 mm. Where the ramp does not abut a wall, the edges of the threshold ramp must be tapered or splayed at a minimum of 45°. Adequate circulation space at the threshold must also be provided.

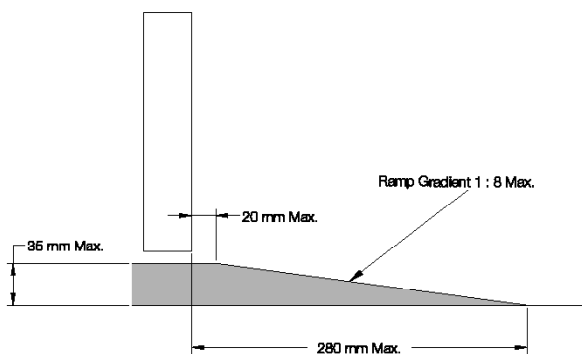


Figure 3 Threshold Ramp Requirements, AS 1428.1

QUICK FACT

- 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.

Abutment of surfaces and changes in level

A continuous accessible path of travel (and any associated circulation spaces) must have a slip resistant surface. The texture of the surface needs to be traversable by people who use a wheelchair and those with an ambulant or sensory disability. Where one surface meets another, or where a vertical change in level occurs, the risk of a slip, trip or fall must be addressed by ensuring that any change in level is no more than 3 mm, or, where splayed at no more than 45°, up to 5 mm.

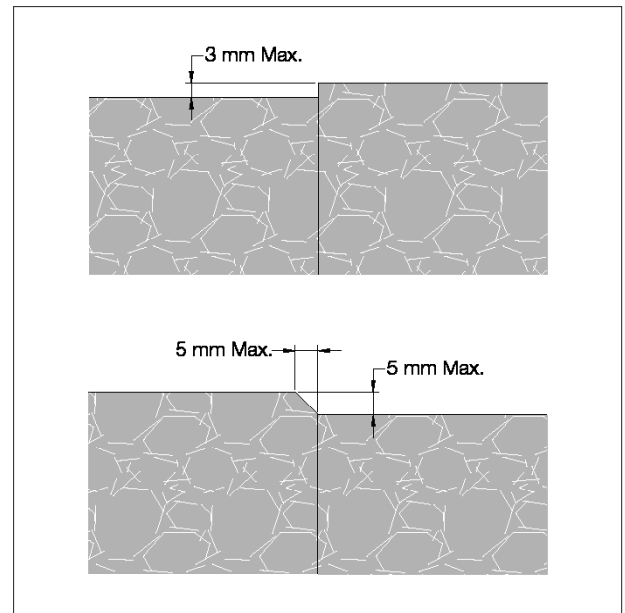


Figure 4 Abutment of surfaces

Drainage Grates

Drainage grates must meet the following criteria:

- Circular openings must be no more than 13 mm in diameter
- Slotted openings shall be not greater than 13 mm wide and be oriented so that they do not run in the same direction of travel.



Figure 5 Drainage Grate: FlowTHRU™ Flush Threshold Drainage Solution, AWS



TECHNICAL FACT SHEET:

DOORS & DISABILITY

AS 1428.1 - DESIGN FOR ACCESS AND MOBILITY



Figure 6 Drainage Grate: FlowTHRU™ Flush Threshold Drainage Solution, AWS

NOTE: Where slotted openings are less than 8 mm, the length of the slots may continue across the width of the path of travel.

Visual indicators of glazing

Where there is any glazing along a continuous accessible path of travel, it must be adequately marked to enable people with vision impairment to identify the presence of the glazing and avoid injury caused by accidental contact with the glazing.

Where there is no chair rail, handrail or transom, all frameless or fully glazed doors and sidelights, including any glazing capable of being mistaken for a doorway or opening, shall be clearly marked for their full width with a solid contrasting line. The contrasting line shall be not less than 75 mm wide and shall extend across

the full width of the glazing panel. The lower edge of the contrasting line shall be located between 900 mm and 1000 mm above the plane of the finished floor level. Any contrasting line on the glazing shall provide a minimum of 30 per cent luminance contrast when viewed against the floor surface or surfaces within 2 m of the glazing on the opposite side. The standard sets out the requirements for determining luminance in Appendix B of AS 1428.1.



Figure 7 Manifestation

The identification of a minimum of 30 per cent luminance contrast is difficult to measure in practice. It is not be the responsibility of the window supplier to decide what contrasting colour is to be applied. Compliance with AS 1428.1 is the responsibility of the purchaser and should be considered during the design and specification stage.

Door locks, latches and handles

Round door handles and locks with very small snibs do not allow people with a disability that affects hand or arm function to operate the latch mechanism, hold it open and then pull/push a door open.

Door handles and related hardware should be of the type that allows the door to be unlocked and opened with one hand. The handle shall be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch. 'D' type handles are more suitable and are a requirement on sliding doors.

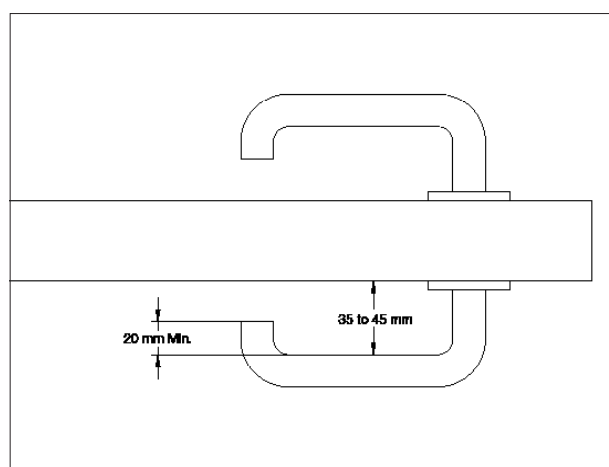


Figure 8 Minimum Handle Dimensions, AS 1428.1

Where snibs are installed, they shall have a lever handle of a minimum length of 45 mm from the centre of the spindle.

Door handles should be between 900 mm and 1100 mm above the floor level. Panic bars, and other similar controls that only need to be pushed, should be between 900 mm and 1200 mm above the floor. Handles on sliding doors shall be not less than 60 mm from the door jamb or doorstop when in the open or closed position.

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



For all doors other than fire doors and smoke doors where a door closer is fitted, the force required to operate the door must not exceed 20 Newtons. Where an outward opening door is not self-closing, a horizontal handrail or pull bar shall be fixed on the closing face of the door.

NOTE: The provisions of the NCC require that certain buildings must have a minimum degree of accessibility for people with a disability. In some cases this may mean that only certain parts of a building, or only certain units in a multi-unit development need comply.

It is the responsibility of the building designer to nominate which parts of the building are required to meet these provisions.

The AWGA recommend that window suppliers and installers seek the advice of the builder at the earliest practical stage in the development to determine any special access requirements.

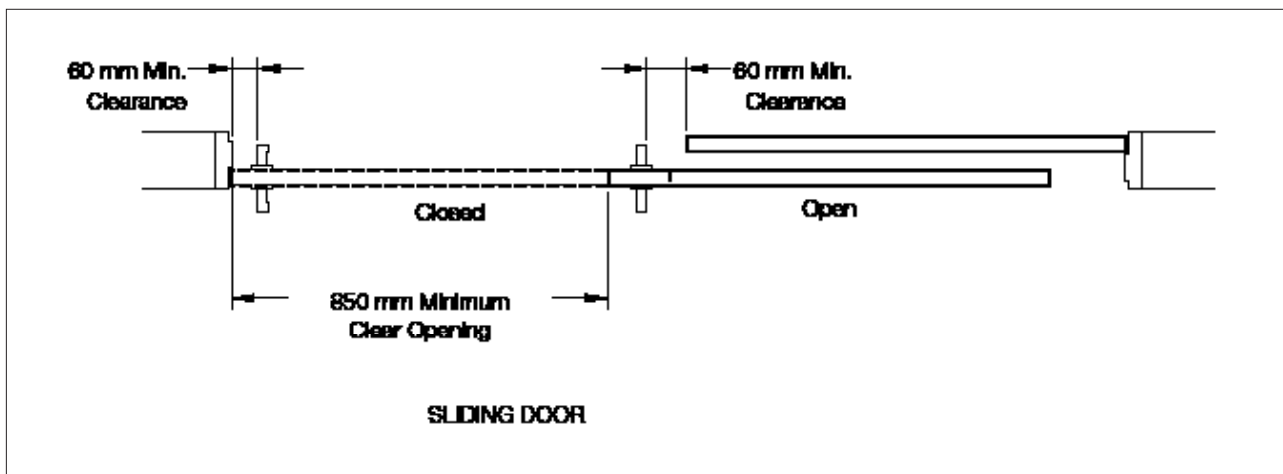


Figure 9 Minimum Handle Clearance, AS 1428.1

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