

## 5 Doors

### 5.1 Door Swing

Doors subject to constant patient or staff usage should not swing into corridors in a manner that might obstruct traffic flow or reduce the required corridor width. Where doors need to swing out into corridor they should be set in a recess. The recess should extend a minimum of 100mm beyond the extend of the door swing.

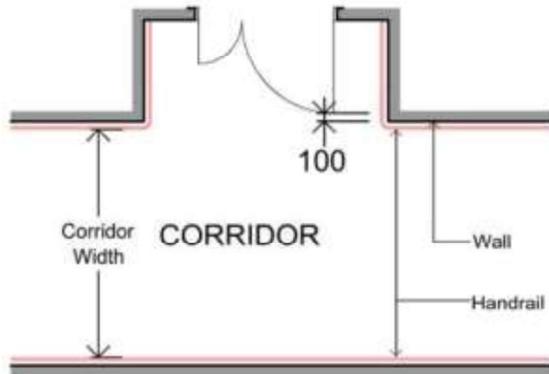


Figure 5.1: Doors swinging into a corridor should be recessed

#### Doors for Fire Egress

All doors used for fire egress should comply with the requirements of local Building Regulations. If such doors also form part of a fire or smoke compartment, they should maintain those properties in the closed position.

Sliding doors may be used for exit doors opening directly to the outside if an approved failsafe system is provided to open the door in case of fire.

#### Doors in Patient accessed areas

Doors to rooms that are likely to be used by patients without staff assistance should be single or double swing type.

Swing doors should generally open into rooms from corridors and circulation areas. The exceptions may include:

- Doors to small patient Ensuites, Toilets and Showers should generally open out
- Doors to accessible Toilets and Showers should open out
- Doors to small Change Cubicles should open out
- Doors subject to the requirements of "Emergency Access" should open out or open in both directions
- Doors to mental health patient rooms should open outward or have a break-out type door
- Doors to isolation rooms should depend on the type of pressurisation (refer to *Part D - Infection Control* of these guidelines)

### 5.2 Door Openings

Clear door opening widths between two sections of a corridor or from one corridor to another should be as specified by the relevant building codes and standards for doors in the path of fire egress. In effect, for the purpose of these Guidelines all corridors are on the path of egress.

The recommended minimum clear door opening width to Patient Bedrooms in new areas is 1400mm wide and 2140mm high. This is to ensure sufficient clearance for the movement of beds.

In existing areas being renovated and doors with reduced dimensions may be approved in situations where it is not possible or economical to replace the doors, as long as the function is not adversely affected. In any case, doors to patient bed rooms should not be less than 1200mm wide and 2040 high.

Rooms that require access for stretchers, wheelchairs, people with a disability or using mobility aids should have a minimum clear door opening of 900mm. Where access is required for hoists and shower trolleys such as Ensuites, Bathrooms, Patient Showers, a minimum clear opening of 1000mm is recommended.

Door openings must take into consideration requirements for special equipment that may be moved into patient accessed rooms, such as bariatric equipment and lifting apparatus.

### 5.3 Emergency Access

Certain rooms that are used by patients should be equipped with doors and hardware that will permit emergency access from the outside. These rooms can be defined broadly as follows:

- Rooms that are used independently by patients, have only one door and are less than 6m<sup>2</sup>
- Rooms where there is less than 2.5 metres of clear space behind the single door
- Patient Bedrooms, Bathrooms and Ensuites in Mental Health facilities or Mental Health components of other health facilities
- Secure rooms in mental health facilities

When such rooms have only one opening the door should be capable of opening outwards or in a manner that will negate the need to push against a patient who may have collapsed within the room. In other words, if the door normally opens inwards, in case of emergency, the staff must be able to open the door outwards without any need to use a key, Allen key or special device, whilst managing security in normal use.

These Guidelines recommend the use of retractable door stops within flat metal door frames together with coin operated door snibs. The snib can be opened with a coin while the door can be opened outward by simply pushing the door stop into the frame.

Refer to figure 5.2 below.

Important note: This requirement cannot be satisfied by any of the following alternatives:

- Cavity sliding doors
- Sliding doors on the inside of the room

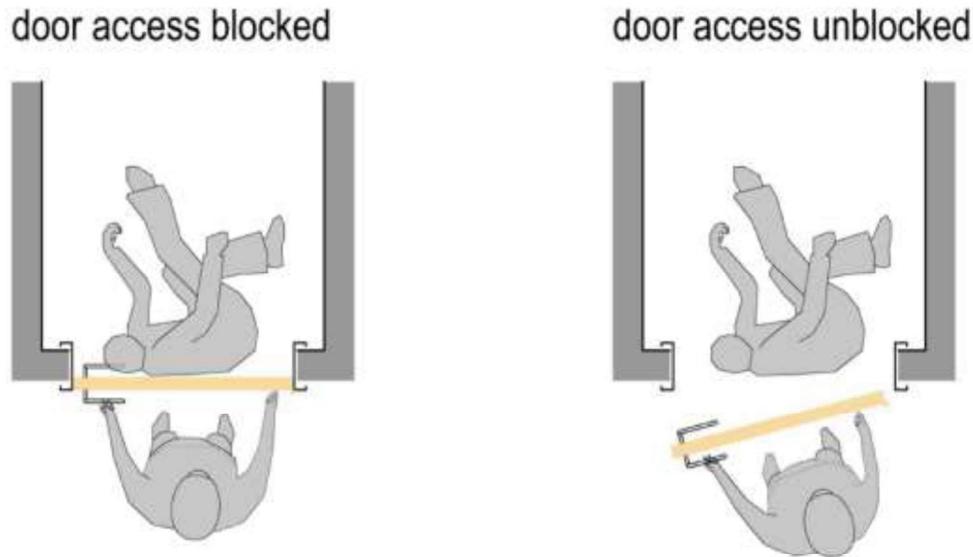


Figure 5.2: Inward opening door access blocked

Outward opening door access unblocked

In all areas except mental health secure rooms, surface sliding doors installed on the outside of the room may satisfy the requirements of this section. This can be achieved if:

- The door can be easily and safely removed off the track
- Door removal is not prevented by the door locking mechanism

### **Mental Health Seclusion Rooms**

In mental health seclusion rooms, the following configuration is recommended:

- Two standard doors, opening outwards, doors should be separated
- Alternatively, one standard door opening outwards and one adjacent door minimum 450mm wide, opening out
- Both doors with external locks and fully recessed internal handles or special mental health standard anti-ligature door handles

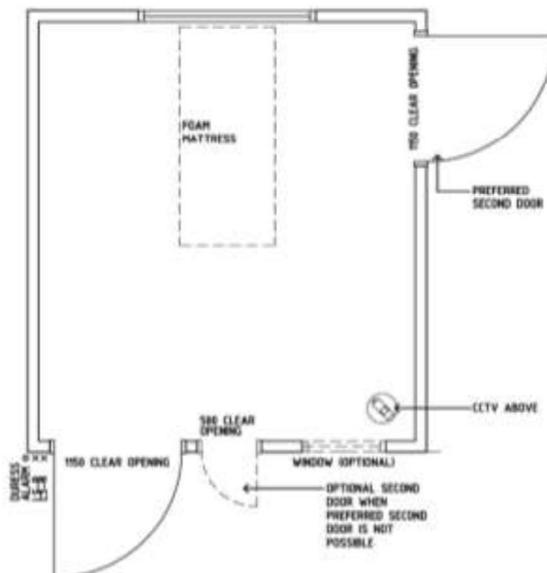


Figure 5.3: Recommended door openings for Seclusion Room

For additional information on doors in Mental Health Units refer to relevant FPU's in Part B of these Guidelines, ie. Mental Health Unit - Adult, Mental Health Unit - Child & Adolescent and Mental Health Unit - Older Persons.

## 5.4 Door Hardware

### Handles

In all doors within a health campus, consideration should be given to the shape of the door handle so that it is not caught by pockets in clothing of staff, patients or visitors. Handles with a full return are recommended.



Figure 5.4: Recommended door handles with a full return

The door handle/ hardware should allow the door to be unlocked and opened with one hand. The handle should be such that the hand of a person who cannot grip will not slip from the handle during the operation of the latch.

### Push / Pull Plates

For doors where a door lock or latch is not required, a push plate with pull handle may be installed. Examples include Dirty Utility or scrub rooms where staff may be carrying objects or have wet hands.

In Paediatric Units, doors that require a push/ pull plate only may have a second push/pull plate installed at paediatric height, if used by paediatric patients.



Figure 5.5: Push Plate and Pull handle

### Mental Health Areas

Door handles in Mental Health areas must not provide ligature points that may be used for self-harm. This can usually be achieved by using recessed, concealed or flush hardware. Alternatively, specially formed knobs are available which do not allow 'hanging'. Acceptable handles are demonstrated below.



Figure 5.6: Door hardware suitable for acute mental health Units

### **Shared Ensuites**

Ensuites that are shared by two patients should incorporate hardware to automatically lock one door and indicate 'room occupied' if the other door is operated. Both doors should be unlocked once one of the doors is opened from inside.

Note: The Use of Shared Ensuites is NOT recommended in these Guidelines.

### **Locks**

Door locking may include keyed locks, electronic locking systems, snibs, push buttons and privacy latches with indicators.

Door locking should be suitable to the function of the room and the security requirements of the Users. Door locking should always allow escape from inside a room accidentally locked.

Fire exit doors should be openable from the inside with a single action. It is recommended that door hardware and locking be flexible as far as possible to allow for future change of use.

Certain rooms in a healthcare facility should not be lockable by the patient and these include:

- Standard Inpatient bedrooms (not Mental Health\*)
- ICU/ HDU/ CCU/ NICU/ PICU patient rooms
- Isolation rooms (except bed access doors from the corridor when dual access to the patient room is provided)

\* In Mental Health, patient can lock the door but staff must be able to open from outside of the room. Staff will have key and the latch must be retractable.

### **Hold Open Devices**

Doors that need to remain open may require hold open devices, to prevent them closing, particularly in main travel and circulation pathways. Hold open devices should be installed according to relevant fire regulations, building codes and standards.

Designers should consider the following if hold open devices are required:

- The devices should be activated in easy reach without bending down
- Hold open devices should not be installed on doors that are required to stay closed such as pressurized rooms
- Devices should not be installed on doors where disturbed patients may lock themselves in a room

## Part C: Access, Mobility and OH&S

- Hold open devices should not be installed in Mental Health Unit patient areas where they may create a ligature point and be used for self harm
- Electronic hold open devices linked to a fire/ smoke alarm system are acceptable and must have a manual release button as part of the device. Doors fitted with electronic hold open devices must also be fitted with self-closers and if double doors, a door selector device. Any Fire Door fitted with an electronic hold open device must be provided with a clear warning sign “Automatic Fire Door – Keep Clear”.



Figure 5.7: Electronic operated door hold open device

In travel pathways used frequently by staff pushing trolleys or carrying items through doors that need to remain closed it is recommended that delayed action self-closing devices are installed.



Figure 5.8: Delayed action door closers

### Self-Closing Devices

Self-closing devices are fitted to doors that are required to stay closed that may include:

- Pressurised rooms such as Isolation rooms.
- Entry doors to Units that have restricted access such as:
  - Operating Unit
  - Paediatric Unit/s
  - Sterile Supply Unit
  - Catering Unit
  - Mental Health Unit/s
  - Air locks, with or without air pressurization
  - Birthing Rooms
  - Clean and Dirty Utility Rooms
  - Disposal Rooms

Self-closing devices are discouraged to the following rooms:

- Offices
- Patient Bedrooms
- Bathrooms, Ensuites, Toilets, Showers
- Rooms used independently by people with disabilities
- Meeting Rooms and Interview Rooms

If self-closing devices are fitted to Patient Bedroom doors, they should be mounted on the public side of the door rather than the patient side.

Self-closing devices should be designed and installed to allow the door to open a full 90 degrees. The nib space required for the self-closer arm should be considered.

Self-closers used in double doors should be accompanied by suitable sequencer hardware to allow the doors to be closed in the correct sequence. Self-closers that duplicate the functionality of a hold open device may also be considered.

Self-closing devices required to fire and smoke doors should be installed according to local Building Codes and Standards.

## **5.5 Metal Doors**

These guidelines neither require or recommend the usage of metal door leaves. Metal doors may hold static electrical charge and need to be grounded in all Cardiac Protected Areas if used. Metal door leaves may be used in plant rooms, electrical rooms, waste management rooms and similar services areas. However, metal door frames are acceptable and recommended for its durability and sturdiness.

## **5.6 Door Grilles and Undercuts**

Door grilles or undercuts may be required to facilitate air-conditioning systems, to allow for return air or for balancing of air pressurisation between rooms. Door grilles or undercuts should be used where mandated pressure differentials are required to adjacent spaces in accordance with relevant building codes and standards.

Door grilles or undercuts are not recommended in the following rooms or areas:

- Pressurised isolation rooms, negative or positive
- Rooms with radiation shielding
- Rooms requiring acoustic privacy
- Fire or smoke doors
- Doors used by people in wheelchairs, due to potential damage
- Window a mental health unit, to avoid potential for self-harm
- Ensuites, Bathrooms, Toilets or Showers

An alternative to door grilles may be the use of a door undercut. Care needs to be taken however to avoid the use of large undercuts close to shower areas which result in water leakage into adjacent rooms. An Inward sloping door slot may be considered instead of an undercut.

A door slot should be located a minimum of 200mm above the floor to prevent water leaking into adjacent rooms.



Figure 5.9: Door with grille



Door with undercut



Door with slot

## 5.7 Observation Glass

- Glazed panels may be provided in doors where visual observation for reasons of safety, security or patient observation is required. Obscured or frosted glazing of varying degrees may be provided to doors where it is necessary to observe a person standing behind the door while maintaining room security and privacy. Observation panels in fire doors must comply with the relevant Building Codes and Standards.

Observation glass is recommended in the following rooms/ areas:

- Operating and Procedure Rooms
- Scrub Rooms
- Air-locks
- Clean and Dirty Utilities. Partially frosted glazing may be applicable in these rooms where a level of privacy and security is required
- Interview rooms including those used in mental health units
- Rooms requiring an observation window but with no physical possibility of providing a window
- Kitchens and Pantries
- Corridor access doors

Observation glass is not recommended to the following doors:

- Patient Bedrooms, unless staff observation is required for clinical purposes
- Rooms requiring acoustic isolation, unless glazing can achieve the required room acoustic privacy
- Rooms requiring a high level of patient or staff privacy such as Consult Rooms
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Observation glass should have a cover to fully obscure the vision panel in the following areas:

- Operating and Procedure Rooms where laser may be in use or for additional privacy
- X-ray or imaging rooms with radiation shielding
- Rooms with electromagnetic shielding
- The vision panel cover should be operable from inside the room

## 5.8 Automatic Doors

Beam activated automatic sliding or swing doors are considered highly desirable in areas where there may be a large volume of movement such as Main Entrances and delivery points. Automatic doors may also be used in areas where rapid, hands free access is preferred, such as entries to the Emergency Unit or the Operating Unit.

Automatic doors, particularly if required for emergency egress should be installed according to local Building Codes and Standards. Where installed, attention should be given to allowing sufficient time for doors to open and close for disabled, frail and paediatric patients and visitors.

Automatic doors are not mandatory.

## 5.9 Sliding Doors

Surface sliding doors may be used and installed in accordance with local Building Codes and Standards, providing that fire and other emergency exiting requirements are not compromised.

Sliding doors should be used with caution due to difficulties with cleaning, maintenance issues and acoustic issues.

If installed, sliding doors should be of solid core or metal frame construction to resist warping and therefore locking. Sliding doors should have tracks on top and guides to the bottom of the door for efficient operation. Floor tracks should not be installed as they tend to collect dust and dirt and are difficult to clean. A small floor guide attached to the frame is acceptable and recommended for providing efficient operation.

The use of surface sliding doors rather than swing doors is recommended for airborne infection isolation rooms (negative pressure), protective environment rooms, and any other spaces which have been identified as an infection control risk.

Research indicates that swinging door motion creates more air turbulence and therefore possibilities for contamination than sliding door motion which may significantly affect infection control measures.

Surface sliding doors are permitted to Patient Toilets provided that the door cannot be locked from the inside and does not conflict with other requirements, such as access for the disabled.

Cavity sliding doors (also known as pocket doors) may not be used in the following areas due to the difficulty in cleaning and decontaminating the door and the cavity:

- Patient care and treatment areas including Bedrooms, Lounge areas, Treatment rooms, Procedure rooms, Operating rooms
- Patient Toilets, Ensuites, Bathrooms or showers where a patient may fall against the door and prevent it from opening
- Sterile Supply unit or rooms used for sterile stores
- Laboratory Unit
- Patient diagnostic areas including medical imaging, investigative and testing scanning areas
- Catering unit
- Mental Health areas



Figure 5.10: Surface mounted automatic sliding doors to Anaesthetic and Operating Rooms