Corridors

710 .1.00 The requirements set out in this section for corridor widths should be regarded as the minimum required. These requirements take into account the need to allow for the safe movement of trolleys, beds, wheelchairs and other mobile equipment, including the passing of such equipment and situations where oversized additional equipment such as bed extensions are in use, or when other equipment is attached.

The overriding principle in setting the minimum corridor width is the need to allow for a workable width that, in the event of an emergency evacuation procedure, does not impede egress.

Designers should note that the Building Code of Australia (BCA) also specifies minimum corridor widths for Patient Care Areas. The requirements of these Guidelines for certain areas may be higher than the BCA as Fire Safety is not the only focus of these Guidelines.

Most large Hospital Health Planning Units include a range of patient and staff only corridors. If staff-only areas are clearly designated by planning and are not required for patient access, then the guidelines for patient corridors do not apply.

All corridor widths are clear of hand rails and/or crash rails. It is recommended that for design purposes (and considering construction tolerances) 100 mm be allocated to each hand rail.

710 .2.00 In areas where patient beds, trolleys and stretchers will be moved regularly, such as Inpatient Units, Operating Units, Birthing Units and Intensive Care Units, the minimum clear corridor width shall be 2100 mm.

The recommended corridor width in areas where there is frequent bed and trolley movement is 2200 mm, to accommodate the safe turning of trolleys and beds to ensure staff and patient safety, including situations where additional equipment such as bed extensions are in use, or when other equipment is attached.

Even at this dimension, special consideration must be given to the width of doorways into adjacent rooms and widening corridors at the entry to the affected rooms to accommodate turning trolleys and beds.

Corridor widths in the above areas may be considered at lesser dimensions where an existing building is utilised, but special design and planning detail must be incorporated to overcome the problems of congestion and the potential risk to patients and staff in an emergency evacuation.

Note: In any event, the corridors may not be narrower than that required by the BCA for Patient Care Areas.

710 .3.00 In areas where irregular trolley or bed movement is expected, corridor widths can be reduced to 1800 mm. Special consideration must be given to the door widths to ensure the movement of trolleys or beds from corridor to adjacent rooms is not restricted including situations where additional equipment such as bed extensions are in use, or when other equipment is attached.

710 .4.00 In Outpatient Units and areas not routinely used for patient transportation on trolleys or stretchers, the corridor widths may be reduced to 1200 mm.

Note 1: Designers should note that the areas subject to this clause must be capable of being classified as Class 5 under the BCA.

Note 2: This width only applies to corridors used by patients. Staff only corridors are excluded from this requirement.

Corridors

710 .5.00 In areas where there is no patient transportation requirement and where corridor runs are no longer than 12 metres, such as a corridor spur to a group of offices, corridor widths of 1200 mm are acceptable.

710 .6.00 Corridor widths of less than 1200mm are unacceptable in patient care areas, except where forming part of an existing facility, and where written approval has been obtained for the lesser width.

710 .7.00 The width of major inter-departmental corridors and public corridors generally shall be as wide as is deemed necessary for the proposed traffic flow, but shall not be less that 2100 mm, with a recommended width of 2200mm.

Generally, fire compartment doors should be held open by magnetic door hold-open devices, connected to the fire alarm system. This is to ensure that these doors do not impede travel, create manual handling risks or create line of sight risks under normal circumstances.

Note: In these Guidelines, the inter-departmental corridors are referred to as 'travel'.

710 .8.00 The minimum requirements for Health Care Facility corridors are summarised in the following table:

LOCATION	BCA CLASS	Trolley Movement	Min Clear Width	Rec Clear	Hand Rails	Wall Protection	Notes
PATIENT CARE AREAS (EXAMPLES)							
OPERATING, EMERGENCY, INPATIENT, BIRTHING, ICU	9a	Patients - Freq/regul	2100	2200	Yes	Yes	Consider door widths into adj rms, wider corridors at entry pts for turning trolleys/beds.
MEDICAL IMAGING, AMBULATORY CARE	9a	Patients - Occas/reg	1800	2100	Yes	Yes	Door widths to ensure movt of trolleys/beds from corridors to adj rooms is not restricted.
AMBULATORY CARE/ OUTPATIENTS	9a	Patients - Rarely/Ne	1800	1800	Yes	Yes	Part of Acute Care facility.
OUTPATIENTS/COMMUNITY HEALTH/CONSULTING ROOMS	5	Patients - Never	1200	1200	Yes	Yes	Separated in accordance with BCA req'ts from acute facility, or stand alone.
STAFF AREAS							
OFFICES	5	None	1200	1200	No	No	Corridor length to be less than 12m.
AMENITIES	5	None	1200	1200	No	No	Corridor length to be less than 12m.
OTHER AREAS							
INTER-DEPARTMENTAL CORRIDORS	9a	Services & Patients	2100	2200, but depends	Yes	Yes	
HOTEL SERVICES EG KITCHEN, LAUNDRY, STORES		Services	1800	2100	No	Yes	Major eg connecting to other units, large traffic flow.
HOTEL SERVICES EG KITCHEN, LAUNDRY, STORE		None	1200	1500	No	Yes	Minor - within unit.

710 .9.00 Notes:

1. Minimum clear width is set by the BCA for fire egress purposes; the minimum width recommended by these Guidelines will generally exceed that set by the BCA for other reasons including the safe movement of patients on trolleys and safe staff work practices.

2. Where hand rails are required, these should be installed in accordance with AS1428.

3. Where indicated, wall and corner protection should be provided to suit the likely traffic flow.

4. 'Clear corridor width' means clear, unobstructed widths. Items such as hand rails, drinking fountains, hand basins, telephone booths, vending machines and

portable/mobile equipment of any sort shall not reduce the minimum width or impede traffic flow.

Ramps

710 .10.00 Ramps may also be required as part of general facility circulation. Ramps for disabled access are covered under 'Disability Access'.

Ramps for disability access are frequently used for general access and for moving beds, ambulance trolleys and other equipment between different levels. They should therefore be designed accordingly.

They should have the required slope, width and turning circles based on the size and weight of an occupied bed plus space for passing. In this situation, ramps may need to be wider, have bigger turning circles and sometimes have lower gradients than those needed for wheelchairs.

Ceiling Heights

710 .11.00 The minimum ceiling height in occupied areas shall be 2400 mm, but consideration should be given to the size (aesthetic consideration) and use of the room. 2700 mm is considered a more appropriate ceiling height in work areas, eg Therapy Rooms, Conference Rooms, Intensive Care (open plan), Kitchens, etc. Ceiling heights in Ensuites can be reduced to 2250 mm where required, to accommodate building services, structure etc.

710 .12.00 The minimum ceiling height in areas such as corridors, passages and recesses shall be 2400 mm. In portions of remodelled existing facilities, the corridor ceiling height may be reduced to 2250 mm, but only over limited areas such as where a mechanical duct passes over a corridor.

710 .13.00 In areas where access is restricted, eg, drinking fountain recess, a minimum ceiling height of 2250mm is acceptable.

710 .14.00 Rooms with ceiling mounted equipment, such as X-Ray Rooms and Operating Rooms or other rooms where ceiling-mounted patient lifting devices are fitted may require increased ceiling heights. Heights should comply with equipment manufacturers' recommendations. The most common ceiling height in such areas is 3000 mm.

710 .15.00 Minimum ceiling (soffit) heights of external areas such as entry canopies, ambulance entries and delivery dock canopies should suit the requirements of the vehicles expected to use them. Special consideration should be given to the impact of whip aerials fitted to emergency vehicles, or specialist emergency vehicles designed and fitted to transport bariatric (obese) patients, which may result in increased vehicle height and width.

710 .16.00 Ceiling and door heights in Plant Rooms are to suit the equipment and allow safe access for service, maintenance and future replacement of equipment. A minimum recommended ceiling height is 2400 mm.

710 .17.00 Installation of overhead patient hoists in some patient rooms may require reinforcement of the ceiling support structure. This should be noted in the project brief.

In addition, information provided by equipment manufacturers should be reviewed in terms of the needs of particular items of equipment for passage through full height door openings eg to ensuite bathrooms; or that may affect the positioning of bed screen tracks or other such fixtures in Multiple-Bed Rooms.

Doors

710 .18.00 DOOR TYPES

AUTOMATIC DOORS

Automatic sliding doors may be used in high traffic areas. They may also be used successfully in areas where 'hands-off' access is necessary, such as entries to an Operating Unit. Where installed, they are to satisfy the requirements of emergency egress and to close at a rate that provides sufficient time for disabled and frail patients and visitors to enter/exit.

They should not be used in areas where access control is required.

710 .19.00 SLIDING DOORS

Sliding doors are not recommended, but may be used subject to compliance with the BCA and mandatory requirements.

These Guidelines DO NOT recommend the use of sliding doors in Health Facilities due to hygiene concerns, maintenance problems and potential for locking in place.

Cavity sliders may not be used in the following areas:

+ Planning Units containing Patient Care Areas or Treatment Areas;
+ Planning Units containing sterile equipment;
+ Planning Units containing patient diagnostic equipment;
+ Catering Facilities;
+ Laboratory Areas;
+ Mental Health Facilities.

Surface mounted sliding doors may be used subject to the requirements of access in emergency situations.

Sliding doors, if used should be of solid core or metal frame type to resist warping. Sliding doors should have tracks on top and bottom to ensure safety of operation.

710 .20.00 DOOR SWING

Doors must not open into a zone which impedes the manoeuvring of patients/residents, nor swing out into a circulation area in a manner that might obstruct traffic flow or reduce the required corridor width.

However, doors may be required to swing out or in both directions for reasons of patient safety eg patient bedrooms in Mental Health Units, for reasons of staff safety such as in Consultation Rooms, or where they form part of an escape route.

710 .21.00 DOORS IN THE PATH OF FIRE EGRESS

All doors on the path of fire egress shall be single or double swing type. These shall comply with the requirements of the BCA. (Note: if such doors also form part of a fire or smoke compartment, they shall maintain those properties in the closed position).

Fire doors linked to hold-open devices controlled by smoke detectors reduce impediments to safe patient/resident handling and should be used where possible. (VIC WorkCover, 1999)

Sliding doors may only be used for exit doors in accordance with BCA restrictions and requirements.

710 .22.00 DOORS - SECURITY

All perimeter doors should be locked and access restricted to one or the minimum necessary points in the building especially at night.

For design standards refer to Security - Building Elements - Doors, in these Guidelines.

710 .23.00 DOORS USED BY PATIENTS

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

Swing doors should generally open from corridors and distribution spaces into rooms. However doors that should open out include:

+ Doors to small patient ensuites;

+ Doors to disabled toilets and showers;

+ Doors to small change cubicles;

+ Doors in areas accessed by mental health patients to prevent patients locking/barricading themselves in the room.

Doors required to enable emergency access shall open out or open in both directions. Refer to 'Doorswing'.

710 .24.00 DOOR OPENINGS

Clear door openings between two sections of a corridor or from one corridor to another shall be as specified by the BCA for doors in the path of fire egress. In effect, for the purpose of these Guidelines all corridors are on the path of egress.

Note: In Class 9a Patient Care Areas, the minimum door width for doors on the path of egress is the corridor width less 250 mm.

710 .25.00 The minimum dimensions of clear door openings to Inpatient Bedrooms in new areas shall be 1200 mm wide and 2030 mm high, to ensure clearance for the movement of beds. Existing doors of lesser dimensions may be considered acceptable where function is not adversely affected and replacement is impractical.

710 .26.00 Door openings need to be high enough to allow access for equipment likely to be used such as IV poles, fracture frames and electric beds. Generally, 2040 mm high (standard door opening) will suffice. In special circumstances, this may be increased to 2400 mm high.

Consideration should be given to the weight of the door to ensure that it is easy to open and close as full height doors can be relatively heavy. (VIC WorkCover 1999)

710 .27.00 In general, clear door openings to rooms that may be accessed by stretchers, wheeled bed stretchers, wheelchairs or handicapped persons, shall be a minimum of 900 mm. For situations such as hoists and shower trolleys 1000 mm is the minimum recommended. Designers should review the manufacturer's recommendations for the equipment selected, consider the need to cater for future equipment design changes and design in a reasonable safety margin for these.

710 .28.00 While these Guidelines are intended to facilitate access by personnel and mobile equipment, consideration must be given to the size of furniture and special equipment that is to be delivered via these access ways.

For example, plant room door openings should allow for safe access for maintenance,

service and replacement of equipment.

710 .29.00 EMERGENCY ACCESS

Certain rooms that are used by patients shall be equipped with doors and hardware that will permit emergency access from outside the room.

These rooms can be defined broadly as rooms that:

+ Are used independently by patients;

+ Have only one door;

+ Are smaller than 6 m2;

+ Have less than 2.5 m of clear space behind the single door;

+ Form Patient Bedrooms, Bathrooms and Ensuites in Mental Health Facilities;

+ Form secure rooms in Mental Health Facilities.

When such rooms have only one opening and 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.

The use of retractable doorstops within flat metal door frames together with coin operated door snibs is recommended. The snib can be opened with a coin while the door can be opened outward by simply pushing the doorstop into the frame.

710 .30.00 MENTAL HEALTH SECURE ROOMS

In Mental Health Secure Rooms, the following configuration is recommended:

+ One standard door, opening in plus;

+ One adjacent door minimum 450 mm wide, opening out, ie one and one half doors that form an opening 1270 mm - 1370 mm wide.

+ Both doors with external locks and no internal handles;

+ Door locks to ‘fail safe’ in case of fire;

+ Doors and frames should be of solid construction with multiple hinges and multiple locking points. Viewing panels should be constructed from non-breakable material with concealed fixings.

Note: Alternative operational policy may be considered whereby all staff carry a key that will operate doors to mental health secure areas and thereby control egress from these areas in a fire situation.

710 .31.00 DOOR HANDLES

GENERAL

The following considerations shall be given to the particular hardware requirements and special fittings needed for certain areas:

DOOR HANDLES GENERALLY

In areas where staff frequently pass doors, the shape of the door handle should be selected so that it is does not catch on pockets of overalls or other clothing. Handles with a full return are recommended.

Lever handles are recommended for hinged doors and ‘D’ pulls for sliding doors.

Handles should be located at an appropriate height to enable staff to easily open doors whilst supporting or manoeuvring patients/residents.

MENTAL HEALTH

Door handles in a Mental Heath Unit shall prevent self-harm by not providing a supporting point. This can usually be achieved by using recessed, concealed or flush hardware. Alternatively, specially formed knobs are available which do not allow 'grabbing'.

PAEDIATRIC ROOMS

In Paediatric Rooms consideration should be given to providing two sets of door handles; one at high level and one at low level.

LOCKS

Door handles may incorporate locks, snibs, push buttons and indicators. Designers and specifiers should consider flexible hardware systems where the functionality of the door may be changed without necessarily changing the hardware.

The type of locking function shall be appropriate for the use of the room. In any event, the locking device shall prevent a person being inadvertently locked in a room.

Security locks such as ‘proximity’ and swipe card systems may be required for controlled access areas.

PUSH / PULL PLATES

In many instances a door lock or latch is not necessary. Rooms that do not require locking may work well with only push/pull plates and a self closer. Push/pull plates are recommended in rooms that are used frequently by staff holding objects in their hands. Dirty Utility Rooms are a good example.

710 .32.00 DOOR GRILLES AND UNDERCUTS

The Heating, Ventilation and Air Conditioning (HVAC) design may require door grilles or undercuts. These are usually required for return air, makeup air or pressure relief.

Door grilles or undercuts may be used in areas that do not compromise the requirements of the BCA and other requirements of these Guidelines.

Door grilles or undercuts may not be used in the following locations:

+ Areas with a particular air-pressurisation scheme Isolation Rooms;

+ Room requiring acoustic isolation;

+ Rooms requiring radiation shielding;

+ Fire Doors and Smoke Doors.

Door grilles should not be used in any patient accessible areas in Mental Health Facilities, due to the potential for door grilles to suffer impact and damage, or to be used as a weapon.

The following non-mandatory recommendations also apply to grilles and undercuts:

+ Door grilles are not recommended for areas used by people in wheelchairs due to potential impact and damage;

+ Door grilles are not recommended for bathrooms or ensuites;

+ Large undercuts close to bathroom showers are not recommended as they can result in water leaking or splashing outside to adjoining rooms;

+ As an alternative to a door undercut, designers may consider an inward sloping door slot approximately 200 mm above the floor to reduce water egress whilst providing the same functionality as a door undercut.

710 .33.00 HOLD-OPEN DEVICE

Door hold-open devices should also be considered for doors that should remain open, such as doors on main traffic routes and delivery doors.

The following requirements shall apply:

+ Hold-open devices shall be capable of activation and de-activation without any need for the staff to bend down, reach upwards or reach behind the door;

+ Hold-open devices shall not be fitted to doors where this compromises doors that are required to achieve a specific air pressurisation or isolation scheme by these Guidelines;

+ Hold-open devices shall not be fitted to the side of a door that may permit a disturbed patient to lock the door from inside, or where they may provide a potential hanging point for patients who are at high risk of self harm;

+ In areas frequently used by staff holding objects or pushing trolleys, the use of delayed action combined self closer/hold-open device is recommended;

+ Hold-open devices used for fire doors should be controlled by smoke detectors, or by activated fire alarms.

710 .34.00 SELF CLOSERS

Self closers are required for fire and smoke doors nominated in the BCA and shall comply with its requirements. This section covers other door types.

Self closers shall be provided for the following doors:

+ Doors required to achieve a certain airflow or air pressurisation scheme required by these Guidelines;

+ Entrance doors to any area nominated as a restricted area by these Guidelines including:

- Operating Unit;
- CSSU;
- Kitchen;
- Sterile Stock Room;
- Isolation Rooms;
- Birthing Rooms.

710 .35.00 Apart from the above doors, self closers are not required or encouraged. Over-provision of self closers can lead to unnecessary capital and maintenance costs. Door closers should not be fitted where they exacerbate or create manual handling risks, where they impede the movement of patients, or where they reduce the independence of patients.

710 .36.00 Self closers to the following rooms are discouraged:

+ Offices;

+ Patient Rooms;

+ Bathrooms and Ensuites;

+ Rooms used independently by people with disabilities;

+ Meeting Rooms and Interview Rooms;

+ Store Rooms - unless a hold-open device is fitted to allow for equipment movement in and out of the room.

710 .37.00 HARDWARE

Self closers shall be designed and installed to allow for the door to open at least a full 90 degrees. Allowance should be made for the nib space required for the self closer arm.

Self closers used in double doors shall be accompanied by suitable sequencer hardware to allow the doors to be closed in the right sequence.

Self closers that duplicate the functionality of a hold-open device may also be considered.

Observation Glass

710 .38.00 Glazed panels, installed in accordance with AS 1288 - Glass in Buildings - Selection and Installation, shall be provided in doors where visual observation for reasons of safety, security or patient observation is required.

However, in fire doors the size must comply with AS 1905.1 Components for the Protection of Openings in Fire Resistant Walls - Part 1 - Fire Resistant Door Sets.

The height of an observation panel should be determined to suit the majority of people using the room, including people in wheelchairs.

710 .39.00 Observation glass is recommended for doors in the following areas and situations:

+ Entry/Exit to Operating Rooms or Procedure Rooms;

+ Scrub Room to Operating Room;

+ Air-locks;

+ Clean and Dirty Utility;

+ Work Rooms frequently used by staff;

+ Rooms used to interview mental health or disturbed patients;

+ Rooms requiring an observation window but with no physical possibility of providing a window, such as Mental Health Secure Rooms;

+ Kitchens and Pantries.

710 .40.00 Observation glass is not recommended in the following areas:

+ Rooms requiring acoustic isolation;

+ Where patient or staff privacy is required, although safety requirements may need to be balanced against this in some situations.

Observation glass shall have a mechanism, device or material to obscure the glass in the following areas:

+ Patient Bedrooms to facilitate privacy where required;

+ Operating Rooms and Procedure Rooms where laser may be in use;

+ Rooms requiring X-ray or other radiation shielding;

+ Rooms requiring electromagnetic shielding (such as a Faraday Cage).

Observation glass may be semi-frosted in areas where a clear vision of the room is not required. This type of glass or applied film may suit rooms where the primary concern is to avoid danger to staff passing through the door and to enhance patient privacy. Semi-frosted glass is usually adequate to enable staff to avoid the danger. Semi-frosted glass is recommended in doors to the following rooms:

+ Clean Utility;

+ Dirty Utility;

+ Operating and Procedure Rooms;

+ Examination/Treatment Rooms.

The use of safety glass should be considered where there are potential risks for security, violence or self harm. Refer 'Safety Glazing'.

Handwash Facilities

710 .41.00 Hand basins need to be large enough and taps positioned in such a manner to prevent splashing on the floor creating a safety hazard.

710 .42.00 Location and arrangement of fittings for handwashing shall permit their proper use and operation. Particular care should be given to the clearances required for elbow action type handles. Non-thermal transmitting standard handles with effective finger grips are preferred. Heights are to suit the particular function, such as paediatric, disabled, and standard.

710 .43.00 Handwashing facilities shall be securely anchored to withstand an applied vertical load of not less than 115 kg on the front of the fixture.

Refer to section on ‘Infection Control’ for details of basin types and locations.

Windows

710 .44.00 All rooms occupied by patients or staff on a regular basis shall have glazed windows or doors to achieve external views and/or make use of direct or borrowed natural light, where practical. The height of window sills should enable patients in their beds or whilst sitting to see outside.

710 .45.00 All Patient Bedrooms shall have external windows overlooking external areas. An external area is defined as the perimeter space around a building as well as naturally ventilated and lit atriums and courtyards.

Note 1: It is also a requirement of the BCA that all overnight Patient Bedrooms must have an external window. This does not apply to the Operating Unit, Emergency Unit, and similar areas.

Note 2: Where possible, the provision of external windows to ICU and CCU bed areas is required by these Guidelines.

Note 3: For the purpose of this clause, an internal atrium with artificial ventilation will be accepted if it complies with BCA requirements.

710 .46.00 The requirement for windows to patient areas is summarised in the following schedule:

ROOM/SPACE			External	Alternativ	Alternativ	Required	REMARKS

			Window	es	es		
BEDROOM			Yes			Yes	
BIRTHING ROOM			Yes			Yes	
PATIENT BAY - CRITICAL			Yes	Skylight	Internal		CCU/ICU Bed Cubicle, Pre-op Cubicle
PATIENT BAY - NON ACUTE			Yes	Skylight		No	
PATIENT BAY - ACUTE			Yes	Skylight		No	
NURSERY			Yes			Yes	
PATIENT LOUNGE			Yes	Skylight		Yes	
PATIENT ACTIVITY ROOM			Yes	Skylight	Internal	Yes	
PATIENT DINING			Yes			Yes	

Window Types

710 .47.00 WINDOW TYPES

In multi-level hospitals with ducted airconditioning systems, or in buildings in cyclone prone areas, it is not always possible or desirable to utilise openable windows. In these circumstances, fixed windows are acceptable, although access for external window cleaning should be considered.

Some openable windows should be provided to allow for ventilation in case of breakdown of mechanical ventilation systems such as airconditioning.

The use of openable windows may be regulated in this situation by the use of key operated openings managed by staff.

710 .48.00 Openable windows should have the provision to restrict the degree of opening. Locks should be heavy duty, affixed to both sides of the window and fixed securely through the frame with tamper-proof fixings. Window winders should be avoided.

710 .49.00 Top hung windows, also known as ‘awning’ or ‘hopper’ windows should not be used in multi-storey buildings because they can act as smoke/heat scoops from fires in storeys below.

710 .50.00 If it is considered undesirable to allow patients to open windows, for reasons such as avoiding potential problems with the central airconditioning, then the opening section of the windows should be operated with a lock or allen key held by the staff. See clause above.

Note 1: Any opening section of the window or door as described above shall be provided with a fly screen.

Note 2: The provision of opening windows also facilitates energy management and conservation as artificial lighting and airconditioning systems may not be necessary at certain times of the day and year. However, Infection Control requirements may override this - refer to Part D of these Guidelines.

Note 3: Window opening mechanisms should be selected to prevent persons from climbing in and out of windows. This applies particularly to areas that may accommodate children or persons with dementia or confusion, or mental illness.

Size

710 .51.00 WINDOW SIZES

The total area of required external windows and/or external glazed doors shall have a net glazed area of not less than 10 per cent of the floor area of the room concerned. An opening component equal to not less than five per cent of the floor area of that same room is considered highly desirable but not mandatory. These requirements together will ensure natural light and ventilation in the event of an electrical or air handling system failure.

Cleaning

710 .52.00 WINDOW CLEANING

Window cleaning shall be considered and appropriate provisions made. The selection of a cleaning method will depend on the type and location of openable window used.

For example:

+ Inward opening windows allow for the cleaning of the outside surface in a safe manner while standing inside the building;

+ With alternate outside opening windows it is possible to open one window to reach and clean the next window; however this type of window will require secure harness anchor points for the cleaner;

+ A window cleaning ledge or balcony may be provided only for window cleaning with no patient access. If no hand rail is provided, a continuous harness system shall be provided with a harness cable or rail that must reach a safe access point. See not below;

+ A window cleaning cradle that typically descends from the roof may be used. Cradles must be accessible from a safe position on the roof and comply with all safety legislation;

+ Extension arms may be used to clean windows that are one level above the ground or accessible from a terrace;

+ Health Service management may enter into a window cleaning contract with a contractor who uses a mobile Cherry Picker or other approved safe work practices and equipment.

Note: For safety reasons cleaning windows using a ladder is not recommended.

Note: Compliance is required with OHS Regulation Clause 56 on fall protection wherever window cleaning or other external building maintenance /construction or excavation work would put a person at risk of falling more than 2 m. The Code of Practice: Safe Work on Roofs Part 1 - Commercial & Industrial Buildings; Safety Guide: Use of Fall-Arrest Systems also apply. Refer to WorkCover NSW website: www.workcover.nsw.gov.au

Windows - Security

710 .53.00 WINDOW SECURITY

Entry through perimeter windows should be minimised.

For building design standards refer to Security - Building Elements - Windows, in these Guidelines.

Fixtures & Fittings

710 .54.00 SUMMARY

Fixtures and Fittings refer to items that are generally factory made or otherwise manufactured off-site then installed in the building. Some fixtures and fittings may be present at the time of the completion of the construction or renovation. Others may be installed at a later date. For the purpose of these Guidelines, all fixtures and fittings that are 'installed', that is, fixed to the building, are part of the building and subject to the requirements of these Guidelines. As such, they should comply with requirements of all parts, and in particular:

+ Ergonomics;

+ Human Engineering;

+ Safety Precautions;

+ Security;

+ Infection Control.

Selection of Fixtures and Fittings is covered in detail in a separate section of these Guidelines.

Note: The OHS Act and Regulation requires consultation with employees and the identification, assessment and control of risks when selecting, purchasing and installing FF&E.

Refer to 'Safety and Security Precautions' in this section of the Guidelines.

Finishes

710 .55.00 CEILINGS

Ceiling finishes have an impact on the aesthetics, acoustics and general atmosphere of a room. Selection of the finish must satisfy design, acoustics, fire protection and durability requirements. The effect of the ceiling finish on the level of lighting within a room must also be considered.

Part D of these Guidelines covers Infection Control issues. This section (Part C) covers issues which affect Access, Mobility, and Occupational Health & Safety Issues.

710 .56.00 SELECTING CEILING FINISHES

SUMMARY

The following issues should be considered when selecting a ceiling finish.

Surface durability and soil resistance are key considerations where ceilings may be damaged, or need to be kept clean. Other factors may include the need for effective noise reduction, light reflection, moisture resistance or the need to accommodate the support of heavy equipment such as medical imaging or other screening machines, patient lifters and other devices.

Generally ceilings should be easy to maintain and repair. They will generally be subjected to the cleaning protocols documented in the Operational Policies for the facility or for the specific Unit.

There are also increased demands for ceiling finishes to meet more exacting sustainable design criteria.

710 .57.00 RESISTANCE TO SURFACE DAMAGE

Ceilings in areas like corridors, emergency receiving areas and mental health units may need to withstand surface impact or other forms of abuse.

In any areas where inlaid ceiling panels frequently need to be removed for access, resistance to surface scratching is highly desirable.

Test results for the proposed finish that evaluate impact resistance, surface scratch resistance, resistance to mould and mildew, and even air diffuser soiling resistance, should be reviewed against the particular requirements for each location.

710 .58.00 INFECTION CONTROL

Although ceilings rarely become soiled with any hazardous matter and present

reasonably minimal infection risks, a smooth washable finish should be used in areas where splash spillage may occur, for example, Resuscitation Rooms in Emergency Departments, or Operating Rooms.

For further information regarding Infection Control refer to Part D of these Guidelines.

710 .59.00 USE OF ACOUSTIC FINISHES

Acoustic tiles or plasterboard may be used in areas where acoustic regulation is either desirable or critical, such as Operating Suite Support Areas, Interview Rooms, corridors, Waiting Rooms etc.

A cleaning problem may be generated due to the use of acoustic tiles in areas where splash spillage may occur and should be avoided.

710 .60.00 ACCESS TO SERVICES

Generally ceilings in areas other than Operating and Procedure Rooms should provide access to services. If access panels are used in procedural areas, they should be provided with an effective positive seal.

Suspended ceiling systems may be used where access to services is required and a smooth seamless finish is not vital.

In mental health units patients should be prevented from accessing services in ceiling spaces.

710 .61.00 AVOIDANCE OF DEFORMATION AND SAGGING

Sagging ceilings are often the result of moisture exposure in high humidity areas such as laboratories, kitchens, locker rooms, shower areas and indoor pools.

By avoiding where possible the following situations, the incidence of ceilings sagging may be reduced or removed:

+ Intermittent, seasonal use of facilities or long refurbishment, where HVAC systems might be shut down for extended periods;

+ Installation of ceiling systems prior to the activation of the HVAC system in new construction or renovation projects;

+ Attempted refreshment of indoor air quality by increasing the percentage of outside air that is circulating through a ventilation system.

710 .62.00 SUSPENDED AND EXPOSED GRID SYSTEMS

In a suspended, exposed grid ceiling system attention should be paid to the specification of the grid, especially in terms of corrosion resistance.

710 .63.00 FIRE RESISTANCE

Interior ceiling finishes for use in Health Care Facilities must meet the criteria for acceptable fire index figures required by the Building Code of Australia, in accordance with Australian Standard AS1530.

710 .64.00 FLOOR FINISHES

Floor finishes have an impact on various requirements of these Guidelines. Part D covers those aspects which affect Infection Control issues. This section (Part C) covers those aspects which affect Access, Mobility, Occupational Health & Safety issues.

Finishes

710 .65.00 Selection of floor coverings can impact on staff work practices in five main ways:

1. Cleaning/maintenance procedures eg too rough a surface may lead to arm and shoulder injuries in the use of a mop;

2. Manoeuvrability of equipment - including push/pull turning forces;

3. Risk of slipping or tripping;

4. Spread of flame and the density of smoke produced;

5. Fatigue on feet and legs (the types of shoes worn by staff should also be considered.) (Designing Workplaces for Safer Handling of Patients/Residents - VIC WorkCover 1999).

Fire safety compliance is also a special consideration. A 'duty of care' exists where professionals such as architects and interior designers are involved in the selection of products and responsibility must be addressed by purchasing officers and retailers/agents when purchasing replacement products.

Floor finishes also have a direct impact on the whole of life costs of any building where cleaning and maintenance is concerned. This is especially true in a Hospital. Low capital cost may result in high whole-of-life costs.

710 .66.00 SELECTING FLOOR FINISHES

SUMMARY

A number of issues should be considered and balanced when selecting the floor finish. Designers are encouraged to investigate alternative materials and if necessary organise for realistic onsite tests before making major decisions. The following clauses set out the issues to be considered.

710 .67.00 MOVEMENT OF OBJECTS

The floor finishes chosen should make the movement of such objects as trolleys, bed trolleys and wheelchairs sufficiently easy to minimise the potential for injury to staff.

The following should be considered when selecting floor finishes:

+ Floor finishes and equipment should be compatible. For example, wheeled equipment used on carpeted floors should have polyurethane wheels, while rubber wheels may suit vinyl surfaces. If both carpet and vinyl is to be used in clinical areas, then the wheeled equipment should be selected for the highest friction surface ie carpet;

+ Standard vinyl and similar products are the easiest materials for the movement of trolleys and wheelchairs;

+ Carpet, if used should be direct stick, commercial density with short piles, preferable loop piles; a 90/10 or 80/20 wool/nylon mix is recommended;

+ Flocked carpet should be considered where the 'look and feel' of carpet is desired with the ease of movement over vinyl;

+ Many hospital staff consider that it is harder to move objects over cushioned vinyl. However, cushioned vinyl may still be preferred to standard vinyl for its sound absorption qualities.

710 .68.00 NOISE GENERATION AND SOUND ABSORBTION

Carpet type finishes not only minimise noise generation, they also dampen the noise generated by other sources. Carpet is particularly effective in corridor areas outside Patient Bedrooms where a great deal of noise can be generated. This quality should

be balanced against the ease of movement by trolleys, bed trolleys and wheelchairs. Reduction in noise levels should not be at the expense of employee or patients safety.

Cushioned vinyl is also effective in minimising noise generation but it does not dampen other noises as effectively as carpet. Ceramic tiles, terrazzo and similar hard surfaces generate noise from walking staff and visitors.

710 .69.00 EASY ON THE FOOT

Surfaces such as carpet and vinyl, both standard and cushioned are considered easy to stand on for long periods of time. Most OHS experts consider surfaces such as ceramic tiles and terrazzo too hard to stand on for more than a few hours. These are therefore not recommended in hospital work areas. However, they may be used with caution in public areas such as foyers and courtyards, with appropriate slip resistance coefficients especially when wet.

710 .70.00 INFECTION CONTROL

Infection control issues play an important role in the selection of floor finishes. Refer to Part D Infection Control for further information.

710 .71.00 EASE OF CLEANING

Floor materials shall be easy to clean and have wear resistance appropriate for the location involved.

710 .72.00 MINIMISATION OF COMBUSTION HAZARDS

Floors in areas and rooms in which flammable anaesthetic agents are stored or administered to patients shall comply with AS 1169 - 1982 - Minimizing of combustion hazards arising from the medical use of flammable anaesthetic agents.

710 .73.00 CONDUCTIVE FLOORING

Conductive flooring may be omitted in anaesthetising areas where flammable anaesthetic agents will not be used and appropriate notices are permanently and conspicuously affixed to the wall in such areas and rooms. Otherwise, appropriate conductive flooring shall be provided.

710 .74.00 SELECTION AND INSTALLATION

Refer to VIC WorkCover, 1999 - 'Designing for Safer Handling of Patients/Residents'

ROOM	FACILITY	FLOOR FINISH
Bedrooms	Acute	Cushioned Vinyl or Carpet
	Aged Care	Carpet or cushioned vinyl.
	Rehabilitation	Cushioned Vinyl or Carpet
Bathrooms/ Ensuites	All	Non slip vinyl or epoxy
Corridors	Acute	Vinyl or Carpet
	Aged Care/ Rehabilitation	Carpet
Dining Rms	All	Vinyl or Carpet
Lounge Rms	All	Carpet

Notes:

1. A hazard can exist at the junction of different floor finishes (eg where vinyl meets carpet). At such points careful consideration needs to be given to low profile junction or diminishing strips, to facilitate use of wheelchairs and trolleys.

2. The use of different types of floor finishes in the one room (eg carpet and vinyl) should be avoided as it often results in varying floor levels (diminishing strips) and can create a feeling of unsure footing.

3. Unexpected changes in floor friction may create a greater risk of slipping.

4. Carpet should be low profile and securely attached to the floor structure to allow for easy movement of wheeled equipment and wheelchairs. However, this may contribute to fatigue, aches and pains for staff who walk or stand on the surface for long periods. Careful consideration needs to be given to reducing such impact whilst not impeding staff who are pushing/pulling equipment.

5. Shock absorbent underlays to carpet, or the use of cushioned vinyl may reduce stress on staff provided they do not make equipment difficult to move.

6. In aged care and rehabilitation environments, the continence of patients should inform decisions re floor finishes. Carpet may be considered where the sub floor surface is appropriately sealed and maintenance regimes permit its use.

7. Expansion and seismic joints shall be constructed to resist the passage of smoke.

710 .75.00 FLOOR SAFETY

In Order to reduce the risk of slips and falls, floor surfaces should comply with Aust/NZ Std AS/NZS 3661-1993 – 'Slip Resistance of Pedestrian Surfaces'.

710 .76.00 The choice of floor finish shall consider the slip resistance appropriate for different conditions. The following can be used as a guide:

+ Studded vinyl flooring balances slip resistance with ease of cleaning, and is suitable for wet areas such as patient showers where water, soap and body fat are present;

+ Conventional safety vinyl flooring suits wet areas without soap or body fat where trolley movement is also expected, such as Dirty Utility and CSSU Decontamination Areas;

+ Standard vinyl is suitable for dry areas where patients and staff are expected to wear shoes;

+ Standard vinyl - Textured is similar to standard vinyl but provides greater dry-condition slip resistance;

+ Stone and terrazzo are sometimes used in entrance foyer areas; however, when wet these finishes may present a danger to staff and visitors and in such circumstances proprietary non-slip chemical treatments shall be used to increase slip resistance.

710 .77.00 Floor finishes that are subject to traffic whilst wet such as showers and bathrooms, kitchens and similar work areas shall be capable of maintaining a non-slip surface.

Note: The same applies to dry floors subject to the presence of fine powder such as talcum powder.

710 .78.00 WALL FINISHES

GENERAL

Wall finishes are often the largest visual element in an area and thus can have an impact on the aesthetic appeal of the space. Selection of appropriate wall finishes may help create a non-institutional atmosphere; however other aspects such as the ease of cleaning, infection control, fire safety and patient care requirements are often higher priorities in terms of finish selection.

Part D of these Guidelines covers Infection Control issues. This section (Part C) covers issues which affect Access, Mobility, and Occupational Health & Safety Issues.

710 .79.00 SELECTING WALL FINISHES

SUMMARY

Wall finishes should be selected on the basis of:

+ Durability and resistance to impacts from furniture, trolleys, aggressive patients, etc;

+ Ease of cleaning and retention of appearance over time;

+ Fire resistance and flammability indices;

+ Requirements for infection control.

Interior wall finishes for use in health care buildings must meet the criteria for acceptable fire index figures required by the Building Code of Australia in accordance with Australian Standard AS1530.

Ceramic tiles are not recommended as a wall finish due to their potential to compromise infection control. They are also susceptible to damage from trolleys if cracked or broken, individual tiles may be difficult to replace.

710 .80.00 WALL PROTECTION:

Wall protection is recommended to improve the longevity and retain appearance of most wall finishes, particularly in Patient Care Areas, service corridors and other areas where wheeled furniture and other equipment may be used.

710 .81.00 SKIRTINGS

Skirtings provide vital protection from scuffing and marking by wheeled equipment, maintenance machinery and feet, but also can help provide a continuous barrier against bacterial penetration and the build up of contaminants.

Skirtings should be coved to form a radius along the floor/wall junction to provide a smooth and continuous transition between the horizontal and vertical surfaces. The skirting should be continuously welded to the floor material in the case of sheet vinyl and rubber materials, or be a continuation of the floor material itself, for example where ceramic tiles, compound applied coatings and vinyl sheet are used.

Coved skirting is required to continue up the wall to a minimum of 150 mm. The skirting can either be tapered at the top to provide a minimal horizontal dust catching edge, or it can be covered with a special feathered edge strip.

Skirtings may also be finished against the underside of cupboards or as an overhanging wall finish. In the case of vinyl wall finishes, these can either be welded to a vinyl floor finish, should their thickness be identical, or carried down over the upstand of the vinyl with an overlap of approximately 10-12 mm.

In the case of textile floor coverings an applied coved or feathered edge vinyl skirting is preferred to a timber skirting which may leave a gap at the junction or make a very sharp corner which may be difficult to clean without special cleaning equipment accessories.

Finishes

710 .82.00 CORNER GUARDS AND HAND RAILS

Corner guards, bumper rails and hand rails should be provided to protect against impacts in:

+ Inpatient, Outpatient and Public Circulation Corridors;

+ Support Services Corridors, Storage Bays, Equipment Rooms;

+ Any areas with trolley or bed traffic.

Each department should also be assessed individually for disabled staff and visitor requirements.

710 .83.00 SPLASH PROTECTION

Splash protection should be applied to walls in areas such as Labs, Formula Rooms, Beverage Bays, Kitchens, Bathrooms, Showers, Dirty Utility Rooms as well as around hand basins, scrub troughs and cleaners and laundry sinks.

710 .84.00 RADIATION PROTECTION

Radiation protection will depend on individual room requirements. Material used and the extent of radiation shielding should be determined by a Radiation Services consultancy and reviewed by an Accredited Consultant Radiation Expert (CRE).

710 .85.00 BENCH TOPS

Bench tops should be of a smooth, impervious finish with rounded corners, and resistant to damage and stains. Joins should be avoided if possible because they are difficult to keep clean. A range of products are suitable, eg laminates, synthetics and stainless steel. Consideration should be given to the use of the bench tops and the type of material most suitable to their task.