



7. Grab Rails & Hand Rails

7.1 General

In corridors accessed by patients, a grab rail/ hand rail is required on both sides of the corridor.

To be effective, hand rails suitable for patients and people with disabilities must be within the design criteria set out as follows:

- Clearance of the top arc of 270° is to be achieved throughout the full length of the handrail
- Rail ends should return to the wall or floor
- Hand rails should have eased edges and corners
- Handrails are to be 30 – 50mm in diameter spaced 50mm from the support wall or balustrade. Where an elliptical handrail is used the horizontal dimension must be the larger
- Ends of handrails at the bottom of stairs and ramps extend beyond the last riser for the depth of one tread and ends of the ramp or top riser and then horizontally for at least 300mm (Refer to Figure 6.5 below)

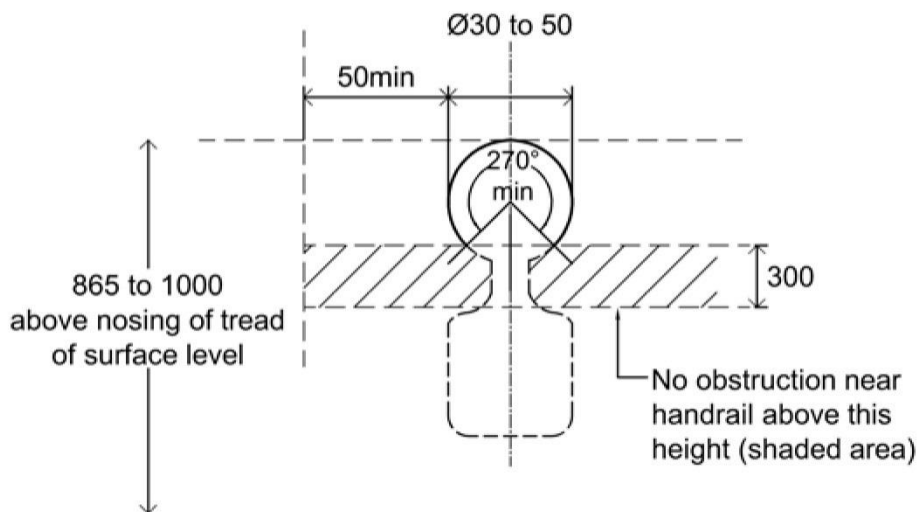


Figure 7.1: Section through handrail showing clearances

Compliant handrail installations and mounting brackets are demonstrated in the figure below



Figure 7.2: Compliant handrail examples

Non-compliant hand rails examples are demonstrated in the figures below showing inadequate clearances, inappropriate width and profile and rails that do not return to the wall.



Figure 7.3 Non-compliant handrail examples

The following hand rail example is compliant but not recommended. The downward projection of the mounting bracket could be a hazard to unstable users.



Figure 7.4: Compliant but not recommended hand rail mounting brackets



Figure 7.5: Compliant, stair hand rail with return to the wall



Figure 7.6: Compliant, rail extends beyond the stair

7.1.1 Prevention of Self Harm

In certain areas such as Mental Health Units, grab rails may present the possibility of self-harm by providing points of ligature.

Depending on the Operational Policy, corridor handrails in Mental Health Units should be designed in such a way that the space between the base of the hand rail profile and the wall is blocked. This arrangement does not totally eliminate the ligature point, but it makes it impossible to tie an object around the rail.

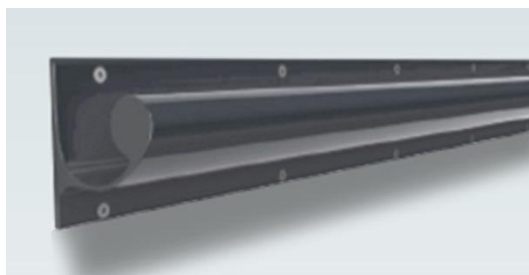


Figure 7.7: Anti-ligature corridor handrails

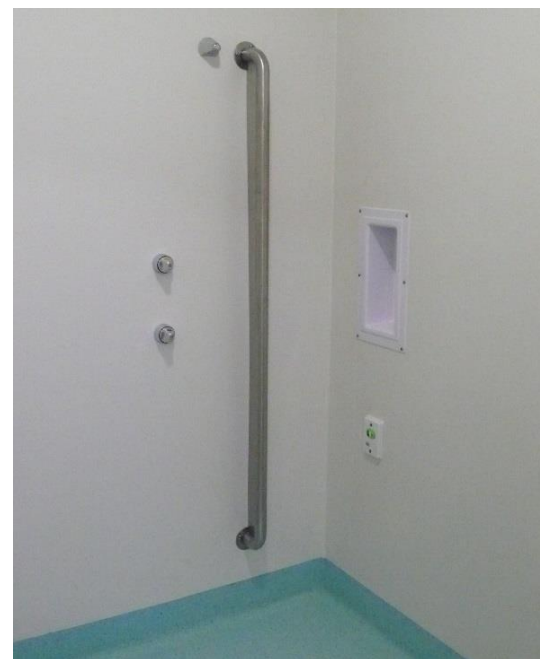


Figure 7.8: Anti-ligature shower grabrail



7.1.2 Outside Corners

Handrails meeting outside wall corners should be either continuous around the corner or set back from the corners by approximately 100mm. This is to minimise the chance of the rail grabbing onto clothing, especially large pockets. Any handrails continuing around 90 degree corners should be rounded to avoid a dangerous sharp edge.

7.1.3 Balconies, Balustrades and Upstands

It is vital to ensure patient, visitors and staff safety in all healthcare facilities. Balconies can present the risk of fall from great heights through negligence, children’s playful behaviour or sometimes deliberately. As a result, in Hospitals the provision of accessible balconies (internal or external) is not recommended by these guidelines in general and prohibited altogether in all mental health facilities.

Balustrades, if provided (not in mental health facilities), may be to voids (including multi-storey high atrium spaces) or the perimeter of external areas (terraces, balconies etc.). If the potential fall to the ground or floor slab is more than 4m, the following guidelines provisions are required:

Balustrades and Upstands must be child-proof, anti-ligature, and free from any foot-hold components up to 1m above the finished floor level. The total minimum height of Balustrades and Upstands should be 1.6m above the finished floor level.

The following diagram indicates 3 alternatives which comply with this requirement.

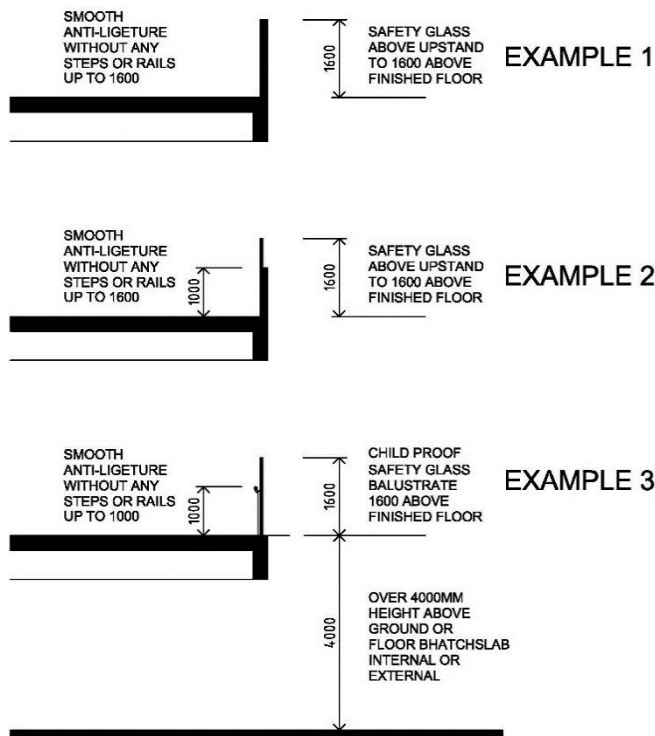


Figure 6.9: Design of suitable balustrades/ upstands



Figure 6.10: Sample of suitable balustrade

If patient access to external areas more than 4m above ground is permitted by the Facility, a staff member must always supervise the patients. Ideally, access to external balconies and terraces by the patients should be minimised or avoided altogether. It should be noted that in some circumstances the Hospital insurance policy may be adversely affected if balconies with patient access are provided.

The above requirements do not apply to areas accessed only by the staff. In those areas, only the requirements of the Building Code may be applied.