# 7 Grab Rails & Hand Rails

## 7.1 General

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

To be effective, handrails 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
- Handrails 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).

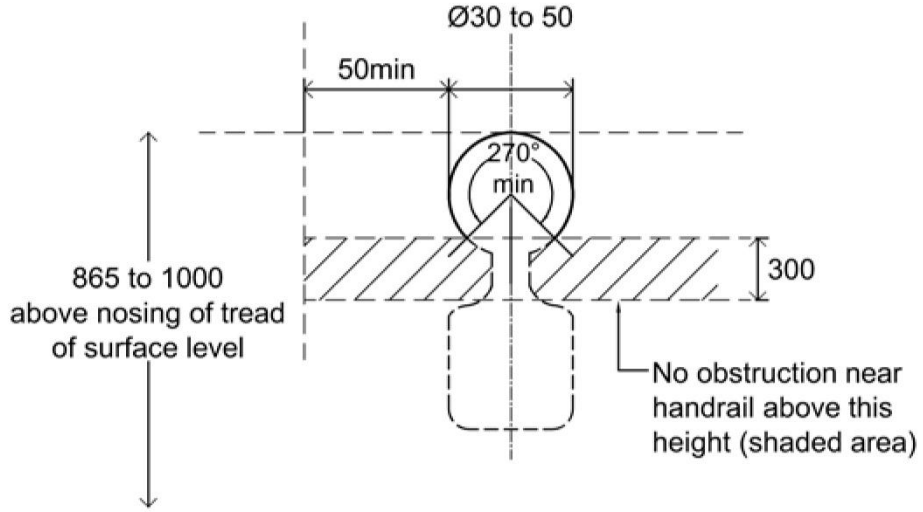



Figure 6.1: Section through handrail showing clearances

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



Figure 6.2: Compliant handrail examples

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



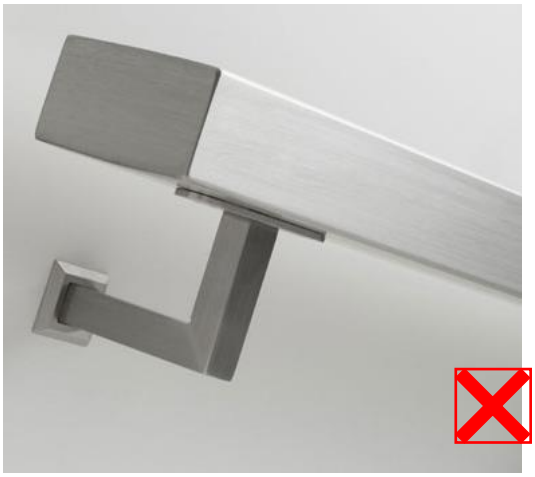


Figure 6.3 Non-compliant handrail examples

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



Figure 6.4: Compliant but not recommended hand rail mounting brackets

The ends of hand rails are terminated by returning to a side wall as demonstrated in the figure below. Alternatively, rails may return downwards onto a post or return back 180° on themselves.



Figure 6.5: Stair hand rail with return to the wall



Figure 6.6: Rail extends beyond the stair.

### *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 handrail profile and the wall is blocked.

This arrangement does not eliminate the ligature point, but it makes it impossible to tie an object around the rail.



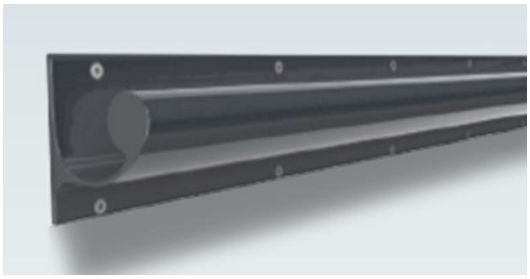


Figure 6.7: Anti-ligature corridor handrails

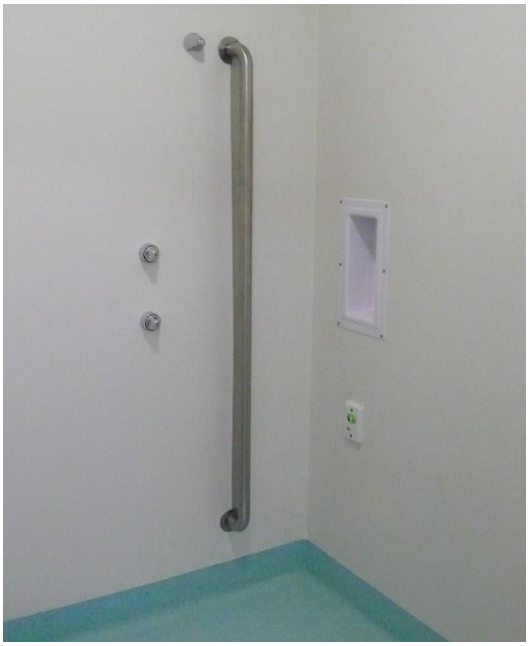


Figure 6.8: Anti-ligature shower grabrail

### *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.