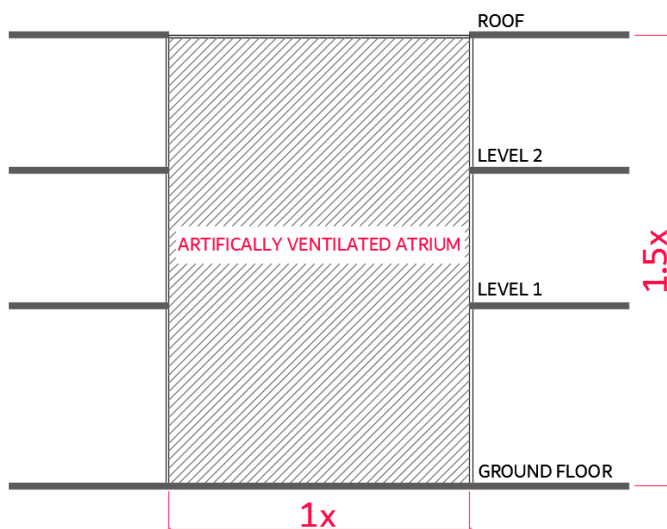


## 8. Windows and Glazing

### 8.1 General

All rooms occupied by patients or staff on a regular basis require glazed windows or doors to achieve external views and/or make use of direct or borrowed natural light, where practical.

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. An internal atrium with artificial ventilation will be acceptable if the area is more than 220m<sup>2</sup> with a minimum dimension of 14 metres and includes suitable permanent landscaping. The width to height ratio of the atrium must not be 1:1.5 as indicated in Figure 8.1.



**Figure 8.1: Width to Height Ratio in Artificially Ventilated Atrium**

This requirement does not apply to patient bed areas in the Operating Unit, Emergency Unit, ICU and similar areas.

Window size and treatments can have a significant impact on the energy performance of a building. Careful consideration must be given to the energy performance of the building balanced against patient comfort such as natural light, vision out to the surrounding landscape and thermal comfort.

### 8.2 Window Types

#### 8.2.1 Fixed windows

Fixed windows are typically installed in healthcare facilities with air-conditioning systems. Fixed windows will require consideration of external window cleaning systems.

In health facilities, it is acceptable to have all windows as fixed windows.

#### 8.2.2 Openable windows

Openable windows may be provided for ventilation including to patient areas. The inclusion of openable windows may also aid in energy conservation as air-conditioning systems may not be required during the whole day or particular seasons of the year.

If it is preferred that patients not be allowed to open windows to avoid problems with air-conditioning, then the opening section of the window should be locked and operated by staff only.

Openable windows should have provision to restrict the degree of opening with either stop/ limit/ restrictor hardware or an open guard/ screen to prevent passage of objects of a similar size to a 150mm diameter sphere through the opening. Locks should be heavy duty, affixed to both sides of awning windows and fixed securely through the frame with tamper proof fixings.

Opening sections of the window may be provided with an insect screen as permitted by DOH and Municipality Codes and Regulations.

### 8.2.3 Awning Windows

Awning windows are also known as 'hopper' windows. These refer to windows hinged from the top. Awning windows should not be used in multi-storey buildings because they can act as smoke/ heat scoops from fires in storeys below.



Figure 8.2: Fixed windows in corridor



Figure 8.3: Awning window

## 8.3 Size

Each required external window and/ or external glazed door should have a net glazed area of not less than 8% of the floor area of the room concerned.

If opening window is considered instead of mechanical air conditioning for parts of the year, then the minimum aggregate window opening should be determined for the required air flow and changes per hour.

## 8.4 Cleaning

Window cleaning requirements consistent with Municipality guidelines and standards should be considered. The following options are provided for information:

- Inward opening and pivoting windows allow the outside surface of the window to be cleaned safely while standing inside the building
- With alternate fixed windows and 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 ledge or balcony may be provided only for window cleaning with no patient access. If no handrail is provided, a continuous harness system should be provided with a harness cable or rail that must reach a safe access point.
- 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 able to be

reached from a terrace

- Hospital management may enter into a window cleaning contract with a contractor who uses abseiling, mobile scissor lift or similar lifting device

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