

Trips, Slips and Falls

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The Building Code of Australia (BCA) has always contained measures to prevent falls from heights. Until relatively recently, there were no specific requirements for windows so designers and certifiers would try to adapt the requirements for balustrades and apply them to windows. Finally, in 2009 specific requirements for windows were introduced. They were incorporated with, but distinct from the balustrade requirements. The wording has changed slightly over the years, but the essential details of the requirements have remained the same since BCA2009.

In 2011, in response to a spate of children falling from windows, a group from Westmead Hospital in Sydney produced a report entitled 'Kids Can't Fly'. In it they stated:

"An increasing number of children are admitted to hospital each year as a result of falling from windows and balconies. These falls are often in their own home and can result in death or serious injury."
'Kids Can't Fly' report, 2011.

As a result, the Australian Building Codes Board (ABCB) undertook to introduce new measures in BCA2012 to specifically prevent small children from falling from windows and balconies. The draft measures were released and a Stakeholder Forum held to discuss the impact of the requirements on industry and community groups. The proposed measures were not popular amongst the various industry bodies and so the introduction was postponed until BCA2013.

Further negotiations have resulted in a compromise solution where the new requirements will now only apply to windows in bedrooms and early childhood centres. All other windows will follow the existing requirements.

It is probably worth going over the existing requirements again:

For windows where the fall height from floor to ground is 4 m or greater, there shall be no window openings greater than 125 mm within 865 mm of the floor. Also, there shall be no horizontal elements between 150 mm to 760 mm above the floor which can facilitate climbing. A window sill is deemed to be capable of facilitating climbing.

The fall height of 4 m or more means that these requirements do not apply to most single unit housing. However, a number of window companies do apply these requirements to all second storey windows as a duty of care.

The new requirements, which comes into effect on 1 May 2013 apply only to windows in bedrooms in Class 1, 2, 3 buildings, Class 4 part of a building or Class 9b early childhood centres. They are intended to apply to two storey and above buildings and parts of single storey buildings on steeply sloping blocks. They are:

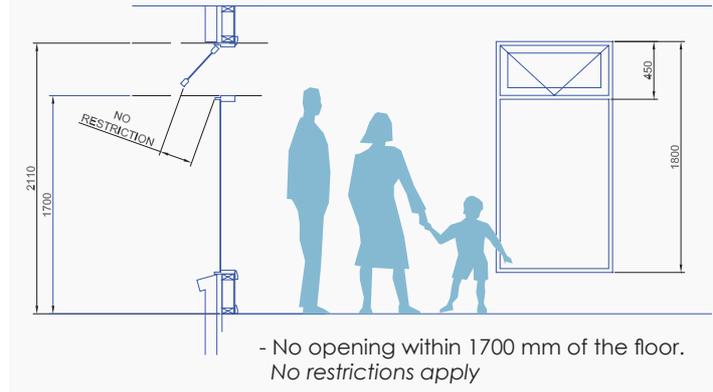
For windows where the fall height from floor to ground is 2 m or greater, all openings within 1700 mm of the floor shall be fitted with either a device to restrict the size of the opening, or a screen with secure fittings. The device or screen must not allow a 125 mm ball to pass through the window opening; and resist an outward force of 250 N (~25 kg). The device or screen may be removable, but if so must have a child resistant release mechanism.

If the device or screen is removable, there shall be no window openings greater than 125 mm within 865 mm of the floor. Also, there shall be no horizontal elements between 150 mm to 760 mm above the floor which can facilitate climbing.

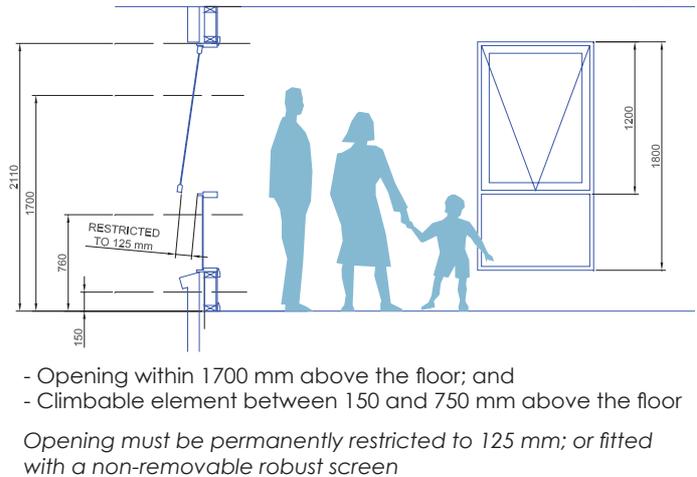
All other windows to follow the existing requirements outlined above.

The important factors are the size and height above the floor of the opening and the existence of footholds that can be used for climbing. For openings within 1700 mm above the floor:

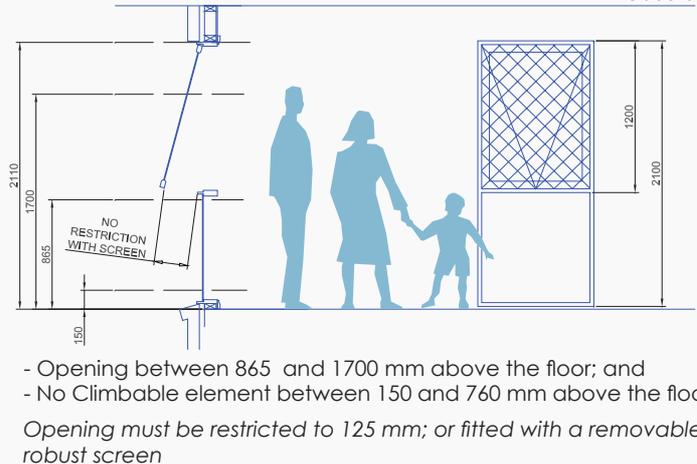
Case 1



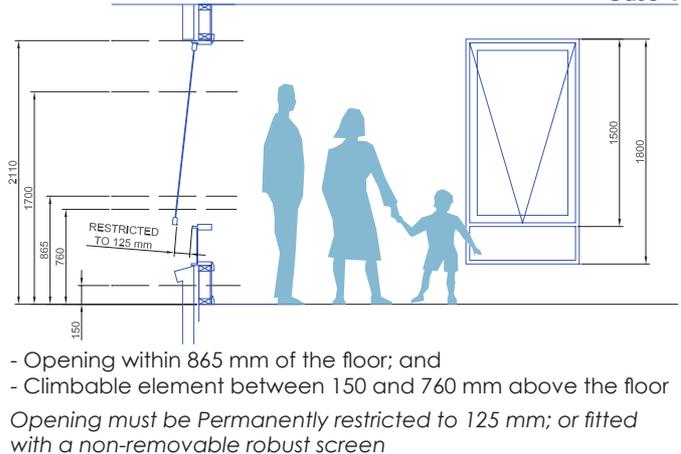
Case 2



Case 3



Case 4



Ventilation?

One question that has arisen is how these requirements affect the BCA ventilation requirement that the opening area of a window be 5% of the floor area of the room. The ABCB have replied that the ventilation area of a window is calculated by the total area of the sash, not by the openable area.

- If the opening is more than 865 mm above the floor and there are no climbable elements, then removable screens or restrictors that can be overridden by an adult may be used.
- If the opening is less than 865 mm above the floor or there are climbable elements, then permanent screens or restrictors are required.

There are a number of hardware solutions available, such as short chain winders and barrier screens which will allow windows to comply with the new requirements. We have been told that sliding window vent locks which key lock the sash at 125 mm, but allow the sash to open fully when unlocked will meet the requirements of the BCA. However, care must be taken to ensure that the water performance of the sill is not compromised by the hardware fixings. Unfortunately, it is envisaged that there will be a few problems from DIY after market installations.

A technical sub-committee led by Andy Nguyen of Alspec is developing a method of testing screens and hardware to meet the BCA requirements. We will shortly be publishing this as an Industry Code of Practice which can be used by members to demonstrate compliance with the BCA.