

Balustrades and Railings

Balcony Safety

Balconies – Balustrades and Railings

General

- Balconies extend the guest room to the outside and are a popular place to relax in privacy.
- Balustrades and balcony railings are intended to protect against hazards such as 'falls from height' and 'entrapment'.
- To avoid such hazards **all guest room balustrades and balcony railings should be:**
 - Of sound construction
 - At least 100cm high (or 110cm for new builds accommodation)
 - Free from any features or allurements that allow/encourage young children to climb through or on the railing (for example a ladder effect on page 6)
- **They should not have**
 - Gaps greater than 12cm (or 10cm for new builds accommodation)
 - Step ups that are lower than 60cm, as this may help a child to climb over the balustrade (examples on page 7).
- These features apply to **all balustrades and railings that can be found in the public areas** of the hotel, for example:
 - At terraces
 - At staircases
 - At corridors that open to parts of the building, e.g., an Atrium
 - Where there is a drop in level of more than 60cm.

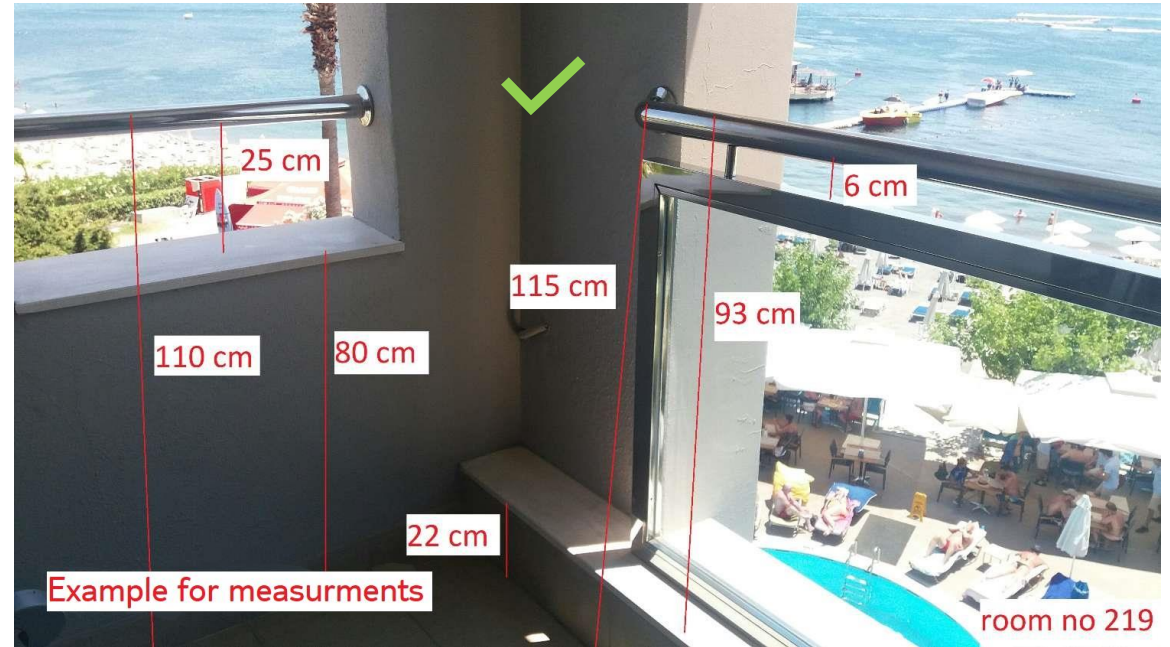
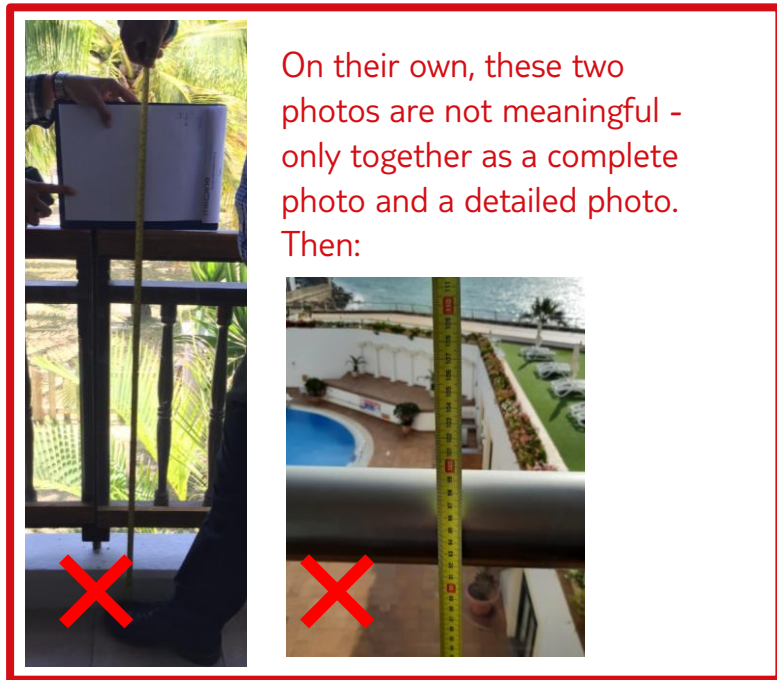


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Measurement

For a proper and correct assessment of the circumstances given and the potential risk, it is very important to have pictorial evidence of the dimensions of the balustrade.

- The dimensions and the numbers on the tape measure should be clearly visible in the picture.
- Optimally, a picture of the entire balcony railing is required as well as one or more pictures on which the measurement figures can be seen.



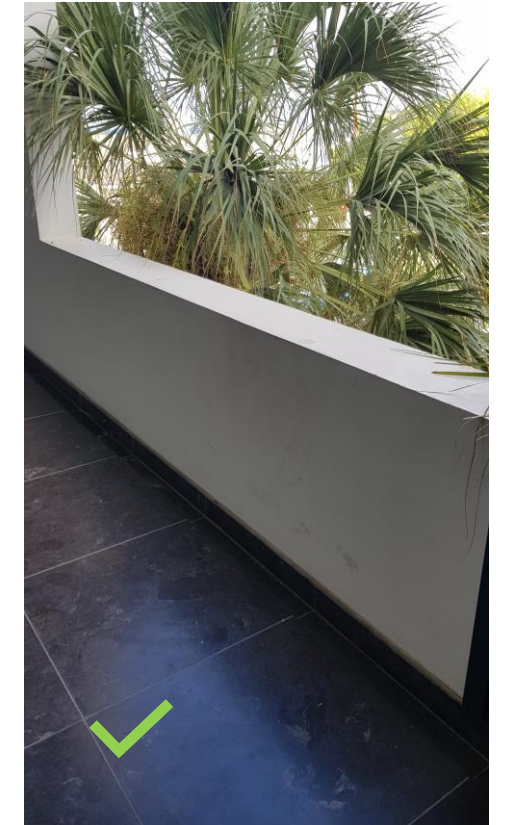
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Sound Construction

All balustrades and balcony railings should be of sound construction.

Balustrades serve as protection of falls from height. Therefore, they must be

- sturdy,
- securely fixed to the building
- and free of damaged, rotten or rusty material.



Balconies – Balustrades and Railings

Height / Failure in Height – What can you do?

Measurement and remedial action

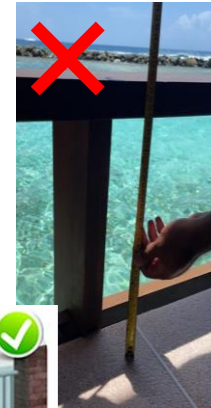
All balustrades and balcony railings should be at least 100cm high or 110cm for new builds accommodation.

It is very helpful to know the exact dimensions of the railing in order to properly assess the risk. Photos with a clearly visible and legible tape measure held against the balcony railing would be a good aid in this regard.

What can you do to raise the railing to the required height?

Examples:

- Place a solid glass or perspex panel at the required height on the inside of the balcony (example 1)
- At the top of the existing rail of the balcony, mount additional railing braces or a solid bar made of wood, metal, stone, glass or perspex, depending on the construction method and design (example 2)
- If there is a slight lack of height, a horizontal railing post offset 15 cm inwards can also be fitted above the previous railing (example 3)



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Gaps / Bigger Gaps – What can you do?

Remedial action

To avoid the risk of entrapment for young children, all gaps below 80cm in height on a balcony railing must not be greater than 12cm.

What can you do to reduce the hazard of gaps greater than 12cm?

- Replace the existing balcony railing with a solution without gaps, e.g., made of glass, wood, metal or stone (example in picture 1)
- Install additional, vertical elements/bars in the existing gap so to reduce the width on every side to max. 10cm (example in picture 2)
- Cover the gaps from the inside of the balcony by a panel made of glass or perspex (example in picture 3)
- Attach a solid, permanently installed metal grille to the inside of the balcony.
A soft mesh net is only a **temporary** measure until a permanent solution has been installed.



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Climbable / Ladder effect – What can you do?

Remedial action

Some balcony railing designs provide features that cause a “ladder effect” for climbing up thus pose a major risk for the safety of children.

What can you do to remove the ladder effect?

Examples

- Replace the existing balcony railing with a solution without gaps, e.g., made of glass, wood, metal or stone (example in picture 1).
- Mount a horizontal railing post offset 15 cm inwards above the previous railing, similar to ship's railings (example in picture 2)
- Cover the gaps from the inside of the balcony by a panel made of glass or perspex (example in picture 3)
- Attach a solid, permanently installed metal grille to the inside of the balcony.
A soft mesh net is only a **temporary** measure until a permanent solution has been installed.



Horizontal railings = climbable, BUT inner rail on top of the balustrade prevents climbing over the balustrade and thus mitigates the risk.

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Step ups – What can you do?

Remedial action

Balcony railings should not have a step-up lower than 60cm from the ground.

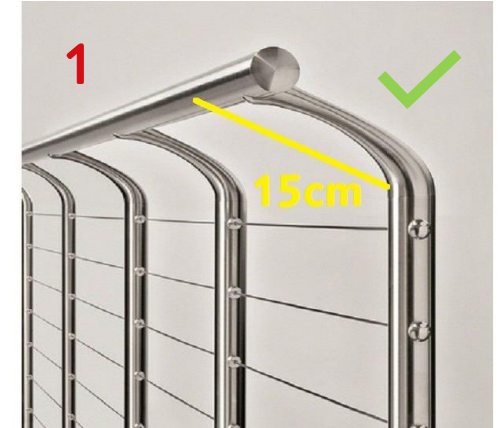
The design of some balcony railings can result in a step that people, especially children, could climb. This step can reduce the effective height of the railing, measured from the step to the top of the balustrade, decreasing the height to less than 80cm, which poses a hazard.

Step-ups can be created by solid parts at the bottom of the railing but also by a railing or decorative elements.

What can you do to eliminate the step-up or to reduce the risk?

Examples

- Replace the existing balcony railing with a solution without step-ups, e.g., made of glass, wood, metal or stone.
- Mount a horizontal railing post offset 15 cm inwards above the previous railing, similar to ship's railings. (as in example 1)
- Install a device at the top of the step, in front of the railing, that reduces the standing area to less than 3 cm or increases the height of the step up to more than 60cm. (as in example 2 & 3)



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Additional and Simple Risk Mitigating Factors – What can you do?

Further actions

In those cases where a quick fixing of the balcony defect (in height, size of gaps, step ups) is not possible, additional risk mitigating factors can be put in place to increase the safety for young children.

These are similar to the ones that apply for any guest rooms with direct access to water.

Examples

- Install a simple safety locking device on the patio door at a height of 1.50 m or above **AND**
- Additionally place a clearly visible notice to the guests on the balcony door or next to it that children are to be supervised on the balcony at all times **OR**
- Install a safety gate or a sliding door of at least 80cm in height at the patio door with a locking mechanism at the outside, that cannot be opened easily by young children



Children should be accompanied by an adult all the time

Contact

For further information contact the Safety & Risk Accommodation Team

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