

LABSS INFORMATION PAPER INFOP45

Low Level Window Sills

Guidance Clause 4.4.2 - Design of pedestrian protective barriers

Domestic (New Build)

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Purpose

The purpose of this information paper is to provide additional guidance to support a consistent approach to the assessment of low-level window sill configurations in new domestic buildings. It considers the potential for climbing, predominantly by young children - although not exclusively, as well as clarifying the appropriate reference point for measuring protective barrier heights in accordance with Mandatory Standard 4.4.

Conclusion

Low-level window sills present a growing challenge for both verifiers and designers. While the *Domestic Technical Handbook* sets out clear functional intentions, it allows flexibility in how compliance is achieved.

Low level window sills can create challenges in practice, particularly where different parts of the guidance overlap. As this paper has set out, it's important to look at the overall window arrangement rather than focusing on individual standards in isolation, as changes to one element can easily impact others such as escape, guarding, or safe cleaning.

One of the main challenges is deciding when a sill should be treated as a simple decorative feature and when it effectively becomes a step or raised area. While the guidance doesn't define this clearly, a practical, risk-based approach, considering both the height and depth of the sill, along with how it might realistically be used, can help support robust and consistent verification.

It's generally accepted that sills at or below around 600 mm above floor level could be used by young children as a foothold. Because of this, designs should aim to reduce the likelihood of climbing, whether through the detailing of the sill itself or how the overall window and barrier arrangement is configured. At the same time, any solution still needs to maintain compliance with escape and safe cleaning requirements.

In most cases, protective barrier heights should continue to be measured from finished floor level, unless it's clear that the sill is acting as a suitably formed step or platform. Therefore, it is important that drawings and submissions clearly show the intended design and function of the sill, so that verifiers can assess proposals appropriately.

Overall, the examples included show that compliant solutions are achievable where the risks are properly understood and considered together. This paper aims to support a more consistent and practical approach, while recognising that professional judgement will always play a key role. Final decisions will continue to rest with the verifier, based on the specific details of each proposal.

Background Information

Low-level window sills are increasingly used in modern domestic new build design. While they can support daylighting and architectural intent, they also introduce compliance risks across several sections of the *Domestic Technical Handbook*, including:

- **Clause 2.9.4** – Escape windows
- **Clause 4.4.1** – Location of Protective barriers
- **Clause 4.4.2** – Design of pedestrian protective barriers
- **Clause 4.8.3** – Cleaning of windows and rooflights
- **Clause 4.8.4** – Guarding of windows for cleaning

Designs that appear to meet one standard may inadvertently compromise others if not considered holistically.

This paper responds to increasing queries from verifiers and designers, including issues raised through STAS assessments and local authority enquiries. It provides guidance rather than prescriptive policy and does not remove the need for the verifier to consider proposals on a case by case basis.

Domestic Technical Handbook

Clause 2.9.4

The escape window should provide an unobstructed openable area of at least 0.33 m², with no dimension (width or height) less than 450 mm.

The bottom of the openable area should be positioned no more than 1100mm above floor level, recognising that escape may be at an angle rather than directly through the opening.

Where a protective barrier is provided in front of an escape window, it must not reduce the unobstructed openable area below the minimum requirement. In addition, the height of the barrier should not exceed 1100mm.

Although guidance sets out minimum dimensions for protective barriers, exceeding these limits in this context would compromise the effectiveness of the escape window and would therefore be considered non-compliant.

Clause 4.4.1

A raised floor or similar feature could fall within clause (a) of 4.4.1. This would suggest that a protective barrier should be provided at the edge of the sill, which conflicts with our interpretation and advice.

However, there is no clear definition of what constitutes a “raised area” in this context. It has generally been understood to refer to a platform or significant step arrangement, rather than a decorative sill, which is the focus of this information paper.

For the purposes of this information paper, a sill has not been classified as a raised area. That said, certain sill designs such as oversized, or platform-style arrangements, may reasonably be considered as such, depending on their form and scale.

Clause 4.4.2

Protective barriers in front of openable windows should have a minimum height of 800mm where there is an accidental risk of falling. Barriers should be designed to minimise the risk of persons falling or slipping through any openings. As young children are often capable of climbing within their reach, the design should also limit climbability to reduce the risk of injury from falls.

Item 2 of the additional information within this Clause states *Protective barriers should be installed where the opening window has:*

- a. a sill that is less than 800 mm above finished floor level, and*
- b. an operation that will allow the possibility of falling out, and*
- c. a difference in level between the floor level and the ground level of more than 600 mm.*

It is important to note that the 800mm measurement is taken from the finished floor level to the window sill, not to the openable part of the window.

It should also be recognised that barrier heights vary depending on the location and circumstances. In general, an 800mm barrier height applies in internal situations, while a height of 1100mm is commonly required externally. However, the applicable height may differ depending on factors such as storey height and the specific context of the building.

Clause 4.8.3

Any window or rooflight, all or part of which is more than 4m above the adjacent ground or internal floor level, should be constructed so that any external and internal glazed surfaces can be cleaned safely.

Clause 4.8.4

Where it is intended that glazing is cleaned from inside the building at two storeys or more above ground level, guarding should be provided to a height of at least 1100mm above floor level to account for increased adult fall risk.

Other Publications/Statistics

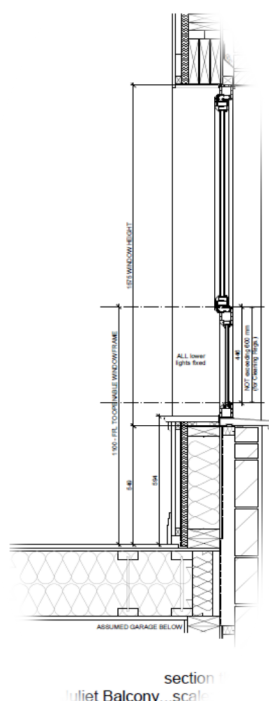
While the Scottish Technical Handbooks do not define a specific numerical threshold for what constitutes “easily climbed”, the intent of the guidance in clause 4.4.2 is clear: protective barriers, should be designed to prevent people, particularly young children, from climbing them.

Publications from the former Building Control Alliance (BCA) entitled [Guarding to window openings with low cill heights](#), and [Glass guarding and restrictors to low level windows above ground floor levels in dwellings](#) were referenced in both STAS assessments and verifier enquiries. Although the BCA is no longer an active body, elements of its guidance continue to be regarded as a useful technical resource within industry practice. These documents also included relevant Chiddata statistics, which were frequently cited within design submissions:

- Approximately 50% of four-year-old children can step up 410mm
- Approximately 97% of four-year-old children are unable to step up above 550mm

On this basis, window sills at or below 600mm above finished floor level are widely considered to be potentially climbable. This will, however, depend on factors such as the geometry of the sill, its suitability to act as a step, and the overall detailing.

Example 1 – STAS Enquiry



A stakeholder had made an enquiry on their standard window design to ensure compliance in respect of escape, protective barrier requirement, and safe cleaning. Initially the climbability issue was noted as the original design had a 444mm sill height.

They subsequently updated the design and based it on the BCA guidance previously referenced - 97% of 4 year old children cannot step up above 550mm. They amended the sill height to 594mm which is marginally below the 600mm noted in the guidance to be climbable, so SBSH's considered that the risk had been minimised in this instance.

The area above the sill was proposed to be a fixed light which complied with the safe cleaning in the scope of the safe reach allowances, and also served as a protective barrier (capable of resisting loads calculated in accordance with BS EN 1991-1-1 and associated PD 6688-1-1).

Figure 1 – Stakeholder Detail from Enquiry

Example 2 - STAS Application Approval (Sill/step in front of openable window)

In one STAS assessment, a 239mm internal sill was judged to be non-loadbearing rather than a step, as illustrated in Figure 2. On this basis, the protective barrier height was assessed as appropriate for the storey when measured from the finished floor level. It was also considered that young children climbing onto this decorative window sill would still benefit from a barrier height sufficient relative to their height.

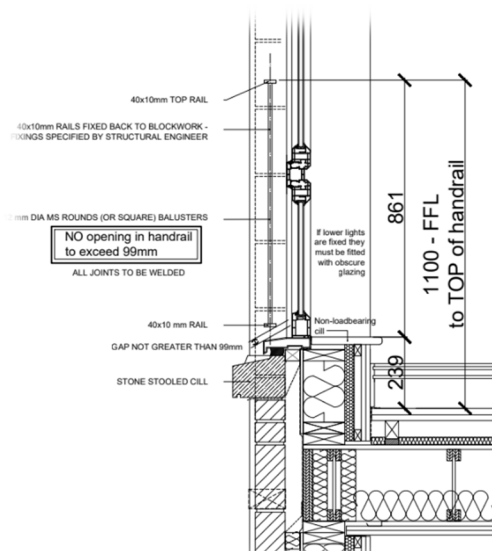


Figure 2 – STAS Approved Detail

Engagement with the housebuilder, however, highlighted the need to consider longer-term implications, including future changes to internal layouts and evolving occupant needs. As a result, the builder indicated they may revise the detail - for example, by adopting a more restrictive sill design - i.e. angled sill, or omitted sill.

Example 3 – Verifier Enquiry on Measurement for Protective Barrier Arrangement

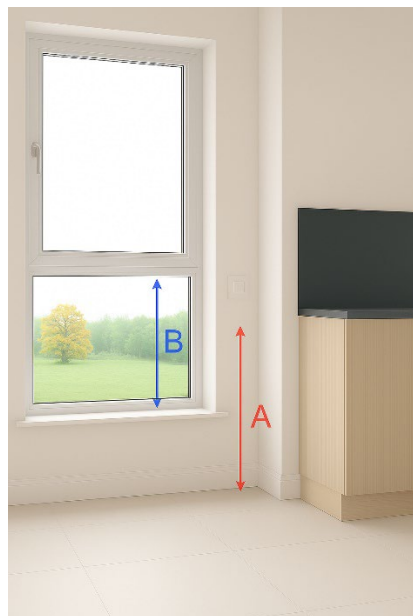


Figure 3 – Window Illustration

A verifier contacted SBSH regarding upper-storey windows with internal sill heights below 800mm. Their enquiry focused on whether such sills should be considered easily climbable and, consequently, whether the protective barrier height should be measured from the sill level (B) rather than from the finished floor level (A). Letter references in this section correspond to Figure 3.

The verifier also sought clarification on whether, if measurement were taken from the sill (B), the protective barrier would still be required to meet the full minimum heights specified in Guidance Clause 4.8.4 - 800mm at first-floor level and 1100mm for second storey and above.

In response, we summarised the climbability considerations outlined in earlier examples and confirmed that, in principle, protective barrier height should be measured from point (A): the distance between the internal finished floor level and the top of the protective barrier. We acknowledge that design scenarios may vary, and this interpretation may need to be adapted depending on specific circumstances. Verification should also include confirmation that the

feature in question is a genuine sill rather than a step; where relevant, this distinction should be clearly illustrated on submitted drawings at assessment stage.

A key difference between this example and previous cases relates to safe cleaning of glazing. In this instance, the lower section of the window is fixed. This was highlighted to the verifier as an additional factor requiring further consideration in relation to safe cleaning provisions.

Summary

This paper highlights the need for clearer and more consistent guidance on the assessment of low-level window sills, particularly in defining when a sill should be considered a step. A practical approach may be to align with existing guidance under Standard 4.3, where sills with a depth of less than 225mm, reflecting the minimum going of a private stair, would not typically be regarded as steps, given their design intent.

Height presents a more complex issue due to evidence of reach and climbability. A risk-based approach may therefore be appropriate, with sills broadly categorised as high risk (0–220mm), medium risk (220–600mm), and low risk (600–800mm). While high and low-risk scenarios are generally straightforward to address, medium-risk proposals require more detailed consideration of the overall window design, including the use of features such as fixed lower panes and transom heights to mitigate risk of falling without compromising escape or safe cleaning.

In general, protective barrier heights should be measured from finished floor level unless the sill clearly functions as a step or raised surface. Greater clarity in defining when this threshold is reached would support more consistent assessment. Sills at or below 600mm above floor level are likely to be climbable by young children and should therefore be designed to minimise footholds and prevent unintended use.

Experience from STAS assessments and verifier enquiries demonstrates that compliant solutions can be achieved where risks are considered holistically, taking into account barrier design, the classification of the sill – i.e. raised area/platform, and functional requirements such as escape and maintenance.

This paper is intended to support consistent decision-making through the provision of guidance rather than prescriptive policy. While the focus is on new build housing, reference may also be made to the Guide for Practitioners – Conversion of Traditional Buildings when considering alterations to existing or historic buildings. It remains the responsibility of the designer and applicant to develop and justify a compliant design solution, demonstrating how the proposal satisfies the relevant Mandatory Standards and associated guidance. The role of the verifier is to assess the information submitted and determine whether compliance has been adequately demonstrated, taking account of the specific circumstances of each application.

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