

Our Ref : BCA BC 15.0.3
Date : 30 Mar 2007

CIRCULAR TO PROFESSIONAL INSTITUTES

APPROVED DOCUMENT SECTION H SAFETY FROM FALLING

Objective

- 1 This circular is to inform the qualified persons (QPs), developers and building owners of the following.
- (a) Amendments to the acceptable solutions in the Approved Document Section H "Safety From Falling";
 - (b) Submission of structural design and details of barriers for approval under Clause H.3.3 "Horizontal Loading" in the Approved Document

Background

2 The Approved Document has been implemented since 1 Jan 2004 and the last update of the Document was on 1 Oct 2004. In response to the valuable feedback from the industry and the public, BCA continually reviews the acceptable solutions to ensure they remain relevant and meet changing expectation. A revision to the acceptable solutions in connection with the barriers to protect people from injury caused by falling has been recently completed.

Improved Protection

- 3 The section on safety from falling, Section H, is revised as follows:
- (a) Clause H.3.2 has been amended and a new Note 3 has been added.
 - (b) New provisions to Clause H.3.4 have been introduced, and existing Clause H.3.4.1 has been amended and renumbered.

4 The details of the changes in Section H are given in Appendix A and illustrated in Appendix B.

Requirement to Comply With Clause H.3.3 Horizontal Loading

5 With immediate effect, a separate submission for structural plan approval is required for the structural design and details of all barriers (including fixings) to confirm compliance with Clause H.3.3 "Horizontal Loading".

6 Where glass is used as barrier, the design shall also comply with Section 8 of BS 6180:1999 Barrier In and About Buildings – Code of Practice.

Effective date

7 The new edition of Section H is available at BCA website www.bca.gov.sg. For projects with building plans submitted to BCA before **1 Jul 2007**, QPs may continue to follow the earlier acceptable solutions of Clauses H.3.2 "Height of Barrier" and H.3.4 "Size of Opening".

Consultation

8 BCA welcomes QPs to consult us if they need further clarifications.

(a) For questions relating to Clauses H.3.2 and H.3.4, please contact:

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Yap Guan Hwa	63258641
Anson Seah	63258643

(b) For questions relating to Clause H.3.3, please contact:

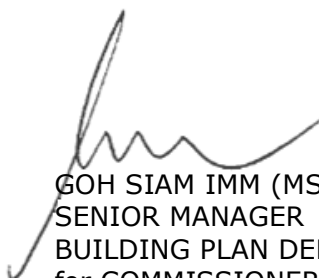
	<u>Tel No</u>
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Informing members

9 I would appreciate it if you could convey the contents of this circular to members of your organization.

10 Thank you.

Yours faithfully



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Appendix A

H	SAFETY FROM FALLING
H.1	OBJECTIVE
H.1.1	The objective of paragraph H.2.1 is to protect people from injury caused by falling.
H.2	PERFORMANCE REQUIREMENT
H.2.1	Where there is a vertical drop in level of 1.0 m or more, appropriate measures shall be taken to prevent people from falling from a height.
H.2.2	The requirement in paragraph H.2.1 shall not apply to – (a) roofs or other areas generally not intended for human occupation; and (b) special service or usage areas such as loading or unloading bays, stages for performance or entertainment.
H.3	ACCEPTABLE SOLUTION
H.3.1	The requirement in paragraph H.2.1 is deemed to be satisfied if a barrier is provided in accordance with the specifications set out in paragraphs H.3.2 to H.3.4.
H.3.2	Height of barrier
H.3.2.1	The height of a barrier shall not be less than - (a) 1.0 m at all locations except for locations indicated in (b); (b) 900 mm at the lower edge of the window, stairs, ramps and gallery or balcony with fixed seating in areas such as theatres, cinemas and assembling halls.
<i>Note:</i>	<i>1 The height of a barrier is measured vertically from the finished floor level to the top of the barrier.</i>

2. *The height of a barrier at the flight of stairs is measured vertically from the pitch line to the top of the barrier.*

3. *The requirements in paragraphs H.3.2.1 do not apply to houses built by the owners for their own use.*

H.3.3 **Horizontal loading**

H.3.3.1 A barrier shall be designed to withstand a horizontal loading as prescribed in BS 6399:Part 1 – Loading for Buildings. Code of Practice for Dead and Imposed Loads.

H.3.4 **Size of opening**

H.3.4.1 *The lowest 75mm of the barrier at the external wall shall be built solid.*

H.3.4.2 *The lowest 75 mm of the bay window shall not be openable.*

H.3.4.3 *In all buildings, except for industrial buildings*

(a) *the size of any opening or gap in a barrier shall not be large enough as to permit the passage of a sphere of a diameter of 100 mm; and*

(b) *The barrier at a location where there is a vertical drop in level of 3.0 m or more shall have no toeholds between the height of 150mm and 750mm above the finished floor level. The use of perforated sheet or mesh rigidly fixed over the full barrier height is acceptable provided the openings have a maximum dimension (other than the perimeter) of 50mm.*

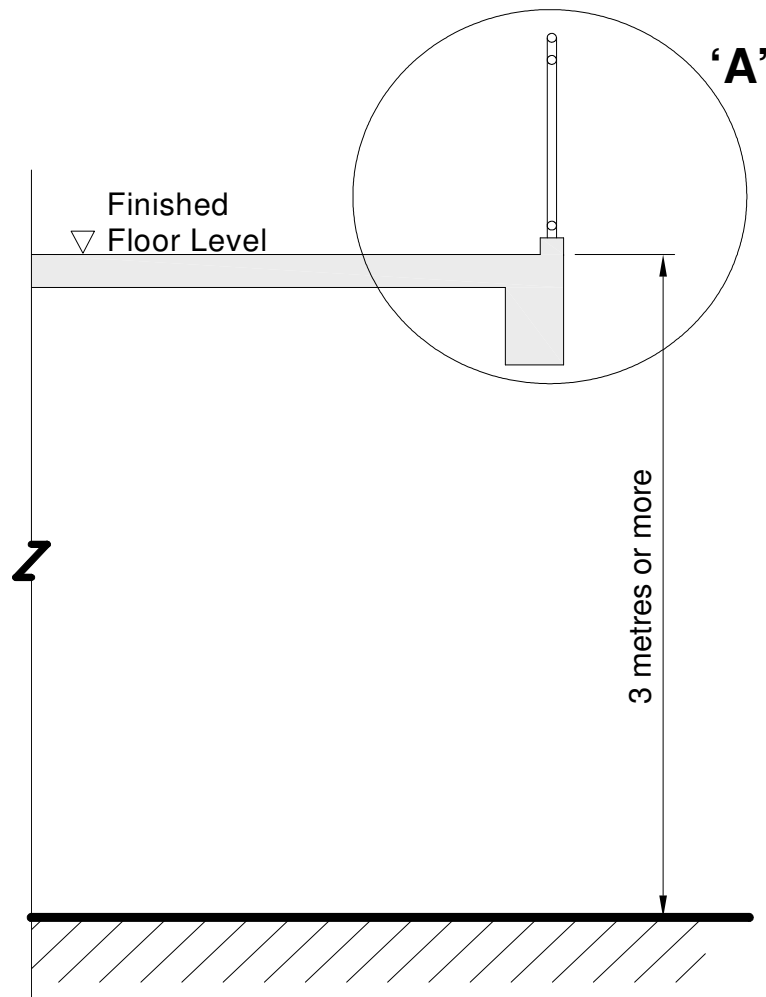
H.3.4.4 *The size of any opening or gap in a barrier in industrial buildings and in the case of a balustrade guarding a flight of staircase, any triangular opening or void formed around a tread, riser and the bottom edge of the balustrade, shall not be large enough as to permit the passage of a sphere of a diameter of 150 mm.*

Note: 1 *The requirements in paragraphs H.3.4.1 to H.3.4.3 do not apply to houses built by the owners for their own use.*

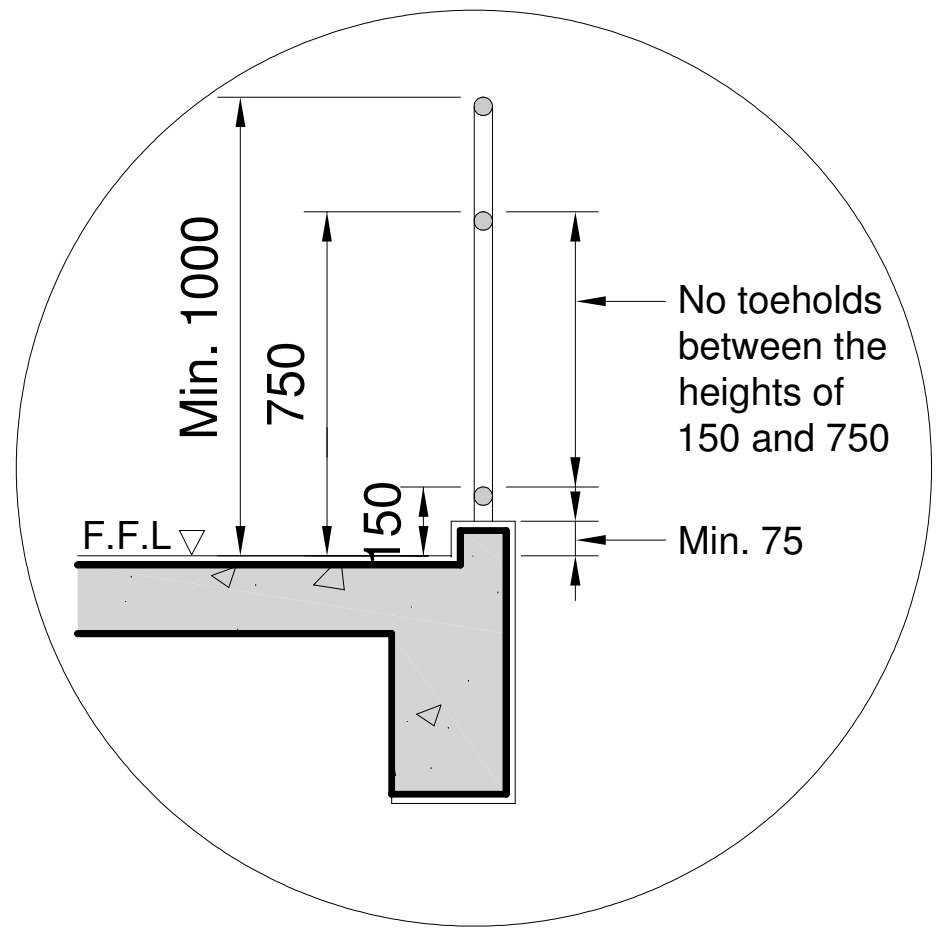
2 *The requirements in paragraphs H.3.4.3 (b) do not apply to bay windows in a residential unit.*

Illustration on H 3.4.3(b)

The barrier at a location where there is a vertical drop in level of 3.0m or more shall have no toeholds between the height of 150mm and 750mm above the finished floor level ...



SECTION OF BARRIER



Detail 'A'