

SS 653 : 2020
(ICS 81.040.20; 91.100)

SINGAPORE STANDARD

**Code of practice for glazing in buildings –
Safety related to human impact**

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The content of this Singapore Standard was approved on 16 January 2020 by the Building and Construction Standards Committee (BCSC) under the purview of the Singapore Standards Council.

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BCSC sets up the Technical Committee on Architectural Works to oversee the preparation of this standard. The Technical Committee consists of the following members:

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	Ar. Mok Kwong Wah	<i>Individual Capacity</i>
	Mr Wong Chung Wan	<i>Individual Capacity</i>

The Technical Committee sets up the Working Group on Glazing in Buildings – Safety Related to Human Impact to prepare this standard. The Working Group consists of the following experts who contribute in their *individual capacity*:

	Name
Convenor	: Mr Chan Chee Keong
Members	: Ms Clairia Chew (until September 2019)
	Mr Clement Chin
	Mr Glen Copsey
	Ms Fan Suet Lay
	Mr Gan Geok Chua

Members : Mr Mathieu Meur
Ar. Ng Bee Leng
Mr Tan Boon Kwee
Ar. Tan Cheng Hiong Shaun
Ar. Yap Chu Ing

The organisations in which the experts of the Working Group are involved are:

Building and Construction Authority
dormakaba Singapore Pte Ltd
Housing & Development Board
JTC Corporation
Land Transport Authority
Singapore Contractors Association Limited
Singapore Institute of Architects
Singapore Safety Glass Pte Ltd
The Institution of Engineers, Singapore
TÜV SÜD PSB Pte Ltd

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Foreword

This Singapore Standard was prepared by the Working Group on Glazing in Buildings – Safety Related to Human Impact set up by the Technical Committee on Architectural Works under the purview of BCSC.

This standard resulted from the review of common practice in the design and installation of glazed components in and around buildings locally. This highlighted the need for a code of practice to be drafted to guide designers and installers of such glazed elements.

Glazed elements in and around buildings may be subject to human impact, which could result in injury to the public and/or damage to finishes or other parts of the building. This standard provides requirements to designers and installers of such glazed components on the materials and techniques to adopt in order to minimise the risk of injury to the public.

The standard serves as a reference for the specification of glazed elements that may be subject to human impact. It is noted that the performance of glazed components is dependent on their proper installation. It is the responsibility of the user to determine the applicability of regulations prior to its use.

It is presupposed that in the course of their work, users will comply with all relevant regulatory and statutory requirements. Some examples of relevant regulations and acts are listed in the Bibliography. The Singapore Standards Council and Enterprise Singapore will not be responsible for identifying all of such legal obligations.

In preparing this standard, reference was made to the following publications and permission to reproduce materials from these publications have been sought from the organisations given below:

1. AS 1288 : 2006 Glass in buildings – Selection and installation
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2. BS 6262-4 : 2005 Glazing for buildings – Part 4 : Code of practice for safety related to human impact
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Acknowledgement is made for the use of information from the above organisations.

This standard is expected to be used by architects, engineers, contractors, testers and other building practitioners involved in the design, engineering, fabrication, testing and installation of glazed barriers in and around buildings.

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

NOTE

1. *Singapore Standards (SSs) and Technical References (TRs) are reviewed periodically to keep abreast of technical changes, technological developments and industry practices. The changes are documented through the issue of either amendments or revisions. Where SSs are deemed to be stable, i.e. no foreseeable changes in them, they will be classified as "Mature Standards". Mature Standards will not be subject to further review, unless there are requests to review such standards.*
2. *An SS or TR is voluntary in nature except when it is made mandatory by a regulatory authority. It can also be cited in contracts making its application a business necessity. Users are advised to assess and determine whether the SS or TR is suitable for their intended use or purpose. If required, they should refer to the relevant professionals or experts for advice on the use of the document. Enterprise Singapore and the Singapore Standards Council shall not be liable for any damages whether directly or indirectly suffered by anyone or any organisation as a result of the use of any SS or TR. Although care has been taken to draft this standard, users are also advised to ensure that they apply the information after due diligence.*
3. *Compliance with a SS or TR does not exempt users from any legal obligations.*

Code of practice for glazing in buildings – Safety related to human impact

1 Scope

This standard gives safety requirements for the vertical use of glass in locations likely to be subject to accidental human impact. The objective is to reduce impact-related injuries, in particular cutting and piercing injuries.

This standard does not apply to:

- (a) patent glazing;
- (b) glass in non-vertical applications;
- (c) glazing for furniture and fittings;
- (d) glazing for commercial greenhouses;
- (e) glazing for domestic greenhouses;
- (f) leadlights; or
- (g) vision panel within doors which cannot be mistaken for an opening and where the smaller dimension of the panel is 250 mm or less and its area is 0.5 m² or less.

2 Normative references

The following referenced documents are indispensable for the application of this standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

AS 1288	Glass in buildings – Selection and installation
BS EN 14179-1	Glass in building – Heat soaked thermally toughened soda lime silicate safety glass – Part 1: Definition and description
BS EN 14179-2	Glass in building – Heat soaked thermally toughened soda lime silicate safety glass – Part 2: Evaluation of conformity/product standard
SS 332	Specification for fire doors
SS 341	Specification for safety glazing materials for use in buildings (human impact considerations)