
**Glass in building — Laminated glass and
laminated safety glass —**

**Part 2:
Laminated safety glass**

*Verre dans la construction — Verre feuilleté et verre feuilleté de
sécurité —*
Partie 2: Verre feuilleté de sécurité

ISO 12543-2:2004

<https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 12543-2:2004](#)

<https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>

© ISO 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
1 Scope.....	1
2 Normative references	1
3 Impact resistance.....	1
4 Durability of laminated safety glass and laminated safety glass with fire resistant properties.....	2
4.1 High temperature test.....	2
4.2 Humidity test	2
4.3 Radiation test	2
5 Durability of fire resistant laminated safety glass.....	2
5.1 Subgroup A.....	2
5.2 Subgroup B.....	2
6 Component parts	3
7 Dimensions and edge finishing.....	3
8 Appearance.....	3
9 Designation.....	3
Annex A (informative) Examples of impact test methods suitable for classifying laminated safety glass in non-CEN ISO Member States.....	4

<https://standards.itech.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 12543-2 was prepared by Technical Committee ISO/TC 160, *Glass in building*, Subcommittee SC 1, *Product considerations*.

It is identical to EN 12543-2:1998, and incorporates the Amendment EN 12543-2:1998/Amd.1:2002.

ISO 12543 consists of the following parts, under the general title *Glass in building — Laminated glass and laminated safety glass*:

- *Part 1: Definitions and description of component parts*
- *Part 2: Laminated safety glass*
- *Part 3: Laminated glass*
- *Part 4: Test methods for durability*
- *Part 5: Dimensions and edge finishing*
- *Part 6: Appearance*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 12543-2:2004](https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004)

<https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>

Glass in building — Laminated glass and laminated safety glass —

Part 2: Laminated safety glass

1 Scope

This Standard specifies performance requirements for laminated safety glass as defined in EN ISO 12543-1.

2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN ISO 12543-1, *Glass in building — Laminated glass and laminated safety glass — Part 1: Definitions and description of component parts*

EN ISO 12543-4:1998, *Glass in building — Laminated glass and laminated safety glass — Part 4: Test methods for durability*

EN ISO 12543-5, *Glass in building — Laminated glass and laminated safety glass — Part 5: Dimensions and edge finishing*

EN ISO 12543-6, *Glass in building — Laminated glass and laminated safety glass — Part 6: Appearance*

prEN 12600, *Glass in building — Pendulum test — Impact test method for flat glass and performance requirements*

3 Impact resistance

Laminated safety glass is distinguished from laminated glass by a pendulum impact test and its requirements.

In the absence of an appropriate ISO standard for impact testing glass products then the following applies:

— In CEN member states, laminated safety glass shall be classified in accordance with prEN 12600.

In non-CEN ISO member states, laminated safety glass are classified in accordance with appropriate national standards, see annex A, or with prEN 12600.

NOTE Upon publication of an appropriate ISO standard for impact testing of glass products then laminated safety glass should be classified in accordance with that standard."

4 Durability of laminated safety glass and laminated safety glass with fire resistant properties

4.1 High temperature test

When tested in accordance with the method given in clause 4 of EN ISO 12543-4:1998 and evaluated according to 4.4 of EN ISO 12543-4:1998, no faults (bubbles, delamination, cloudiness) shall be found in three test specimens. If faults are found in only one test specimen, a further test may be carried out on three new test specimens, in which case no faults shall be found in any of these test specimens.

4.2 Humidity test

When tested in accordance with the method given in 5.3.1 of EN ISO 12543-4:1998 and evaluated according to 5.4 of EN ISO 12543-4:1998, no faults (bubbles, delamination, cloudiness) shall be found in three test specimens. If faults are found in only one test specimen, a further test may be carried out on three new test specimens, in which case no faults shall be found in any of these test specimens.

4.3 Radiation test

When tested in accordance with the method given in clause 6 of EN ISO 12543-4:1998 and evaluated according to 6.5 of EN ISO 12543-4:1998, the luminous transmittance of the three irradiated samples shall not change by more than $\pm 10\%$ of their value before exposure for initial light transmittances of $> 20\%$ or $\pm 2\%$ absolute value for initial light transmittances of $\leq 20\%$. When visually judged, no faults (bubbles, delamination, cloudiness) shall be found in three test specimens.

If one test specimen fails the requirements, then the test may be repeated with three new test specimens which shall all pass.

5 Durability of fire resistant laminated safety glass

5.1 Subgroup A

Glass which is normally not exposed to direct solar radiation i.e. for indoor use

5.1.1 Humidity test

When tested in accordance with the method given in 5.3.2 of EN ISO 12543-4:1998 and evaluated according to 5.4 of EN ISO 12543-4:1998 no delamination shall be found in the three test specimens. If delamination is found in only one test specimen, a further test may be carried out with three new test specimens, in which case no delamination shall be found in any of these test specimens.

5.2 Subgroup B

Glass which is normally exposed to direct solar radiation i.e. for outdoor use

5.2.1 Humidity test

When tested in accordance with the method given in 5.3.1 of EN ISO 12543-4:1998 and evaluated according to 5.4 of EN ISO 12543-4:1998 no delamination shall be found in three test specimens. If delamination is found in only one test specimen, a further test may be carried out on three new test specimens, in which case no delamination shall be found in any of these test specimens.

5.2.2 Radiation test

When tested in accordance with the method given in clause 6 of EN ISO 12543-4:1998 and evaluated according to 6.5 of EN ISO 12543-4:1998, the luminous transmittance of the three irradiated samples shall not change by more than $\pm 10\%$ of their value before exposure for initial light transmittances of $> 20\%$ or $\pm 2\%$ absolute value for initial light transmittances of $\leq 20\%$. When visually judged, no faults (bubbles, delamination, cloudiness) shall be found in three test specimens.

If one test specimen fails the requirements, then the test may be repeated with three new test specimens which shall all pass.

6 Component parts

The description of component parts of laminated safety glass shall be as given in EN ISO 12543-1.

7 Dimensions and edge finishing

The dimensions and edge finishing of laminated safety glass shall be as given in EN ISO 12543-5.

8 Appearance

The appearance of laminated safety glass shall be as given in EN ISO 12543-6.

9 Designation

Laminated safety glass in compliance with this standard shall be designated by

- type
- reference to this part of this standard
- nominal thickness in mm
- nominal width B and nominal length H in mm

Example:

Designation of fire resistant laminated safety glass, thickness 6,4 mm, width 2,0 m, length 1,50 m:

Fire resistant laminated safety glass EN ISO 12543-2 - 6,4 - 2000 × 1500

Annex A
(informative)

Examples of impact test methods suitable for classifying laminated safety glass in non-CEN ISO Member States

Examples of impact test methods suitable for classifying laminated safety glass in non-CEN ISO Member States

Australia/New Zealand	AS/NZS 2208
Canada	CAN/CGSB-12.1-M90
Japan	JIS R 3205
USA	CPSC 16 CFR 1201
Other	as appropriate

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO 12543-2:2004](https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004)
<https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

ISO 12543-2:2004

<https://standards.iteh.ai/catalog/standards/sist/23426908-1ef2-4c9f-a29a-bdbac42f83d/iso-12543-2-2004>