



SLOVENSKI STANDARD
SIST EN 17530:2022+A1:2025

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Železniške naprave - Notranja zasteklitev za železniška vozila (vključno z dopolnilom A1)

Railway applications - Interior glazing for rail vehicles

Bahnanwendungen - Innenverglasung für Schienenfahrzeuge

Applications ferroviaires - Vitrage intérieur pour véhicules ferroviaires

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Railway applications - Interior glazing for rail vehicles

Applications ferroviaires - Vitrage intérieur pour
véhicules ferroviairesBahnanwendungen - Innenverglasung für
Schienenfahrzeuge

This European Standard was approved by CEN on 27 March 2022 and includes Amendment 1 approved by CEN on 2 September 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EN 17530:2022+A1:2024 (E)

European foreword

This document (EN 17530:2022+A1:2024) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2025, and conflicting national standards shall be withdrawn at the latest by June 2025.

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

This document includes Amendment 1, approved by CEN on 2 September 2024.

This document supersedes A1 EN 17530:2022 A1.

The start and finish of text introduced or altered by amendment is indicated in the text by tags A1 A1.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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1 Scope

A1 This document specifies the functional, performance, and quality requirements for the interior glazing of rail vehicles including type testing, routine testing, and inspection methods for high speed rail, heavy rail, urban rail vehicles including metro and tram applications.

This document is also applicable for tram vehicles. **A1**

Determination of the size, shape, orientation and position of interior glazing is outside the scope of this document.

This document does not specify requirements for the interfaces between the interior glazing and the vehicle. Accordingly, this document does not address issues relating to installation and structural integrity.

This document does not apply to interior glazing with a surface less than 0,02 m² and also emergency device casings (e.g. cover sheets for emergency hammers, passenger alarm systems, etc).

A1 This document does not apply to materials other than glazing materials.

For safety reasons, where the use of a specific type of glazing is specified that is not covered by this document (e.g. bullet proof glazing, fire proof glazing, etc.), this document does not apply. **A1**

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

A1 EN 572-2:2012, *Glass in building - Basic soda lime silicate glass products - Part 2: Float glass*

EN 12150-1:2015+A1:2019, *Glass in building - Thermally toughened soda lime silicate safety glass - Part 1: Definition and description*

EN 15152, *Railway applications - Windscreens for trains*

EN 16584-1, *Railway applications - Design for PRM use - General requirements - Part 1: Contrast*

EN 45545-1, *Railway applications - Fire protection on railway vehicles - Part 1: General*

EN 45545-2, *Railway applications - Fire protection on railway vehicles - Part 2: Requirements for fire behavior of materials and components*

EN ISO 12543-5:2021, *Glass in building - Laminated glass and laminated safety glass - Part 5: Dimensions and edge finishing (ISO 12543-5:2021)*

ISO 3538, *Road vehicles — Safety glazing materials — Test methods for optical properties*

ISO 3917:2016, *Road vehicles — Safety glazing materials — Test methods for resistance to radiation, high temperature, humidity, fire and simulated weathering*

ISO 7892, *Vertical building elements — Impact resistance tests — Impact bodies and general test procedures* **A1**

EN 17530:2022+A1:2024 (E)**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 15152, EN 45545-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1**draught screen**

glazing used to separate passenger areas from vestibules and doorways

3.2**gangway area glazing**

glazing located at the articulated assembly allowing movement between rail vehicles

3.3**display**

hardware device or system that shows text and/or graphical information to the user

[SOURCE: EN 16186-3:2016+A1:2018, 3.8, modified – Note 1 to entry has been deleted]

3.4**banister infill panel**

glazing used to fill the space between the handrail and the stairs

3.5**balustrade**

infill glazing protecting the edge of a stair, landing or floor that may otherwise be open to passengers

3.6**mirror**

glazing material used for the purpose of reflecting images

3.7**monolithic glass**

single layer of glass that is constructed from material that has a consistent thickness throughout

3.8**laminated glass**

glazing material consisting of two or more layers of glass held together by one or more interlayers

[SOURCE: ISO 3536:2016, 2.3]

3.9**toughened glass**

glazing material consisting of a single layer of glass which has been subjected to special thermal or chemical treatment to increase its mechanical strength and to condition its fragmentation upon shattering

[SOURCE: ISO 3536:2016, 2.2, modified – “Safety” has been deleted and “after shatter” has been replaced by “upon shattering”]

3.10**technical specification**

document describing specific parameters and/or product requirements as an addition to the requirements of this document

[SOURCE EN 15551:2017, 3.16]

3.11**glazing**

transparent item used for the interior of railway vehicles constructed from glazing material

3.12**glazing material**

material that allows the transmission of light

3.13**partition screen**

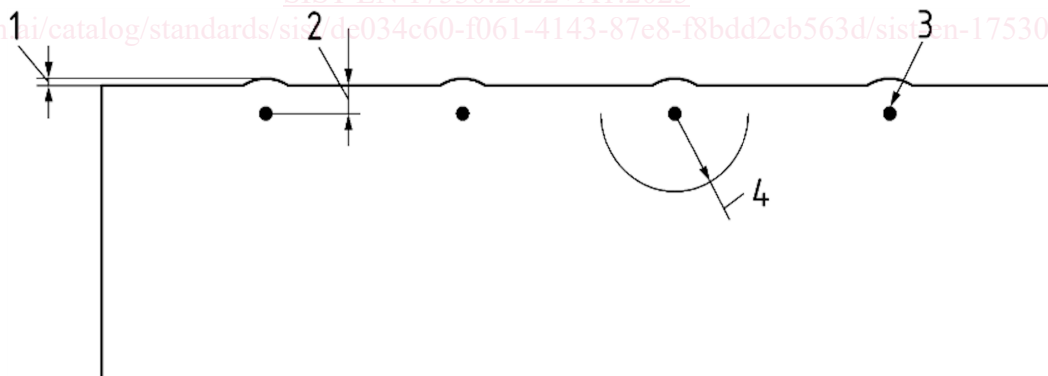
glazing used to separate or partition different areas A1

4 Dimensions and tolerances**4.1 Monolithic glass**

The nominal thicknesses and thickness tolerances for a single sheet of glass are those given in the relevant product standards (see EN 12150-1:2015+A1:2019, Clause 4). The thickness of a pane shall be determined as for the basic product.

The measurement shall be taken at the centres of the 4 sides, and away from the area of any tong marks (see Figure 1), which may be present.

The tolerance values applied to the width (B) and length (H) for monolithic glass are shown in Table 1.

**Key**

- 1 deformation
- 2 maximum of 20 mm
- 3 tong mark
- 4 100 mm radius maximum arc of optical distortion

Figure 1 — Tong marks

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Table 1 — Tolerances on width, B , and length, H

Nominal dimension of side, B or H (mm)	Tolerance (mm)	
	nominal glass thickness, ≤ 6	nominal glass thickness, > 6
$0 < B$ or $H \leq 500$	$\pm 1,5$	$\pm 2,0$
$500 < B$ or $H \leq 1\ 000$	$\pm 1,5$	$\pm 2,0$
$1\ 000 < B$ or $H \leq 1\ 500$	$\pm 2,0$	$\pm 2,5$
$1\ 500 < B$ or $H \leq 2\ 000$	$\pm 2,5$	$\pm 3,0$
$2\ 000 < B$ or $H \leq 3\ 000$	$\pm 3,0$	$\pm 4,0$
$> 3\ 000$	$\pm 4,0$	$\pm 5,0$

4.2 Laminated glass

[A1] Laminated glass shall comply with the requirements of offset d as defined in EN ISO 12543-5:2021, Clause 4. This is dependent on the thickness of each panel according to Table 1 of this document.

Each panel shall be compliant with the requirements of 4.1 of this document. **[A1]**

4.3 Flatness

Flatness for monolithic glass shall be according to EN 12150-1:2015+A1:2019, 6.3.

Flatness for laminated glass shall be defined in technical specification, otherwise bow shall be less than or equal to 2 mm/m.

5 Functional requirements

[A1] Deleted subclause **[A1]** og/standards/sist/de034c60-f061-4143-87e8-f8bdd2cb563d/sist-en-17530-2022a1-2025

5.1 Interior glazing test requirements

5.1.1 General

NOTE A summary of tests is given in Annex C.

5.1.2 Type tests

The interior glazing design shall be validated by satisfactory completion of the assessments and tests for:

- dimensions (see Clause 4);
- appearance (see 6.1);
- optical distortion, if required in the technical specification (see 6.2.1);
- transmittance, if required in the technical specification (see 6.2.2);
- hard object impact (see 7.1.1);
- soft body test, if required in the technical specification (see 7.1.2);