



**NSAI**  
Standards

Irish Standard  
I.S. EN 12150-1:2015

# Glass in building - Thermally toughened soda lime silicate safety glass - Part 1: Definition and description

**I.S. EN 12150-1:2015**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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*This document is based on:*

EN 12150-1:2015

*Published:*

2015-09-23

*This document was published under the authority of the NSAI and comes into effect on:*

2015-10-12

ICS number:

81.040.20

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

I.S. EN 12150-1:2015 is the adopted Irish version of the European Document EN 12150-1:2015, Glass in building - Thermally toughened soda lime silicate safety glass - Part 1: Definition and description

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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EUROPEAN STANDARD

EN 12150-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2015

ICS 81.040.20

Supersedes EN 12150-1:2000

English Version

## Glass in building - Thermally toughened soda lime silicate safety glass - Part 1: Definition and description

Verre dans la construction - Verre de silicate sodocalcique de sécurité trempé thermiquement - Partie 1: Définition et description

Glas im Bauwesen - Thermisch vorgespanntes Kalknatron-Einscheiben-Sicherheitsglas - Teil 1: Definition und Beschreibung

This European Standard was approved by CEN on 8 August 2015.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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**EN 12150-1:2015 (E)****European foreword**

This document (EN 12150-1:2015) has been prepared by Technical Committee CEN/TC 129 “Glass in building”, the secretariat of which is held by NBN.

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 March 2016, and conflicting national standards shall be withdrawn at the latest by March 2016.

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

This document supersedes EN 12150-1:2000.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

EN 12150, *Glass in building — Thermally toughened soda lime silicate safety glass*, consists of the following parts:

- *Part 1: Definitions and description;*
- *Part 2: Evaluation of conformity/Product standard.*

This European Standard differs from EN 12150-1:2000 as follows:

- a) some figures have been revised and some new figures have been added;
- b) new terms and definitions have been included in Clause 3, e.g. air cushion process (3.6), edge lift (3.9) and roller wave distortion (3.13);
- c) further nominal thicknesses have been included in Table 1;
- d) Subclause 6.2.3 “Tolerances and squareness” has been completely revised; the squareness of rectangular glass panes is now expressed by the difference between its diagonals;
- e) Clauses 6 and 7 have been completely revised (including the air cushion manufacturing process);
- f) the normative annex “Determination of U value” has been deleted;
- g) a new informative annex dealing with an alternative method for the measurement of roller wave distortion has been added.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



## **Introduction**

Thermally toughened soda lime silicate safety glass has a safer breakage behaviour when compared with annealed glass. When it should be used to offer protection under accidental human impact, thermally toughened soda lime silicate safety glass also should be classified according to EN 12600.

NOTE CEN/TC 129/WG 8 is producing standards for the determination of the design strength of glass and is preparing a design method.

## EN 12150-1:2015 (E)

### 1 Scope

This European Standard specifies tolerances, flatness, edgework, fragmentation and physical and mechanical characteristics of monolithic flat thermally toughened soda lime silicate safety glass for use in buildings.

Information on curved thermally toughened soda lime silicate safety glass is given in Annex A, but this product does not form part of this European Standard.

Other requirements, not specified in this European Standard, can apply to thermally toughened soda lime silicate safety glass which is incorporated into assemblies, e.g. laminated glass or insulating glass units, or undergo an additional treatment, e.g. coating. The additional requirements are specified in the appropriate glass product standard. Thermally toughened soda lime silicate safety glass, in this case, does not lose its bending strength characteristics and its resistance to temperature differentials.

Surface finished glasses (e.g. sandblasted, acid etched) after toughening are not covered by this European Standard.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 572-1, *Glass in building — Basic soda lime silicate glass products — Part 1: Definitions and general physical and mechanical properties*

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

EN 572-4, *Glass in building — Basic soda lime silicate glass products — Part 4: Drawn sheet glass*

EN 572-5, *Glass in building — Basic soda lime silicate glass products — Part 5: Patterned glass*

EN 572-8, *Glass in building — Basic soda lime silicate glass products — Part 8: Supplied and final cut sizes*

EN 1096-1, *Glass in building — Coated glass - Part 1: Definitions and classification*

EN 1288-3, *Glass in building — Determination of the bending strength of glass — Part 3: Test with specimen supported at two points (four point bending)*

EN 14428, *Shower enclosures — Functional requirements and test methods*

### 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

#### 3.1

##### **thermally toughened soda lime silicate safety glass**

##### **thermally toughened safety glass**

glass within which a permanent surface compressive stress, additionally to the basic mechanical strength, has been induced by a controlled heating and cooling process in order to give it greatly increased resistance to mechanical and thermal stress and prescribed fragmentation characteristics

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