



NSAI
Standards

Irish Standard
I.S. EN 14179-1:2016

Glass in building - Heat soaked thermally toughened soda lime silicate safety glass - Part 1: Definition and description

I.S. EN 14179-1:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 14179-1:2016 is the adopted Irish version of the European Document EN 14179-1:2016, Glass in building - Heat soaked thermally toughened soda lime silicate safety glass - Part 1: Definition and description

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EUROPEAN STANDARD

EN 14179-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 81.040.20

Supersedes EN 14179-1:2005

English Version

Glass in building - Heat soaked thermally toughened soda lime silicate safety glass - Part 1: Definition and description

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

Glas im Bauwesen - Heißgelagertes thermisch vorgespanntes Kalknatron-Einscheibensicherheitsglas - Teil 1: Definition und Beschreibung

This European Standard was approved by CEN on 12 May 2016.

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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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Contents

Page

European foreword.....	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Glass products	8
5 Manufacturing processes	8
5.1 General.....	8
5.2 Toughening process	9
5.3 Heat soak process cycle	9
6 Heat soak process system	10
6.1 General.....	10
6.2 Oven	10
6.3 Glass support.....	10
6.4 Glass separation	10
6.5 Calibration.....	11
7 Fracture characteristics.....	12
8 Dimensions and tolerances	12
8.1 Nominal thickness and thickness tolerances.....	12
8.2 Width and length (sizes).....	13
8.3 Flatness.....	15
9 Edge and / or surface work, holes, notches and cut-outs	23
9.1 Warning.....	23
9.2 Edge working of glass for toughening.....	23
9.3 Profiled edges.....	24
9.4 Round holes.....	24
9.5 Holes / others	27
9.6 Notches and cut-outs.....	27
9.7 Shaped panes	27
10 Fragmentation test	27
10.1 General.....	27
10.2 Dimensions and number of test specimens.....	27
10.3 Test procedure	27
10.4 Assessment of fragmentation	28
10.5 Minimum values from the particle count.....	29
10.6 Selection of the longest particle.....	30
10.7 Maximum length of longest particle.....	30
11 Other physical characteristics.....	30
11.1 Optical distortion	30
11.2 Anisotropy (iridescence).....	30
11.3 Thermal durability	30

11.4	Mechanical strength	31
11.5	Classification of performance under accidental human impact.....	31
12	Marking	31
Annex A (normative)	Heat soak process system calibration test.....	32
A.1	Calibration criteria.....	32
A.2	Loading of oven and position for glass surface temperature measurement	32
A.3	Procedure	33
A.4	Records.....	33
A.5	Interpretation of the calibration test	34
Annex B (informative)	Alternative method for the measurement of roller wave distortion	39
B.1	Apparatus	39
B.2	Method.....	39
B.3	Limitations	40
B.4	Alternative use of apparatus	40
Annex C (informative)	Examples of particle count	41
Bibliography	43

EN 14179-1:2016 (E)**European foreword**

This document (EN 14179-1:2016) 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 January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

This document supersedes EN 14179-1:2005.

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

EN 14179, *Glass in building — Heat soaked thermally toughened soda lime silicate safety glass*, is composed of the following parts:

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

This European Standard differs from EN 14179-1:2005 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 (3.7), edge lift (3.10) and roller wave distortion (3.14) further nominal thicknesses have been included in Table 1;
- c) the glass temperature during the holding time of the heat soak process cycle has been reduced,
- d) subclause 8.2.3 “Tolerances and squareness” has been completely revised; the squareness of rectangular glass panes is now expressed by the difference between its diagonals;
- e) Clauses 8 and 9 have been completely revised (including the air cushion manufacturing process);
- f) the informative Annex “Curved heat soaked thermally toughened soda lime silicate safety glass” 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 organisations 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

Heat soaked thermally toughened soda lime silicate safety glass has a safer breakage behaviour when compared with annealed glass. It also has a known level of residual risk of spontaneous breakage arising from the possible presence of critical nickel sulphide (NiS) inclusions in the heat soaked thermally toughened soda lime silicate glass.

NOTE 1 This case deals with extremely large quantities of glass. These quantities are dealt with on a statistical basis. Therefore, it is impossible to select a quantity of heat soaked thermally toughened soda lime silicate safety glass, for a building, and claim that 'no break' by NiS inclusion can occur. The breakage of heat soaked thermally toughened soda lime silicate safety glass caused by other influences is not considered in this European Standard.

When used to offer protection under accidental human impact, heat soaked thermally toughened soda lime silicate safety glass also should be classified according to EN 12600.

NOTE 2 CEN/TC 129/WG 8 is producing standards for the determination of the design strength of glass and is preparing a design method.

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning heat soak tests.

CEN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has ensured CEN that he / she is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CEN. Information may be obtained from:

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Les Miroirs – 92096 La Défense Cedex,

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EN 14179-1:2016 (E)

1 Scope

This European Standard specifies the heat soak process system together with tolerances, flatness, edgework, fragmentation and physical and mechanical characteristics of monolithic flat heat soaked thermally toughened soda lime silicate safety glass for use in buildings.

Curved heat soaked thermally toughened soda lime silicate safety glass is not part of this European Standard.

Other requirements, not specified in this European Standard, can apply to heat soaked thermally toughened soda lime silicate safety glass which is incorporated into assemblies, e.g. laminated glass or insulating units, or undergo an additional treatment, e.g. coating. The additional requirements are specified in the appropriate product standard. Heat soaked 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)*

3 Terms and definitions

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

3.1
heat soaked thermally toughened soda lime silicate 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 and which has a known level of residual risk of spontaneous breakage due to the presence of critical nickel sulphide (NiS) inclusions

Note 1 to entry: The mechanical properties, i.e. thermal durability and mechanical strength, and safety properties, i.e. fragmentation characteristics, are generated by the level of surface compression. These properties are not size dependent.

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