

Glass in building - Heat strengthened soda lime silicate glass - Part 1: Definition and description

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English Version

Glass in building - Heat strengthened soda lime silicate glass - Part 1: Definition and description

Verre dans la construction - Verre de silicate sodo-calciue
durci thermiquement - Partie 1: Définition et description

Glas im Bauwesen - Teilvorgespanntes Kalknatronglas -
Teil 1: Definition und Beschreibung

This European Standard was approved by CEN on 25 September 2011.

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Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	6
4 Glass products.....	7
5 Fracture characteristics	8
6 Dimensions and tolerances	8
6.1 Nominal thickness and thickness tolerances	8
6.2 Width and length (sizes)	9
6.2.1 General.....	9
6.2.2 Maximum and minimum sizes	9
6.2.3 Tolerances and squareness	9
6.2.4 Edge deformation produced by the vertical process.....	10
6.3 Flatness	10
6.3.1 General.....	10
6.3.2 Measurement of overall bow	13
6.3.3 Measurement of roller wave	14
6.3.4 Measurement of edge lift (for horizontally heat strengthened glass only).....	15
6.3.5 Measurement of local distortion (for vertically heat strengthened glass only)	16
6.3.6 Limitation on overall bow, roller waves and edge lift for horizontally heat strengthened glass.....	17
6.3.7 Limitation on overall bow and local distortion for vertically heat strengthened glass.....	18
6.3.8 Other distortions.....	18
7 Edge and/or surface work, holes, notches and cut-outs.....	18
7.1 Warning.....	18
7.2 Edge working of glass for toughening	18
7.3 Profiled edges	19
7.4 Round holes	19
7.4.1 General.....	19
7.4.2 Diameter of holes.....	20
7.4.3 Limitations on position of holes	20
7.4.4 Tolerances on hole diameters	21
7.4.5 Tolerances on position of holes.....	21
7.5 Holes/others	22
7.6 Notches and cut-outs	22
7.7 Shaped panes.....	23
8 Fragmentation test.....	23
8.1 General.....	23
8.2 Dimensions and number of test specimens	23
8.3 Test procedure	23
8.4 Assessment of fragmentation	24
8.5 Evaluation of fragmentation	26
9 Other physical characteristics	26
9.1 Optical distortion	26
9.1.1 Heat strengthened soda lime silicate glass produced by vertical toughening.....	26
9.1.2 Heat strengthened soda lime silicate glass produced by horizontal toughening	27

9.2	Anisotropy (iridescence)	27
9.3	Thermal durability	27
9.4	Mechanical strength	27
10	Marking	28
Annex A	(informative) Alternative method for the measurement of roller wave distortion	29
A.1	Apparatus	29
A.2	Method	29
A.3	Limitations	30
A.4	Alternative use of apparatus	30

Foreword

This document (EN 1863-1:2011) 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 May 2012, and conflicting national standards shall be withdrawn at the latest by May 2012.

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 1863-1:2000.

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

EN 1863 is divided into the following parts:

- EN 1863-1, *Glass in building — Heat strengthened soda lime silicate glass — Part 1: Definition and description*;
- EN 1863-2, *Glass in building — Heat strengthened soda lime silicate glass — Part 2: Evaluation of conformity/Product standard*.

This European Standard differs from EN 1863-1:2000 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. edge deformation (3.2), local distortion (3.8) and overall bow (3.9);
- 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;
- f) the previous Clauses 9 and 10 have been revised and have been combined in a new Clause 9 "Other physical characteristics";
- g) the normative Annex "Determination of U value" has been deleted;
- h) 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Heat strengthened soda lime silicate glass has a higher resistance to thermal stress and an enhanced mechanical strength when compared to annealed glass.

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

1 Scope

This European Standard specifies tolerances, flatness, edgework, fragmentation and physical and mechanical characteristics of monolithic flat heat strengthened soda lime silicate glass of nominal thicknesses from 3 mm to 12 mm for use in buildings.

Other requirements, not specified in this standard, can apply to heat strengthened soda lime silicate 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 product standard. Heat strengthened soda lime silicate glass, in this case, does not lose its mechanical or thermal characteristics.

This European Standard does not cover glass sandblasted after toughening.

2 Normative references

The following referenced documents are indispensable for the application 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.

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
curved heat strengthened soda lime silicate glass
heat strengthened soda lime silicate glass which has been deliberately given a specific profile during manufacture

3.2
edge deformation
deformation of the edge because of the tong marks

3.3
edge lift (also referred to as edge dip)
distortion produced in horizontal heat strengthened glass, at the leading and trailing edge of the plate

NOTE This is a distortion produced by a reduction in surface flatness.