BS EN 572-3:2012

BSI Standards Publication

# Glass in building — Basic soda lime silicate glass products

## Part 3: Polished wired glass

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**National foreword**

This British Standard is the UK implementation of EN 572-3:2012. It supersedes BS EN 572-3:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/520/1, Basic and transformed glass products.

A list of organizations represented on this committee can be obtained on request to its secretary.

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



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**EN 572-3**

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ICS 81.040.20

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English Version

# Glass in building - Basic soda lime silicate glass products - Part 3: Polished wired glass

Verre dans la construction - Produit de base: verre de silicate sodo-calcique - Partie 3: Verre armé poli

Glas im Bauwesen - Basiserzeugnisse aus Kalk-Natronsilicatglas - Teil 3: Poliertes Drahtglas

This European Standard was approved by CEN on 11 May 2012.

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



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# Foreword

This document (EN 572-3:2012) 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of an identical text or by endorsement, at the latest by January 2013, and conflicting national standards shall be withdrawn at the latest by January 2013.

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 572-3:2004.

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

This edition is a revision of EN 572-3:2004. The main change in this edition is a new method of determination of squareness.

This European Standard “*Glass in building — Basic soda lime silicate glass products*” consists of the following parts:

— Part 1: Definitions and general physical and mechanical properties;

— Part 2: Float glass;

— Part 3: Polished wired glass;

— Part 4: Drawn sheet glass;

— Part 5: Patterned glass;

— Part 6: Wired patterned glass;

— Part 7: Wired or unwired channel shaped glass;

— Part 8: Supplied and final cut sizes;

— Part 9: Evaluation of conformity/Product standard.

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## 1 Scope

This European Standard specifies dimensional and minimum quality requirements (in respect of optical, visual and wire faults) for polished wired glass, as defined in EN 572-1:2012, for use in building.

This European Standard applies only to polished wired glass supplied in rectangular panes and in stock sizes.

EN 572-8 gives information on polished wired glass in sizes other than those covered by this European Standard.

## 2 Normative references

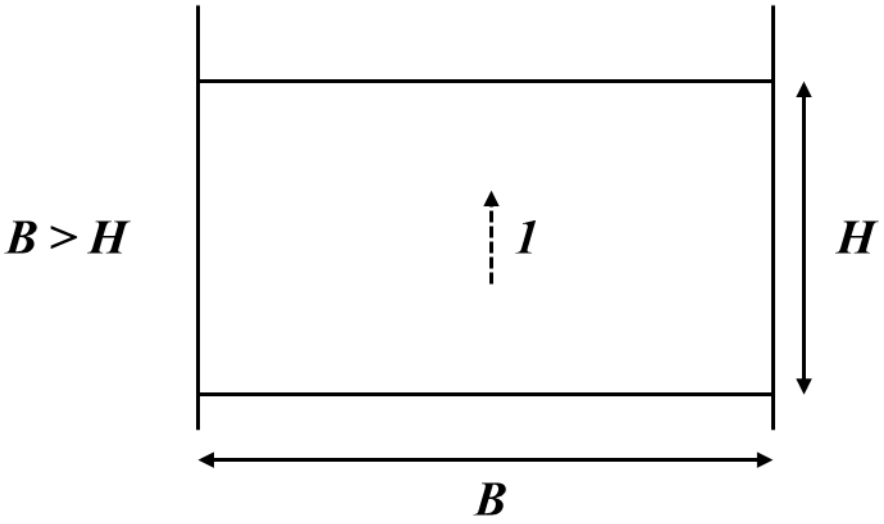
The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 572-1:2012, *Glass in building — Basic soda lime silicate glass products — Part 1: Definitions and general physical and mechanical properties*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 572-1:2012 and the following apply.

**3.1**
**length, $H$, and width, $B$**
defined with reference to the direction of draw of the glass ribbon as shown in Figure 1




**Key**
1 direction of draw

**Figure 1 — Relationship between length, width and direction of draw**

**3.2**
**stock sizes**
glass delivered in the following sizes:

– nominal length $H$: 1 650 mm to 3 820 mm;

– nominal width $B$: 1 980 mm to 2 540 mm

**3.3**
**optical fault**
fault which leads to distortions in the appearance of objects observed through the glass

**3.4**
**visual fault**
fault which alters the visual quality of the glass

Note 1 to entry: Visual faults include spot faults, linear/extended faults and wire faults.

**3.5**
**spherical or quasi-spherical spot fault**
spot fault whose larger dimension is less than or equal to twice the smaller dimension

**3.6**
**elongated spot fault**
spot fault whose larger dimension is more than twice the smaller dimension

**3.7**
**linear/extended fault**
fault which can be on or in the glass, in the form of deposits, marks or scratches which occupy any extended length or area

**3.8**
**wire fault**
deviation of the wire resulting in penetration of the glass surface by the wire or break in the wire in the body of the glass

**3.9**
**deviation of the wire**
deviation, $y$, of the wire in relation to a reference, e.g. line or straight edge

# 4 Dimensional requirements

## 4.1 Thickness

### 4.1.1 General

The actual thickness shall be the average of four measurements, taken to the nearest 0,01 mm, one taken at the centre of each side. Measurement shall be by means of an instrument of the calliper micrometer type.

### 4.1.2 Tolerances

The actual thickness, rounded to the nearest 0,1 mm shall not vary from the nominal thickness by more than the limits shown in Table 1.

**Table 1 — Thickness tolerances**

Dimensions in millimetres

| Nominal thickness | Limiting values | |
|---|---|---|
| | Minimum | Maximum |
| 7 | 6,2 | 7,4 |
| 10 | 9,1 | 10,9 |

### 4.2 Length, width and squareness

The tolerances, $t$, on the nominal dimensions length, $H$, and width, $B$, are ± 4 mm.

The limits of squareness are described by the difference between diagonals. Such limits are given in Table 2.

**Table 2 — Limit on the difference between diagonals**

Dimensions in millimetres

| Nominal glass thickness, $d$ | Limit on the difference between diagonals | | |
|---|---|---|---|
| | Stock sizes — Splits | | |
| | $(H, B) \leq 1\,500$ | $1\,500 < (H, B) \leq 3\,000$ | $(H, B) > 3\,000$ |
| 7 and 10 | 3 | 4 | 5 |

### 4.3 Wire mesh

This is a square steel mesh welded at all intersections and of approximate dimensions 12,5 mm, manufactured from wire of diameter ≥ 0,42 mm.

## 5 Quality requirements

### 5.1 General

One quality level is considered in this European Standard. This is determined by evaluation of the optical and visual faults.

Many spot faults are associated with the wire, due to the incorporation of the wire into the glass. Spot faults can thus be distinguished by their relationship with the wire:

— distance from the wire > 2 mm;

— distance from the wire ≤ 2 mm, or in contact with the wire.

There are three different types of deviation of the wire considered, which may occur simultaneously. They are shown in Figure 2 and are classified as:

a) out of square;

b) waviness;

c) bow.

## 5.2 Methods of observation and measurement

### 5.2.1 Optical faults

The glass pane to be examined is placed 1 m from a bank of strip lights. The observer stands 2 m away from the glass pane.

The strip lights are viewed through the glass and any disturbing distortions within the glass pane noted.

### 5.2.2 Visual faults

#### 5.2.2.1 Spot faults

Measure the dimensions of these faults with a micrometer with graduations in tenths of a millimetre. Note the number, dimensions and concentration of the spot faults together with their relationship to the wire.

#### 5.2.2.2 Linear/extended faults

The glass pane to be examined is illuminated in conditions approximating to diffuse daylight and is observed in front of a matt black screen (reflection coefficient between 0,2 and 0,4).

Place the pane of glass to be examined vertically in front of the screen and parallel to it. Arrange the point of observation 2 m from the glass, keeping the direction of observation normal to the glass surface. View the pane of glass, and note the presence of visually disturbing faults.

#### 5.2.2.3 Wire faults

A reference, e.g. line or straight edge, is placed parallel to the direction of the wires. The deviation, $y$, of the wire in relation to this reference edge is measured (see Figure 2).

Any penetration of the glass surface by the wire is noted.

Any breaks in the wire are noted.

## 5.3 Acceptance levels

### 5.3.1 Optical faults

The observer should not see any disturbing distortions within the glass pane.

### 5.3.2 Visual faults

#### 5.3.2.1 Spot faults

Spot faults are categorised and found to be acceptable or not acceptable as follows:

a) Spherical and quasi-spherical spot faults situated in contact with the wire or ≤ 2 mm from the wire:

   1) if the larger dimension is ≤ 2,0 mm, they are acceptable without restriction;

   2) if the larger dimension is > 2,0 mm and ≤ 4,0 mm, they are acceptable up to 0,5 per m²;

   3) they are not acceptable if the larger dimension is > 4,0 mm.

b) Spherical or quasi-spherical spot faults situated > 2,0 mm from the wire:

1) if the larger dimension is ≤ 1,0 mm, they are acceptable without restriction.

2) if the larger dimension is > 1,0 mm and ≤ 4,0 mm, they are acceptable up to 0,5 per m².

3) they are not acceptable if the larger dimension is > 4,0 mm.

c) Elongated spot faults of width ≤ 1,0 mm:

1) if their length is ≤ 1,0 mm, they are acceptable without restriction;

2) if their length is > 1,0 mm, and ≤ 5,0 mm, they are acceptable if their number is ≤ 10 per m²;

3) if their length is > 5,0 mm and ≤ 10,0 mm, they are acceptable if their number is ≤ 3 per m²;

4) if their length is > 10,0 mm and ≤ 15,0 mm, they are acceptable if their number is ≤ 2 per m²;

5) they are not acceptable if their length is > 15,0 mm.

d) Elongated spot faults of width > 1,0 mm:

1) if the larger dimension is ≤ 4,0 mm, they are acceptable up to 0,5 per m²;

2) they are not acceptable if the larger dimension is > 4,0 mm.

#### 5.3.2.2 Linear/extended faults

The allowable number of faults is an average of 0,05 faults in every 20 m² of glass, related to at least 20 tonnes.

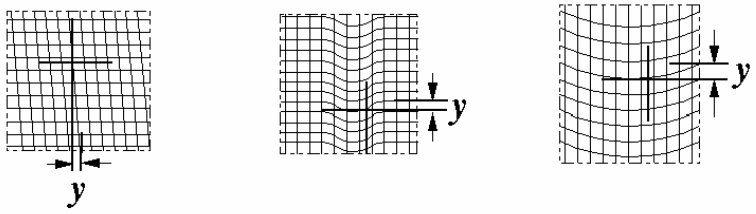
#### 5.3.2.3 Wire faults

The deviation, $y$, (see Figure 2) shall not exceed 15 mm per metre.

NOTE 1 The deformation of the wires of each square of the mesh is not considered.

No penetration of the surface is acceptable.

Breaks in the wire are not acceptable.




**a) Out of square** **b) Waviness** **c) Bow**

NOTE 2 The scale of these drawings has been exaggerated in order to be explicit about the types of deviation.

**Figure 2 — Representations of the types of wire deviations**

## 6 Designation

Polished wired glass in compliance with this European Standard shall be designated respectively by:

— type,

— reference to this European Standard,

— nominal thickness, in mm,

— nominal length, $H$, and width, $B$, in mm,

— reference to this European Standard.

EXAMPLE Polished wired glass, thickness 6 mm, length 3,30 m, width 1,98 m intended for use in buildings, is designated as follows:

Polished wired glass - EN 572-3 - 6 mm, 3 300 mm $\times$ 1 980 mm

# Bibliography

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

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