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**Steklo v stavbah – Stekljeni zidaki in stekleni tlakovci – 1. del: Definicije in opis**

Glass in building - Glass blocks and glass pavers - Part 1: Definitions and description

Glas in Bauwesen - Glassteine und Betongläser - Teil 1: Begriffe und Beschreibung

Verre dans la construction - Briques de verre et dalles de verre - Partie 1: Définitions et descriptions

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**ICS:**

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EUROPEAN STANDARD  
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**EN 1051-1**

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## Glass in building - Glass blocks and glass pavers - Part 1: Definitions and description

Glas in Bauwesen - Glassteine und Betongläser - Teil 1:  
Begriffe und Beschreibung

This European Standard was approved by CEN on 21 November 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This document (EN 1051-1:2003) has been prepared by Technical Committee CEN/TC 129 "Glass in building", the secretariat of which is held by IBN.

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of an identical text or by endorsement, at the latest by July 2003, and conflicting national standards shall be withdrawn at the latest by July 2003.

Annexes A and B are normative. Annex C is informative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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**EN 1051-1:2003 (E)****Introduction**

Glass blocks are used for the construction of building elements such as non-load bearing walls. In these applications they are required to only support their own weight, parallel to the visible faces, and horizontal loads generated by wind and impacts, perpendicular to the visible faces.

Glass pavers are used for the production of reinforced concrete panels incorporating glass panels. These panels are used in horizontal applications and may be capable of taking vehicular traffic. They can be regarded as a non-structural component; i.e. they carry their own weight and any imposed load perpendicular to the visible areas.

**1 Scope**

This European Standard specifies form/shape, dimensional tolerances and the material characteristics of glass blocks and glass pavers for use in buildings.

**2 Normative references**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to apply (including amendments).

EN 196-1:1994, *Methods of testing cement - Part 1: Determination of strength*. [SIST EN 1051-1:2004](#)  
[4ad4-ae83-ebd3eff2924a/sist-en-1051-1-2004](#)

EN 197-1, *Cement - Part 1: Composition, specifications and conformity criteria for common cements*.

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

EN ISO 7500-1, *Metallic materials - Verification of static uniaxial testing machines - Part 1: Tension/compression testing machines (ISO 7500-1:1999)*.

ISO 48, *Rubber, vulcanized or thermoplastic - Determination of hardness (hardness between 10 IRHD and 100 IRHD)*.

**3 Terms and definitions**

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

**3.1 glass blocks**

moulded airtight, hollow glass bodies for use in vertical applications, e.g. walls

NOTE Glass blocks are usually manufactured by fusing or bonding together two or more units under applied pressure to form an airtight seal.

### 3.2 glass pavers

moulded glass bodies, either solid or hollow, for use in non-vertical applications, e.g. floors

NOTE Glass pavers can be produced as a single piece, or by fusing or bonding together two or more units to form an airtight seal.

### 3.3 visual faults

faults that alter the visual quality of the glass. They include spot faults, opaque inclusions and linear/extended faults

### 3.4 spot faults

transparent/translucent faults, e.g. bubbles, etc., that are in the glass

### 3.5 opaque inclusions

opaque bodies, e.g. refractory, frit, etc., which are either in the glass or on the surface

### 3.6 linear/extended faults

these faults can be on or in the glass, in the form of deposits, marks or scratches that occupy an extended length or area

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## 4 Material

### 4.1 Glass composition

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Glass blocks and glass pavers shall be manufactured from soda lime silicate glass conforming to EN 572-1.

### 4.2 Edge treatment

Edge coating(s), when applied, shall be compatible with and bonded to the glass blocks and glass pavers.

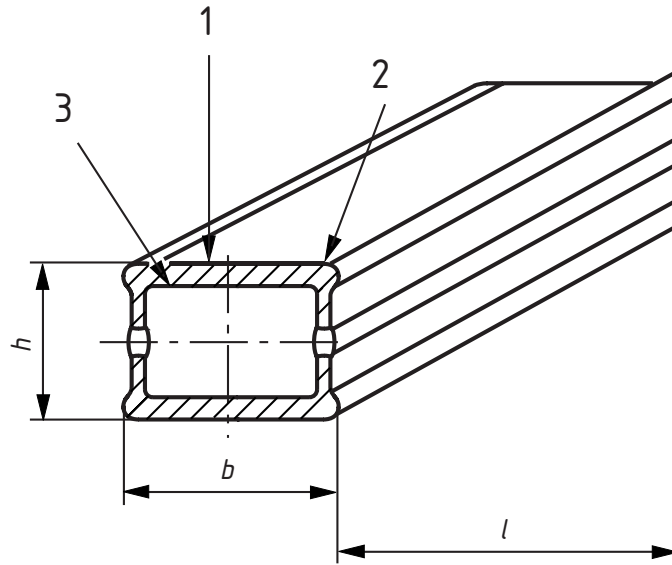
## 5 Dimensional requirements

### 5.1 General

Glass blocks and glass pavers are specified by their form/shape, dimensions and mass (rather than thickness).

### 5.2 Available forms/shapes

Glass blocks and glass pavers are manufactured in square, rectangular and circular forms/shapes. Examples of the available forms/shapes are shown for glass blocks in Figure 1 and for glass pavers in Figure 2.



**Key**

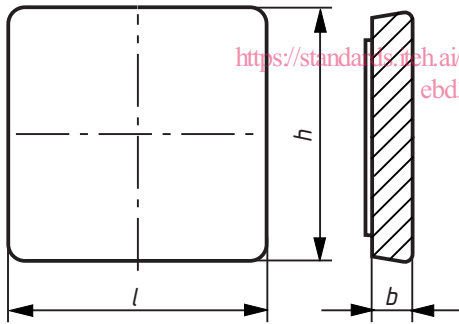
- 1 External face
- 2 Edge profile
- 3 Internal face

**Figure 1 — Glass blocks (examples)**

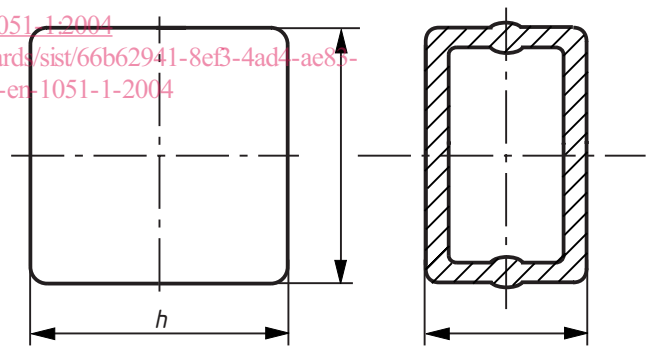
Form A : square, solid

Form B : square, hollow

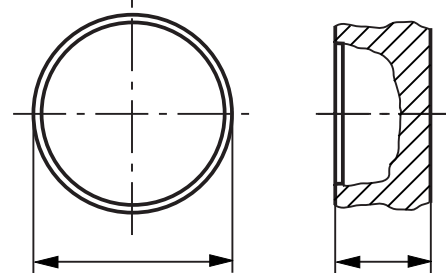
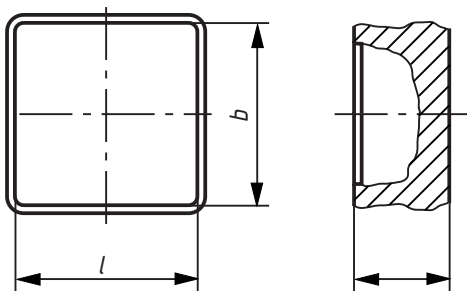
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Form C : square, open and rectangular



Form D : circular



**Figure 2 — Glass pavers (examples)**



### 5.3 Dimensions

The dimensions of the most commonly available forms/shapes of glass blocks and glass pavers are given in annex C.

#### 5.3.1 Tolerances on dimensions

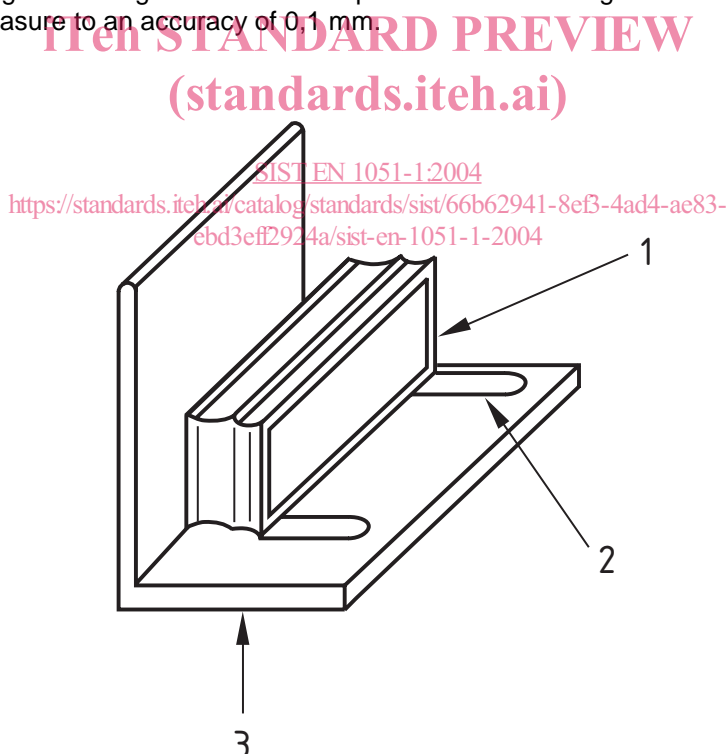
**5.3.1.1** Measure the dimensions, of the specimens, using a sliding calliper or another measuring device with an accuracy of not less than 0,1 mm. The following dimensions shall be measured:

- for square and rectangular faced glass blocks and glass pavers, measure the length (l) and width (b) of the faces and the height (h) at the four corners;
- for circular faced glass pavers, measure the diameter (d) of the faces in two perpendicular directions and measure the height (h) at the edge.

**5.3.1.2** Measure the squareness of the corners of square and rectangular faced glass blocks and glass pavers to an accuracy of 1°.

**5.3.1.3** Measure depressions and bulges on the visible surfaces of samples with an upright steel rule and a tapered ruler, or another device, to an accuracy of 0,1 mm.

**5.3.1.4** Measure glass blocks, of forms B and E, and glass pavers, of form B, that are made from pressed parts fused or bonded together using a measurement plate as shown in Figure 3 or with measuring devices of at least equal accuracy. Measure to an accuracy of 0,1 mm.



#### Key

- 1 Glass block
- 2 Tapered wedge
- 3 Measurement plate

**Figure 3 — Method of measuring form B and E glass blocks and glass pavers**