

# INTERNATIONAL STANDARD

**ISO**  
**9652-5**

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## **Masonry —**

### **Part 5: Vocabulary**

*Maçonnerie —*

*Partie 5: Vocabulaire*

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO 9652 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 9652-5 was prepared by Technical Committee ISO/TC 179, *Masonry*, Subcommittee SC 3, *Test methods*.

ISO 9652 consists of the following parts, under the general title *Masonry*:

- *Part 1: Unreinforced masonry design by calculation*
- *Part 2: Unreinforced masonry design by simple rules*
- *Part 3: Reinforced masonry design by calculation*
- *Part 4: Test methods*
- *Part 5: Vocabulary*

# Masonry —

## Part 5: Vocabulary

### 1 Scope

This part of ISO 9652 defines terms used in the structural design of unreinforced masonry.

This part of ISO 9652 is applicable to masonry in general, except for the following aspects of masonry design:

- a) seismic design;
- b) resistance to fire (see ISO/IEC Guide 52);
- c) thermal insulation (see ISO 7345);
- d) sound insulation.

NOTE It is assumed that the design of masonry is entrusted to structural or civil engineers or other appropriately qualified persons for whose guidance this International Standard was prepared.

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### 2 Normative reference

The following normative document contains provisions which, through reference in this text, constitute provisions of this part of ISO 9652. For a dated reference, subsequent amendments to, or revisions of, the publications do not apply. However, parties to agreements based on this part of ISO 9652 are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. For an undated reference, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 9652-1:—<sup>1)</sup>, *Masonry — Part 1: Unreinforced masonry design by calculation.*

### 3 Units

#### 3.1

##### **masonry unit**

prefabricated component, intended for use in bonded masonry construction

SEE 9.1 of ISO 9652-1:—<sup>1)</sup>

NOTE In the following terms and definitions, the term “masonry unit” is for simplicity referred to as “unit”.

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1) To be published.

## 3.2 Unit types according to material

### 3.2.1

#### **calcium silicate unit**

unit formed from a mixture of lime and predominantly siliceous materials, shaped by pressing and combined by the action of steam under pressure

### 3.2.2

#### **clay unit**

unit formed predominantly from clay, loam, brickearth or shale, subsequently fired to a temperature sufficiently high to produce an adequate ceramic bond

### 3.2.3 Concrete units

#### 3.2.3.1

##### **autoclaved aerated concrete unit**

unit formed from a mixture of fine siliceous aggregate, hydraulic binder, other materials and an aeration agent, then autoclaved after rising and cutting

#### 3.2.3.2

##### **dense-aggregate concrete unit**

unit formed from a mixture of normal-density aggregate, hydraulic binder and other materials, moulded under pressure and/or vibration

#### 3.2.3.3

##### **lightweight-aggregate concrete unit**

unit formed from a mixture of low-density inorganic principal aggregate, hydraulic binder and other materials, moulded under pressure and or vibration

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### 3.2.4 Stone units

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#### 3.2.4.1

##### **dressed stone unit**

unit formed from natural stone by cutting or cleaving to a regular rectangular shape

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#### 3.2.4.2

##### **manufactured stone unit**

unit formed from aggregate and cementitious binder; intended to resemble, and to be used for similar purposes to that of, natural stone

## 3.3 Grouping of units according to their percentage and direction of holes as laid in the wall

### 3.3.1

#### **group 1 unit<sup>2)</sup>**

units without, or with less than or equal to 25 % by volume of, formed vertical voids that may or may not pass right through the unit or unit with less than or equal to 25 % by volume of frogs in the bed faces

See Figure 1a).

### 3.3.2

#### **group 2 unit<sup>2)</sup>**

unit with more than 25 % and less than 60 % by volume of formed vertical voids that may or may not pass right through the unit

See Figure 1b).

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<sup>2)</sup> Units in which voids are filled with thermal insulating material are not considered to be solid.

**3.3.3****group 3 unit<sup>2)</sup>**

unit with less than 50 % by volume of formed horizontal voids that may or may not pass right through the unit

See Figure 1c).

**3.4 Terms relating to units****3.4.1****cells**

formed voids which do not pass through a masonry unit

**3.4.2****frog**

depression formed in one or both bed faces of a unit, the total volume of which does not exceed 25 % of the gross volume of the unit

See Figure 2.

**3.4.3****grip-hole****hand-hold**

two or more formed voids in a unit to enable it to be more readily grasped and lifted with one or both hands or by a machine

**3.4.4****hole core US**

formed void which passes completely through a masonry unit

**3.4.5****void**

empty space

**3.4.6****web**

solid material between the voids in a masonry unit

See Figure 3.

**3.4.7****shell**

peripheral solid material of a masonry unit including that between a void and end of a unit

See Figure 3.

**3.4.8****face shell**

solid material between the voids and the front and rear faces of a masonry unit

See Figure 3.

**3.5 Size****3.5.1****coordinating size**

nominal size (deprecated)

size of a coordinating space allocated to a unit including allowances for joints and tolerances

**3.5.2****work size**

size of a unit specified for its manufacture to which the actual size should conform within specified permissible deviations

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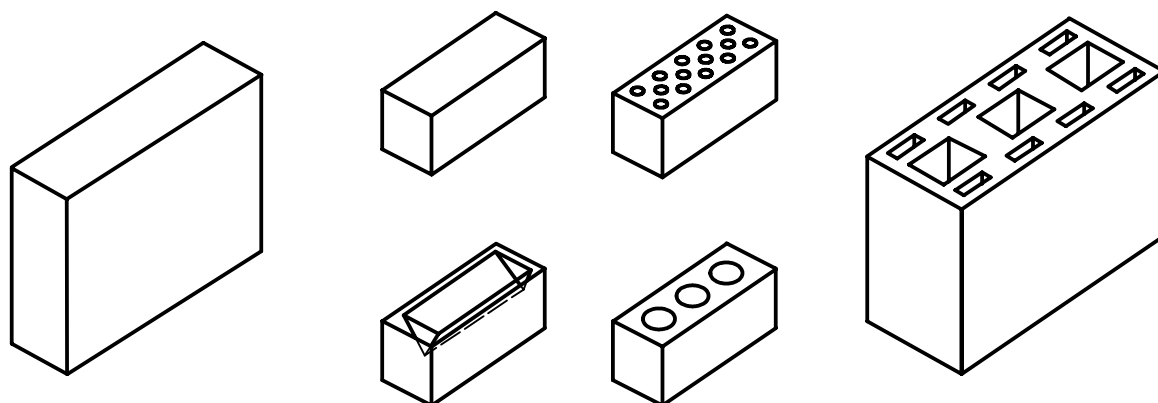
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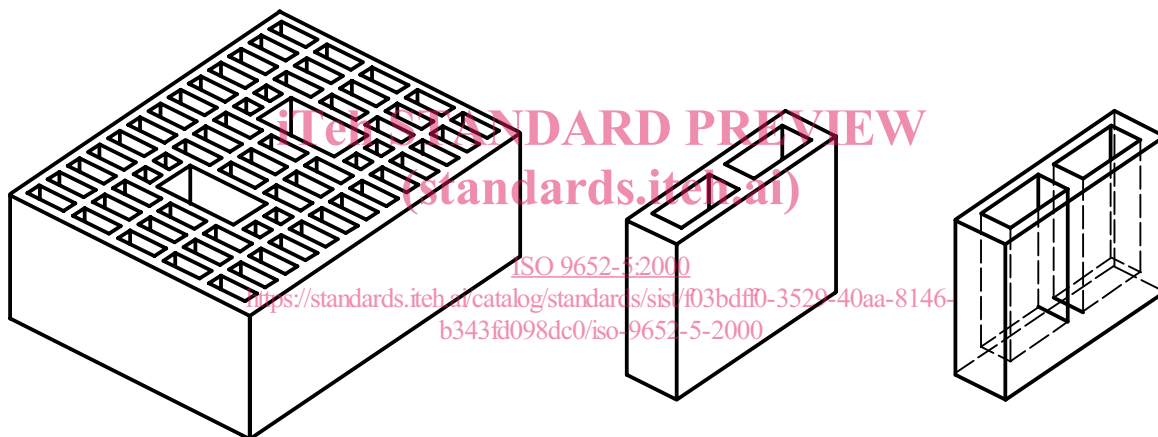
3.5.3

**actual size**

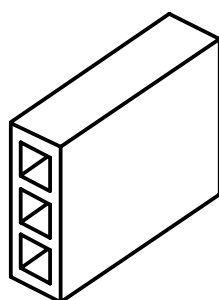
size of a unit as measured



a) Group 1 units



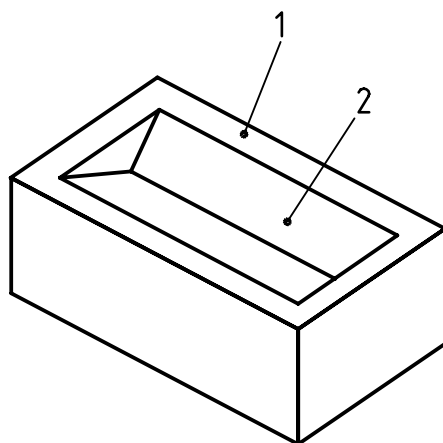
b) Group 2 units



c) Group 3 unit

Figure 1 — Units in normal view

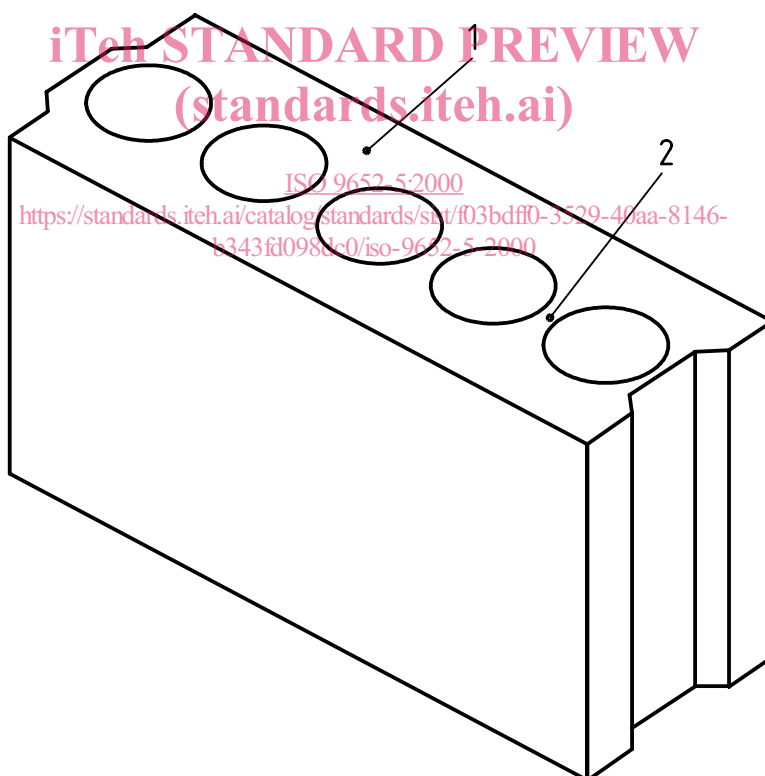




**Key**

- 1 Bed face
- 2 Frog

**Figure 2 — Frog**



**Key**

- 1 Face shell
- 2 Web

**Figure 3 — Shell and web**

## 4 Mortar

### 4.1 addition

finely divided inorganic material that may be added to concrete or mortar in order to improve properties or to achieve special properties

### 4.2 admixture

material added in small quantities in relation to the mass of the cement, before or during mixing of the mortar or concrete to produce specified modifications to the properties

### 4.3 binder

material used to hold solid particles together in a coherent mass

### 4.4 masonry cement

factory-made, finely powdered hydraulic binder consisting of Portland cement clinker, inorganic materials and, where appropriate, specified organic materials

### 4.5 face-shell bedding

two separate strips of mortar covering the front and rear faces of the units in both horizontal and vertical joints

### 4.6 grout

mortar or concrete of suitable consistency and particle size to fill cavities or holes in masonry

### 4.7 lime

product, consisting mainly of calcium oxide, obtained by heating limestone or other material containing calcium carbonate

#### 4.7.1 hydrated lime

fine, dry powder consisting mainly of calcium hydroxide

#### 4.7.2 lime putty

mixture of hydrated lime and water in plastic form ready for addition to mortar or grout

#### 4.7.3 hydraulic lime

lime containing sufficient soluble silica, aluminates, etc. to enable it to set in the presence of water

### 4.8 mortar

material consisting of a mixture of inorganic binders, aggregates and water which may also contain additions and admixtures

NOTE Mortar is used for bedding, jointing, pointing or grouting of masonry.

#### 4.8.1 lightweight mortar

mortar using lightweight aggregates and having a dry hardened density of less than 1 500 kg/m<sup>3</sup>

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**4.8.2****factory-made mortar**

mortar batched and mixed in a factory and supplied to the building site

**4.8.3****ready-mixed mortar**

dry factory-made mortar to which water is added on site

**4.8.4****ready-to-use mortar**

factory-made mortar containing a retarder to delay the set for sufficient time to allow for delivery and use

**4.8.5****thin-layer mortar**

ready-mixed mortar with a maximum particle size of 1 mm, containing additions and admixtures intended for use in beds not less than 1 mm nor greater than 3 mm thick

**4.9****mortar bond**

adhesion of the jointing mortar to the masonry units

**4.10 Mortar joints****4.10.1****jointing**

finishing of a mortar joint as the work proceeds

**4.10.2****pointing**

filling and finishing of raked-out joints

**4.10.3****bed joint**

mortar layer on which masonry units are set

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**4.10.4****collar joint**

continuous vertical joint, between two leaves parallel to the face of the wall

**4.10.5****cross joint**

vertical joint perpendicular to the face of the wall

**4.10.6****perpend  
head joint**

cross joint between two units

**4.10.7****thin-layer joint**

joint with a maximum thickness of 3 mm

**5 Ancillary components****5.1****connector**

component to attach two assemblies to one another

EXAMPLE A floor or a roof can be connected to a wall.

NOTE The term connector includes anchors, **straps** and **ties** (5.5.4).