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Specification for masonry units - Part 1: Clay masonry units

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NATIONAL FOREWORD

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Specification for masonry units - Part 1: Clay masonry units

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Festlegungen für Mauersteine - Teil 1: Mauerziegel

This European Standard was approved by CEN on 3 March 2011.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

This document (EN 771-1:2011) has been prepared by Technical Committee CEN/TC 125 “Masonry”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by November 2011, and conflicting national standards shall be withdrawn at the latest by November 2011.

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 771-1:2003.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Construction Products Directive (89/106/EEC)..

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard also takes into account the general rules for unreinforced and reinforced masonry in Eurocode 6.

EN 771, *Specification for masonry units* consists of:

— *Part 1: Clay masonry units*

— *Part 2: Calcium silicate masonry units*

— *Part 3: Aggregate concrete masonry units (Dense and light weight aggregates)*

— *Part 4: Autoclaved aerated concrete masonry units*

— *Part 5: Manufactured stone masonry units*

— *Part 6: Natural stone masonry units*

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.

1 Scope

This European Standard specifies the characteristics and performance requirements for masonry units manufactured from clay for use in masonry construction (e.g. facing and rendered masonry, loadbearing or non-loadbearing masonry structures, including internal linings and partitions, for building and civil engineering).

This European Standard is intended to apply to two groups of fired-clay masonry units:

a) LD units (see 3.4 and 5.2) comprising:

   1) clay masonry units with a gross dry density of less than or equal to 1 000 kg/m^3 for use in protected masonry.

b) HD units (see 3.5 and 5.3) comprising:

   1) all clay masonry units for use in unprotected masonry;

   2) clay masonry units with a gross dry density of greater than 1 000 kg/m^3 for use in protected masonry.

This European Standard includes those clay masonry units of an overall non-rectangular parallelepiped shape.

It defines the performance related to e.g. dimensional tolerances, strength, density measured according to the corresponding test methods contained in separate European Standards.

It provides for the evaluation of conformity of the product to this European Standard.

The marking requirement for products covered by this European Standard is included.

This European Standard does not specify standard sizes for clay masonry units, nor does it specify standard work dimensions, angles and radii of specially shaped clay masonry units. This document does not include method of measurement, tolerance and range requirements for dimensions, angles and radii characteristics of specially shaped clay masonry units.

This European Standard does not cover requirements for the following: units for paving, flue liners and storey height clay masonry units and clay masonry units with an incorporated thermal insulation material bonded to the faces of the unit susceptible to be exposed to fire. It does, however, include clay masonry units for external chimney masonry.

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 772-1, *Methods of test for masonry units — Part 1: Determination of compressive strength*

EN 772-3, *Methods of test for masonry units — Part 3: Determination of net volume and percentage of voids of clay masonry units by hydrostatic weighing*

EN 772-5, *Methods of test for masonry units — Part 5: Determination of the active soluble salts content of clay masonry units*

EN 772-7, *Methods of test for masonry units — Part 7: Determination of water absorption of clay masonry damp proof course units by boiling in water*

EN 772-9, *Methods of test for masonry units — Part 9: Determination of volume and percentage of voids and net volume of clay and calcium silicate masonry units by sand filling*

EN 772-11, *Methods of test for masonry units — Part 11: Determination of water absorption of aggregate concrete, autoclaved aerated concrete, manufactured stone and natural stone masonry units due to capillary action and the initial rate of water absorption of clay masonry units*

EN 772-13, *Methods of test for masonry units — Part 13: Determination of net and gross dry density of masonry units (except for natural stone)*

EN 772-16, *Methods of test for masonry units — Part 16: Determination of dimensions*

EN 772-19, *Methods of test for masonry units — Part 19: Determination of moisture expansion of large horizontally perforated clay masonry units*

EN 772-20, *Methods of test for masonry units — Part 20: Determination of flatness of faces of aggregate concrete, manufactured stone and natural stone masonry units*

EN 772-21, *Methods of test for masonry units — Part 21: Determination of water absorption of clay and calcium silicate masonry units by cold water absorption*

EN 1052-3, *Methods of test for masonry — Part 3: Determination of initial shear strength*

EN 1745, *Masonry and masonry products — Methods for determining thermal properties*

EN 13501-1, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN ISO 12572, *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties (ISO 12572:2001)*

3 Terms and definitions

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

NOTE Annex B to this European Standard is informative and gives descriptions of such matters as applications, exposure and durability.

3.1
masonry unit
preformed component intended for use in masonry construction

3.2
clay masonry unit
masonry unit made from clay or other argillaceous materials with or without sand, fuel or other additives fired at a sufficiently high temperature to achieve a ceramic bond

3.3
protected masonry
masonry which is protected against water penetration

NOTE It can either be masonry in external walls which is protected, (e.g. by a layer of suitable render or by cladding), or it can be the inner leaf of a cavity wall or it can be an internal wall. It may or may not be loadbearing.

3.4
LD unit
clay masonry unit with a low gross dry density for use in protected masonry