SLOVENSKI STANDARD
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Keramična polnila za etažne plošče

Clay blocks for floor plates

Deckenziegel

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Clay blocks for floor plates

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 125.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword

This document (prEN 17193:2017) has been prepared by Technical Committee CEN/TC 125 “Masonry”, the secretariat of which is held by BSI.

This document is currently submitted to the CEN Enquiry.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports basic requirements for construction works of the EU Construction Products Regulation (Regulation (EU) No 305/2011).

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

This document was examined by and agreed with a joint working party appointed by the Liaison Group CEN/TC 125 – CEN/TC 229.

The products are foreseen for the use in floor systems according to EN 13747.

1 Scope

This European Standard specifies the characteristics and performance requirements for non-loadbearing (low non-resisting or non-resisting) or loadbearing (semi-resisting or resisting) clay blocks for the use in floor plates.

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 assessment and verification of constancy of performance (AVCP) of the product to this European Standard.

This European Standard does not cover requirements for clay blocks foreseen for beam-and-block floor systems.

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 772-9, *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 772-13, *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 1745, *Masonry and masonry products — Methods for determining thermal properties*

EN 12390-4:2000, *Testing hardened concrete — Part 4: Compressive strength — Specification for testing machines*

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

ISO 12491, *Statistical methods for quality control of building materials and components*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
clay block
block 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

3.2
low non-resisting or non-resisting block
block with no mechanical function in the final floor system (designated LNR or NR)

Note 1 to entry: Its only mechanical function is that of formwork during the construction of the floor system. Floor systems built with non-resisting blocks may lack *in situ* structural topping.

3.3
semi-resisting block
block participating in the transfer of loads to the ribs (designated SR)

Note 1 to entry: However, its top flange alone cannot act as a compression slab in the final floor system.

Note 2 to entry: Examples for semi-resisting blocks are shown in Figure 1.

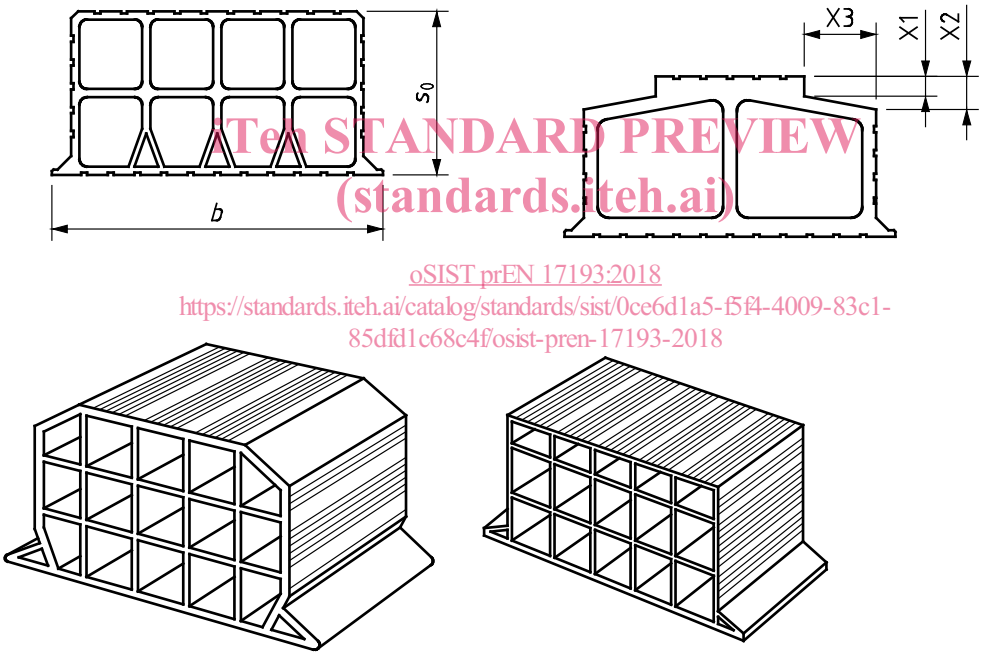
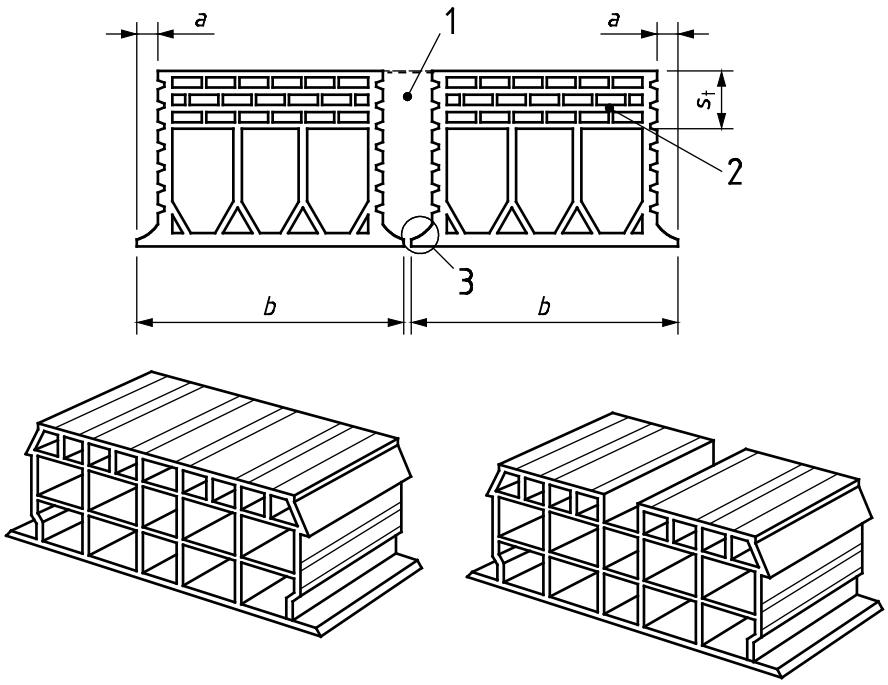


Figure 1 — Examples of semi-resisting clay blocks

3.4
resisting block
block with the same functions as semi-resisting blocks but whose top flange plays a role as compression zone in the final floor system (designated RR)

Note 1 to entry: Examples for resisting blocks are shown in Figure 2.



Key

1 rib
2 top flange
3 tongue

Figure 2 — Examples of resisting clay blocks

3.5
recess

single (see Figure 4 b)) or double (see Figure 4 c)) indentation at the top flange of the block to be filled with concrete (with or without reinforcement) to make cross joints

Note 1 to entry: According to the depth of the recesses the designation is:

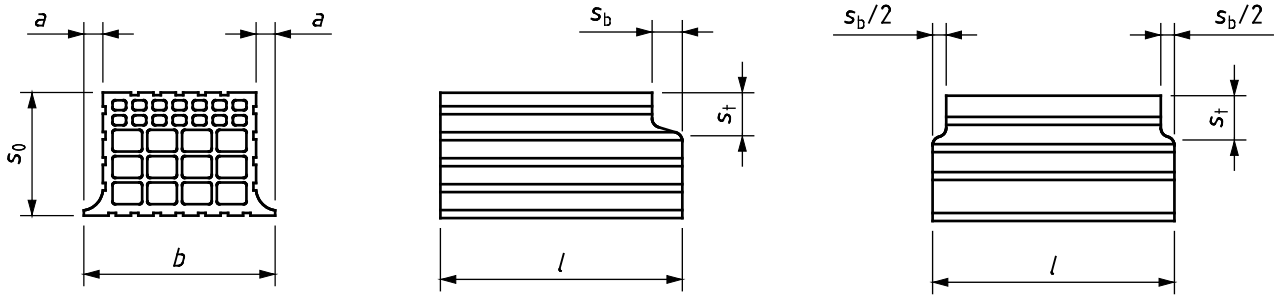
F: blocks with full recesses (see Figure 4)

P: blocks with partial recesses (see Figure 3)

3.6
top flange

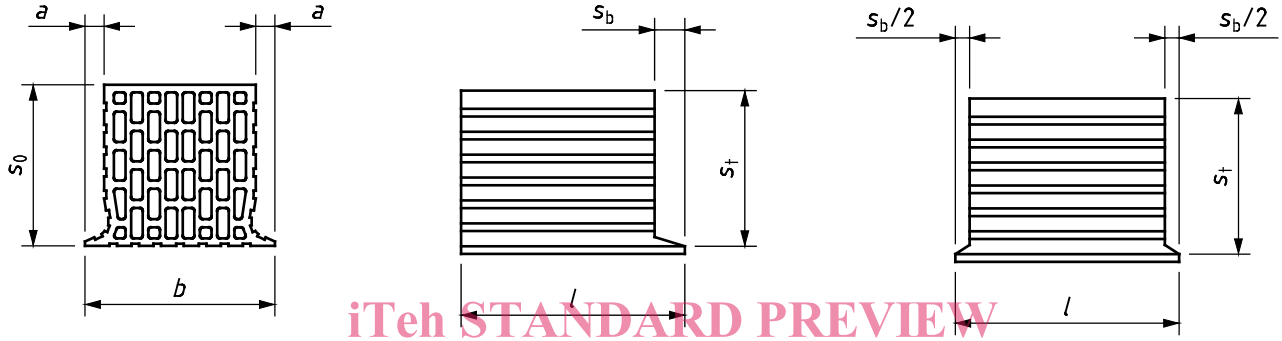
cross section area with the height s_1 where longitudinal compression can be transferred

Note 1 to entry: The height of the compression zone is limited to the height of the top flange (see Figure 2):



a) Section b) Block with single recess c) Block with double recess

Figure 3 — Block with top flange (limited compression zone)



a) Section b) Block with single full recess c) Block with double full recess

Figure 4 — Block without limited compression zone

3.7
complementary block
block of shorter length, width or height designed to aid the construction of floors having dimensions which are not multiples of the dimensions of blocks

3.8
rib
reinforced concrete ribs are structural elements realized in corresponding recesses of the floor system, formed by interposed rows of clay blocks (see Figure 2)

3.9
tongue
shape given to the block to enable reinforced concrete ribs to be cast between the blocks

Note 1 to entry: Examples of tongues are shown in Figure 5.

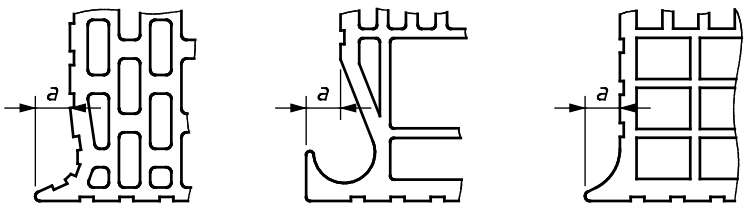
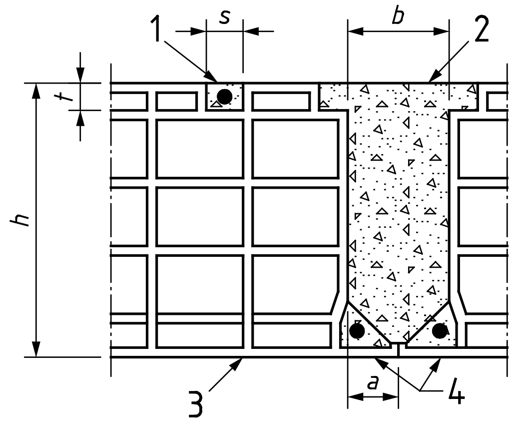


Figure 5 — Examples of tongues

3.10
groove
upper indentation in the top flange of resisting blocks in which concrete and longitudinal reinforcement bars can be located (see Figure 6)



Key

1 groove
2 concrete rib
3 clay block
4 tongue

Figure 6 — Details of resisting clay blocks

3.11
shell
peripheral material between a perforation and the surface of a clay block

3.12
web
solid material between the perforations in a clay block

3.13
combined thickness of webs and shells
sum of the thicknesses of the vertical shells and webs in transverse direction from one rib of a clay block to the opposite rib along whichever path, via the formed voids, gives the smallest value, expressed as a percentage of the unit width

3.14
Category I clay blocks
blocks with a declared compressive strength with a probability of failure to reach it not exceeding 5 %

Note 1 to entry: This may be determined via the mean or characteristic value.

3.15
Category II clay blocks
blocks not intended to comply with the level of confidence of Category I blocks

3.16
product group
products from one manufacturer having common values for one or more characteristics

3.17
product type
set of representative performance levels or classes of a construction product, in relation to its essential characteristics, produced using a given combination of raw materials or other elements in a specific production process

4 Requirements — Materials and manufacture

See 3.1, 10.3.4 and 10.3.5.

5 Finished product requirements

5.1 General

The requirements and properties specified in this standard shall be defined in terms of the test methods and other procedures referred to in this European Standard.

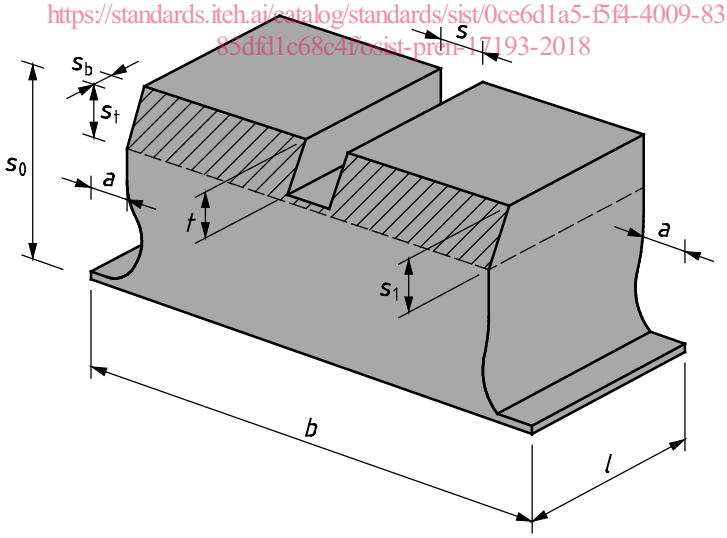
The conformity criteria given in the following subclauses relate to product type determination (see 10.2) and, when relevant, to consignment testing (see Annex B). For the compressive strength of Category I blocks use a 50 % fractile (p = 0,50) for mean values and a confidence level of 95 %.

For production evaluation, the manufacturer shall define the conformity criteria in the factory production control documentation (see 10.3).

5.2 Dimensions and tolerances

5.2.1 Dimensions

The relevant dimensions of a clay block shall be declared by the manufacturer in mm (see Figure 7).



Key

b	width	s	width of groove
S_0	height	t	depth of groove
l	length	s_t	height of recess
a	width of tongue	s_b	total depth of recess
		s_1	thickness of top flange

Figure 7 — Dimensions