



SLOVENSKI STANDARD SIST EN 1304:2005

01-julij-2005

BUXca Yý U
SIST EN 1304:1998
SIST EN 1304:1998/A1:2000

CdY b]`gHfYýb_]_]b`Zncbg_]`_cgj]`!`8 YZ]b]WY`Y]b`gdYWZ_UWY`Y]nXY`_cj

Clay roofing tiles and fittings - Product definitions and specifications

Dachziegel und Formziegel - Begriffe und Produkthanforderungen

Tuiles et accessoires en terre cuite - Définitions et spécifications des produits

ITEH STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: **EN 1304:2005**
<https://standards.iteh.ai/catalog/standards/sist/1304-2005/6e1a9f8296e0a/sist-en-1304-2005>

ICS:

- 01.040.91 Gradbeni materiali in gradnja (Slovarji) Construction materials and building (Vocabularies)
- 91.100.25 S^|æ ã } á |æ à ^ } á á à ^ | ã Ceramic building products

SIST EN 1304:2005 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 1304:2005

<https://standards.iteh.ai/catalog/standards/sist/06e17173-69d6-4229-918fe1a9f8296e0a/sist-en-1304-2005>

English version

Clay roofing tiles and fittings - Product definitions and specifications

Tuiles et accessoires en terre cuite - Définitions et spécifications des produits

Dachziegel und Formziegel - Begriffe und Produktanforderungen

This European Standard was approved by CEN on 3 March 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

iTeh STANDARD PREVIEW

(standards.iteh.ai)
CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

SIST EN 1304:2005

<https://standards.iteh.ai/catalog/standards/sist/06e17173-69d6-4229-918fe1a9f8296e0a/sist-en-1304-2005>



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Requirements	10
5 Marking and labelling	15
6 Evaluation of conformity.....	16
Annex A (normative) Initial type testing and frequency of product tests for factory production control.....	18
Annex B (informative) Appearance.....	19
Annex C (informative) Freeze/thaw test method(s) applicable in different countries	20
Bibliography	27

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 1304:2005](https://standards.iteh.ai/catalog/standards/sist/06e17173-69d6-4229-918fe1a9f8296e0a/sist-en-1304-2005)
<https://standards.iteh.ai/catalog/standards/sist/06e17173-69d6-4229-918fe1a9f8296e0a/sist-en-1304-2005>

Foreword

This document (EN 1304:2005) has been prepared by Technical Committee CEN/TC 128 “Roof covering products for discontinuous laying and products for wall cladding”, 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 October 2005, and conflicting national standards shall be withdrawn at the latest by January 2007.

This document supersedes EN 1304:1998.

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 Directive(s).

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

This document is part of a package of standards on clay roofing tiles and fittings.

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

(standards.iteh.ai)
SIST EN 1304:2005
<https://standards.iteh.ai/catalog/standards/sist/06e17173-69d6-4229-918fe1a9f8296e0a/sist-en-1304-2005>

1 Scope

This document specifies requirements for clay roofing tiles and fittings for pitched roof coverings and wall cladding and lining.

It applies to all tiles and fittings as defined in Clause 3.

Clay roofing tiles and clay fittings which conform to this document are suitable for use as roof coverings, vertical wall cladding and lining.

This document defines the minimum requirements for a product which if satisfactory at the time of delivery will ensure that the product is able to perform its function in relation to the performance levels declared for it, whilst subjected to the changes that occur in such materials during normal conditions of use.

The results obtained according to the European Standard apply to products at the time they are offered for sale.

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 538, *Clay roofing tiles for discontinuous laying – Flexural strength test*

EN 539-1, *Clay roofing tiles for discontinuous laying – Determination of physical characteristics – Part 1: Impermeability test*

EN 539-2, *Clay roofing tiles for discontinuous laying – Determination of physical characteristics – Part 2: Test for frost resistance*

EN 1024, *Clay roofing tiles for discontinuous laying – Determination of geometric characteristics*

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

prEN 13501-5, *Fire classification of construction products and building elements – Part 5: Classification using test data from external fire exposure to roof tests*

3 Terms and definitions

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

3.1 General

3.1.1 clay roofing tiles

products for discontinuous laying on pitched roofs, and for wall cladding, which are manufactured by shaping (extrusion and/or pressing), drying and firing of the prepared clay, with or without additives.

All or part of their surface can be covered with an engobe or glaze.

The principal types of tile are:

3.1.1.1**special tiles**

tiles made to shapes that vary from tile to tile for aesthetic reasons, for example hand-made tiles

3.1.1.2**tiles with sidelock and headlock**

tiles with one or more longitudinal and transverse interlocking device(s)

3.1.1.3**tiles with sidelock only**

tiles with a longitudinal interlocking device but no transverse one

NOTE They can be used to obtain variable headlaps.

3.1.1.4**tiles with headlock only**

tiles with a transverse interlocking device but no longitudinal one

3.1.1.5**tiles with variable headlap**

tiles with sidelock and headlock where the design of the tiles allows them to be fixed at varying headlaps

3.1.1.6**tiles with variable sidelap**

tiles with sidelock and headlock where the design allows variation in the amount of sidelap

3.1.1.7**plain tiles**

tiles usually with a flat surface that can be slightly cross cambered and/or longitudinally cambered and which have no interlocking system

NOTE These tiles are generally rectangular, but can have a specially shaped tail (e.g. fish-scale tiles with a rounded or sharp front edge).

3.1.1.8**overlapping tiles**

tiles which have no side or headlock and are profiled in an "S" shape

3.1.1.9**over and under tiles**

tiles with the shape of a gutter whose design makes it possible either to fix them with variable headlaps or where their headlap is fixed due to the presence of lugs on the tiles. They are made with their edges either parallel or forming a cone

3.2 General**3.2.1****clay roofing fittings**

products that are complementary to the tiles and have a technical function

There are two types of fittings:

3.2.2**coordinated fittings**

fittings that are intended to align or dimensionally interlock with the tiles with which they are to be laid (e.g. interlocking verge tile, interlocking ventilation tile, tile-and-a-half, interlocking ridge tiles, interlocking or aligning hip tile, aligning valley tile, interlocking or aligning angle tiles)

3.2.3

uncoordinated fittings

fittings that are not required to align or interlock with the tile with which they are to be laid (e.g. ridge tiles, hip tile, valley tile, verge tile, angle tiles)

3.3 Definitions specific to tiles and fittings with sidelock and headlock and tiles with sidelock only

3.3.1 General

3.3.1.1

Interlock

system designed for the assembly of two adjoining tiles or fittings and usually including one or more raised parts called "ribs" and one or more concave parts called "grooves"

3.3.1.2

longitudinal interlock

system allowing two tiles or fittings in the same horizontal course to be fitted together

3.3.1.3

transverse interlock

system allowing two tiles or fittings from successive horizontal courses to be fitted together

NOTE Three examples of interlock are shown in Figure 1. The arrangement of ribs and grooves limits the extent of movement between the tiles and improves the resistance to the ingress of water.

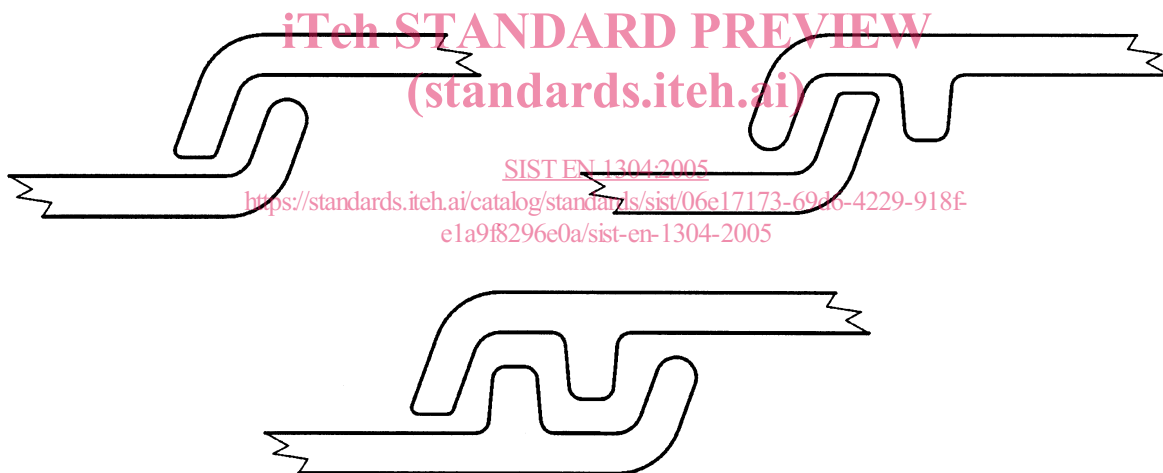


Figure 1 — Examples of interlock

3.3.2

straight bond tiles and fittings

tiles or coordinated fittings designed to be laid so that the longitudinal joints of successive courses are aligned

3.3.3

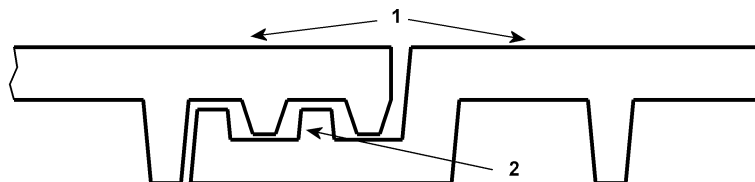
broken bond tiles and fittings

tiles or coordinated fittings designed to be laid so that the longitudinal joints are shifted half a tile between successive courses

NOTE Certain types of tiles or coordinated fittings are designed to be laid either straight bonded or broken bonded.

3.3.4 flat interlocking tiles and fittings

interlocking tiles or coordinating fittings whose visible surface has no rib separating the areas of water flow from the longitudinal interlocks and where the longitudinal interlocks lie below the areas of water flow (see Figure 2)



Key

1. areas of water flow
2. interlock

Figure 2 — Cross section and diagram of principle

3.4 Definitions specific to over and under tiles

3.4.1 under tiles

tiles designed to be laid with their concave side facing upward and resting on the roofing support

Under tiles may have no nib, or one or more nibs for laying on battens

3.4.2 over tiles

tiles designed to be laid with their concave side facing downward and straddling two under tiles

NOTE In general, the same units are used as under tiles when laid with their concave side facing upward and over tiles when they are laid with their concave side facing downward. However, the profile of under tiles can differ from that of over tiles; they can have, for example, a flat base or a shape allowing for the seating of the product on its support. In the latter case, under tiles are equipped with two lateral upright sides.

3.4.3 over and under tiles with lugs to fix the headlap

over and under tiles with lugs to fix the longitudinal overlap

3.5 Further definitions

3.5.1 additive

material added in small quantities to the clay mix so as to facilitate the manufacture of the tile or fitting or to improve its characteristics

3.5.2 efflorescence

crystalline deposit of soluble salts found on the surface of tiles or fittings due to water migrating from within the tiles or fittings and evaporating on the surface

3.5.3 Ceramic coating

3.5.3.1

glaze

glass-based fired coating, or the material used to obtain this effect

3.5.3.2

engobe

permeable or impermeable clay-based fired coating or the material used to obtain this effect

3.5.4

treatments

factory-applied hydrophilic or hydrophobic agents, which change the behaviour of the surface of the clay roofing tiles or fittings when it is wetted by water

3.5.5

crack

more or less regular crack not running throughout the entire thickness of the product

3.5.6

colour variation

variation in tone within one colour or within different colours in one production batch

NOTE See also Annex B.

3.5.7

surface features

hollows, raised areas, spots or colours, etc. characterising an entire batch and produced specifically for aesthetic purposes (to imitate the appearance of old tiles, for example)

NOTE See also Annex B.

3.5.8

clay fold

interruption of continuity affecting only the surface of the product, caused by the formation of a fold during pressing

NOTE See also Annex B.

3.5.9 Overlap dimensions

3.5.9.1 General

3.5.9.1.1

gauge

length of the exposed part of the fixed tile or coordinated fitting, measured longitudinally. This is the same as the batten gauge

3.5.9.1.2

gauge declared by the manufacturer

mean value or two extreme values of the gauge as defined above, see 3.5.9.1

3.5.9.2 General

3.5.9.2.1

cover width

width of the exposed part of the tile or coordinated fitting as laid

3.5.9.2.2

cover width declared by the manufacturer

mean value or two extreme values of the cover width as defined above, see 3.5.9.2

3.5.10 camber

for plain tiles and interlocking tiles, camber is expressed as the deviation from a straight line, either longitudinally or transversally measured at the tile edge

For over and under tiles, camber is expressed as the deviation from a straight line measured, along the generatrix located in the bottom of the tile's concavity

3.5.11 stratification

presence in the body of strata, possibly of different colours which may go through the thickness of the body

NOTE See also Annex B.

3.5.12 nib

raised part at the back of the tile or fitting, used to hook it on the underlying supporting structure, generally battens

3.5.13 body of the tile or fitting

ceramic material making up the fired product

3.5.14 crazing (glaze or engobe)

cracking affecting only the thickness of the glaze or engobe or the vitrified surface of a product obtained by intense reduction, and not endangering the adhesion of the glaze or engobe to the body of the product

NOTE See also Annex B.

3.5.15 fixing hole

hole, which is open or easily opened without damaging the product, designed for fixing the product to the underlying supporting structure

3.5.16 underside fixing hole

open hole, made in a raised area on the underside of the tile and designed to fix the tile to the support with an appropriate device

3.5.17 Structural faults

3.5.17.1

break

structural fault consisting of a separation of the product into two or more fragments

3.5.17.2

structural crack

structural fault consisting of a more or less regular crack running throughout the entire thickness of the product and visible to the naked eye

3.5.17.3

loss of nib

structural fault corresponding to the complete loss of the nib in a product designed with one nib only

3.5.18 Surface faults