



**SLOVENSKI STANDARD**  
**SIST EN 490:2005/A1:2006**  
**01-oktober-2006**

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**Betonski strešniki in fazonski kosi za prekrivanje streh in oblaganje sten –  
Specifikacije za izdelek**

Concrete roofing tiles and fittings for roof covering and wall cladding - Product specifications

Dach- und Formsteine aus Beton für Dächer und Wandbekleidungen -  
Produktanforderungen

**iTeh STANDARD PREVIEW**

Tuiles et accessoires en béton pour couverture et bardage - Spécifications des produits

**Ta slovenski standard je istoveten z: EN 490:2004/A1:2006**  
SIST EN 490:2005/A1:2006  
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**ICS:**

91.060.20	Strehe	Roofs
91.100.30	Beton in betonski izdelki	Concrete and concrete products

**SIST EN 490:2005/A1:2006**

**en**

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ICS 91.100.30

English Version

## Concrete roofing tiles and fittings for roof covering and wall cladding - Product specifications

Tuiles et accessoires en béton pour couverture et bardage -  
Spécifications des produits

Dach- und Formsteine aus Beton für Dächer und  
Wandbekleidungen - Produkthanforderungen

This amendment A1 modifies the European Standard EN 490:2004; it was approved by CEN on 16 March 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

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## Contents

Page

Foreword.....	3
1 Scope .....	4
2 Normative references .....	4
5.9 Fire performance.....	4
5.9.2 Reaction to fire performance.....	4
6.2 Type testing.....	5
7.3 Compliance.....	5
ZA.2.1 Systems of attestation of conformity .....	5
ZA.2.2 EC Declaration of conformity .....	6
ZA.3 CE marking .....	6
Figure ZA.1 and Figure ZA.2.....	6

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[SIST EN 490:2005/A1:2006](https://standards.iteh.ai/catalog/standards/sist/2926e0fd-c96f-46eb-9902-4a019e472888/sist-en-490-2005-a1-2006)

<https://standards.iteh.ai/catalog/standards/sist/2926e0fd-c96f-46eb-9902-4a019e472888/sist-en-490-2005-a1-2006>

## Foreword

This European Standard (EN 490:2004/A1:2006) 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/BIN.

This Amendment to the European Standard EN 490:2004 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2006, and conflicting national standards shall be withdrawn at the latest by December 2006.

This European Standard 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 89/106.

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

This Amendment changes the way in which reaction to fire of organically coated and glued products and fittings is considered.

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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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## 1 Scope

Replace second paragraph by:

Concrete roofing tiles and fittings may incorporate surface coatings and glued concrete components.

## 2 Normative references

After the reference ENV 1187, add the following references:

EN 13238, *Reaction to fire tests for building products — Conditioning procedures and general rules for selection of substrates*

EN 13823, *Reaction to fire tests for building products — Building products excluding floorings exposed to the thermal attack by a single burning item*

Modify the reference prEN 13501-5 to read EN 13501-5 and add the following reference:

EN ISO 1716, *Reaction to fire tests for building products — Determination of the heat of combustion ISO 1716:2002)*

### 5.9 Fire performance

#### 5.9.2 Reaction to fire performance

##### 5.9.2.1 Requirements

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Replace text by:

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This characteristic shall be declared when subject to regulatory requirements, and may be declared when not subject to such regulatory requirements. The reaction of products to fire shall be determined and declared according to the provisions of 5.9.2.2.

This characteristic does not apply to glued tiles or fittings. For such products, no indication needs to be given related to their reaction to fire performance, nor does Class F need to be given.

##### 5.9.2.2 Testing and assessment methods

###### 5.9.2.2.1 Products satisfying the requirements for the fire reaction Class A1, without the need for testing

After the first paragraph, delete the first bullet point text, which makes the second bullet point text the first.

Add a new second bullet point text:

- any coating system (i.e. organic layer and cement slurry layer, if relevant), which contains  $\leq 1,0$  % by weight or volume (whichever is the lower) of homogeneously distributed organic material, is itself Class A1.

###### 5.9.2.2.2 Other products

Replace text with:

Products not meeting the requirements of 5.9.2.2.1 shall be tested and classified in accordance with EN 13501-1 as follows:

- for a coating system with a gross calorific potential (PCS)  $\leq 2,0$  MJ/kg, when tested according to EN ISO 1716, the product may be classified A1;
- for a coating system with a PCS  $\leq 2,0$  MJ/m<sup>2</sup>, the product may be classified A1 provided that the coating system, when tested according to EN 13823, meets the requirements for this given in EN 13501-1;
- for a coating system with a PCS  $> 2,0$  MJ/kg and  $\leq 4,0$  MJ/m<sup>2</sup>, when tested according to EN ISO 1716, the complete coating system shall be tested according to EN 13823 on either the calcium silicate or fibre cement substrates given in EN 13238. If the coating system meets the requirements of Class A2, the product shall also be classified Class A2 with appropriate smoke and droplets sub-classification;
- for any coating system other than those stated above, the coating shall be tested for the requirements of classes lower than A2 and the product shall be given the same class as the coating system;
- as an alternative to the above requirements, the coated product itself shall be tested and the classification requirements of EN 13501-1 shall apply. For tests to EN 13823, the product shall be mounted and fixed in a manner which is representative of its intended application (i.e. mounted on timber battens with no underlying insulation or organic material).

The requirements above relate to uncoated tiles or fittings which are Class A1. Where the uncoated tiles or fittings contain  $> 1,0$  % by weight or volume (whichever is the lower) of homogeneously distributed organic material and are not Class A1, coated products shall be classified in accordance with EN 13501-1.

Results obtained for a coating system including an organic layer, apply to any other coating systems containing the same composition as the system tested (e.g. the same generic type of polymeric binding) but having less organic material and, therefore, a PCS which is less than that tested.

[SIST EN 490:2005/A1:2006](https://standards.iteh.ai/catalog/standards/sist/2926e0fd-c96f-46eb-9902-4a019e472888/sist-en-490-2005-a1-2006)

## 6.2 Type testing <https://standards.iteh.ai/catalog/standards/sist/2926e0fd-c96f-46eb-9902-4a019e472888/sist-en-490-2005-a1-2006>

*Add third paragraph:*

In respect of reaction to fire performance, if the raw materials for coating systems are supplied with a declaration of their PCS values, no testing for PCS is required to demonstrate compliance with the limits given in 5.9.2.2.2.

## 7.3 Compliance

*Table 2. In the right corner box of Fire tests versus Factory Production Control tests - Minimum frequency, add footnote reference <sup>a</sup>.*

*Add footnote to table 2:*

<sup>a</sup> For coated products, the manufacturer shall control the composition and rate of application of the coating system.

### ZA.2.1 Systems of attestation of conformity

*Amend Table ZA.2:*

*Replace footnote <sup>a</sup> by <sup>a</sup> All concrete tiles and fittings, when requiring testing, are considered to be under attestation system 3 (see Commission Directive 89/106/EEC (CPD), Annex III.2 (ii) second possibility).*

*Delete footnote <sup>c</sup>.*

*Replace footnote marked <sup>d</sup> by <sup>c</sup>.*

## ZA.2.2 EC Declaration of conformity

### a) For products under system 3:

*After second bullet point, add new paragraph:*

NOTE Where some of the information required for the Declaration is already given in the CE marking information, it does not need to be repeated.

*End of third bullet point, add:*

, and a reference to the initial type testing report(s) and factory production control records (if appropriate).

### b) For products under system 4:

*After second bullet point, add new paragraph:*

NOTE Where some of the information required for the Declaration is already given in the CE marking information, it does not need to be repeated.

*End of third bullet point, add:*

, and a reference to the initial type testing report(s) and factory production control records (if appropriate).

*Last paragraph replace 'an official' by 'the' and replace 'of' by 'accepted in'.*

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## ZA.3 CE marking

*Delete 6<sup>th</sup> bullet point, starting with 'the product type i.e. 'tile' or 'fitting' and for tiles,.....', entirely*

*Second paragraph first line, after 'either' add: 'the class', and delete: 'deemed to satisfy'.*

*In bullet point 'reaction to fire class' add at end: '(does not apply to glued tiles or fittings)'.*

*Penultimate paragraph, replace 'deemed to satisfy' with 'without need for testing'. Delete 'F<sub>roof</sub>' and replace with 'F<sub>ROOF(i)</sub>'. After 'respectively,' insert 'where i is 1, 2, 3, or 4 as appropriate.'*

## Figure ZA.1 and Figure ZA.2

*After 'External fire performance:' delete 'Deemed to satisfy' and add: 'B<sub>ROOF</sub> (all methods)'*

*After 'Reaction to fire' delete: 'Deemed to satisfy'*