



# SLOVENSKI STANDARD

## SIST EN 846-2:2001

01-februar-2001

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### Metode preskušanja dodatnih komponent zidovine - 2. del: Ugotavljanje sprijemne trdnosti montažne armature v naležnih regah

Methods of test for ancillary components for masonry - Part 2: Determination of bond strength of prefabricated bed joint reinforcement in mortar joints

Prüfverfahren für Ergänzungsbauteile für Mauerwerk - Teil 2: Bestimmung der Verbundfestigkeit der vorgefertigten Lagerfugenbewehrung

Méthodes d'essai des composants accessoires de maçonnerie - Partie 2: Détermination de la résistance de l'adhérence des armatures dans les joints

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Ta slovenski standard je istoveten z: **EN 846-2:2000**

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#### **ICS:**

91.080.30      Zidane konstrukcije      Masonry

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EUROPEAN STANDARD

EN 846-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2000

ICS 91.060.10; 91.080.30

English version

Methods of test for ancillary components for masonry - Part 2:  
Determination of bond strength of prefabricated bed joint  
reinforcement in mortar joints

Méthodes d'essai des composants accessoires de  
maçonnerie - Partie 2: Détermination de la résistance de  
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Prüfverfahren für Ergänzungsbauteile für Mauerwerk -  
Teil 2: Bestimmung der Verbundfestigkeit der vorgefertigten  
Lagerfugenbewehrung

This European Standard was approved by CEN on 4 December 1999.

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.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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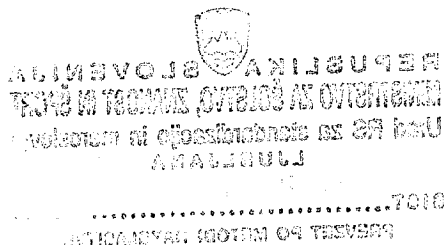
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## Foreword

This European Standard 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 August 2000, and conflicting national standards shall be withdrawn at the latest by September 2000.

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

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association and supports the essential requirements of the EU Construction Products Directive (89/106/EEC) and includes the performance requirements referred to in the Eurocode for masonry structures.

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## 1 Scope

This European Standard specifies a method for determining the bond strength of prefabricated bed joint reinforcement in a masonry specimen made from specified units and mortar.

This test method is applicable to designed prefabricated bed joint reinforcement complying with prEN 845-3.

The method is not applicable to alternative forms of reinforcement which may be used in masonry, for example bars.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- |            |   |
|------------|---|
| prEN 771-1 | Specification for masonry units - Part 1: Clay masonry units.   |
| prEN 771-2 | Specification for masonry units - Part 2: Calcium silicate masonry units.   |
| prEN 771-3 | Specification for masonry units - Part 3: Aggregate concrete masonry units (dense and lightweight aggregates).                            |
| prEN 771-4 | Specification for masonry units - Part 4: Autoclaved aerated concrete masonry units.  |
| prEN 771-5 | Specification for masonry units - Part 5: Manufactured stone masonry units.   |
| prEN 771-6 | Specification for masonry units - Part 6: Natural stone masonry units.  |
| prEN 772-1 | Methods of test for masonry units - Part 1: Determination of compressive strength.  |
| EN 772-10  | Methods of test for masonry units - Part 10: Determination of moisture content of calcium silicate and autoclaved aerated concrete units. |
| prEN 845-3 | Specification for ancillary components for masonry - Part 3: Bed joint reinforcement.   |
| prEN 998-2 | Specification for mortar for masonry units - Part 2: Masonry mortar.  |
| EN 1015-3  | Methods of test for mortar for masonry - Part 3: Determination of consistence of fresh mortar by flow table.                              |

- EN 1015-7 Methods of test for mortar for masonry - Part 7: Determination of air content of fresh mortar.
- prEN 1015-11 Methods of test for mortar for masonry - Part 11: Determination of flexural and compressive strength of hardened mortar.

### 3 Principle

In this test, prefabricated bed joint reinforcement is embedded in mortar in a small wall of bonded masonry units. The reinforcement is then subjected to tension in order to determine its bond strength.

### 4 Symbols

- $F_{bk}$  is the characteristic load capacity of the bed joint reinforcement, (N);
- $F_{mean}$  is the mean load capacity of the bed joint reinforcement, (N);
- $F_{x(1,...,n)}$  is the load capacity of individual bed joint reinforcement specimens, (N);
- $s$  is the standard deviation of the log normal values for  $n-1$  degrees of freedom;
- $k$  is a numerical factor;
- $n$  is the number of specimens
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## 5 Materials

### 5.1 Masonry units

#### 5.1.1 Conditioning

The conditioning of masonry units shall be as specified.

Record the method of conditioning the units prior to laying. Measure the moisture content by mass of autoclaved aerated concrete and calcium silicate masonry units in accordance with EN 772-10. Record the age of non-autoclaved concrete units at the time of testing the masonry specimens.

#### 5.1.2 Testing

Determine the compressive strength of a sample of masonry units, using the method given in prEN 772-1. For non-autoclaved concrete units determine the compressive strength at the time of testing the masonry specimens.

## 5.2 Mortar

The mortar, its mixing procedure and its flow value shall conform to the requirements of prEN 998-2, unless otherwise specified, and these shall be reported in the test report.

Take representative samples of fresh mortar from the mason's board to make mortar prisms to determine the flow value in accordance with EN 1015-3, and to determine the air content in accordance with EN 1015-7. Use the prism specimens to determine the mean compressive strength at the time of testing of the masonry specimens in accordance with prEN 1015-11.

## 6 Apparatus

**6.1 Simple support**, for holding the test specimen such that the reaction is as close as possible to the centre line of the applied load.

**6.2 Means of applying and maintaining on the test specimen a measured compressive load**, providing a stress of between  $0,05 \text{ N/mm}^2$  and  $0,1 \text{ N/mm}^2$ , accurate to  $\pm 10 \%$ . The precompression platens shall be sufficiently stiff to distribute the applied load evenly.

**6.3 Clamp**, for gripping the free end of the prefabricated bed joint reinforcement and transmitting the load.

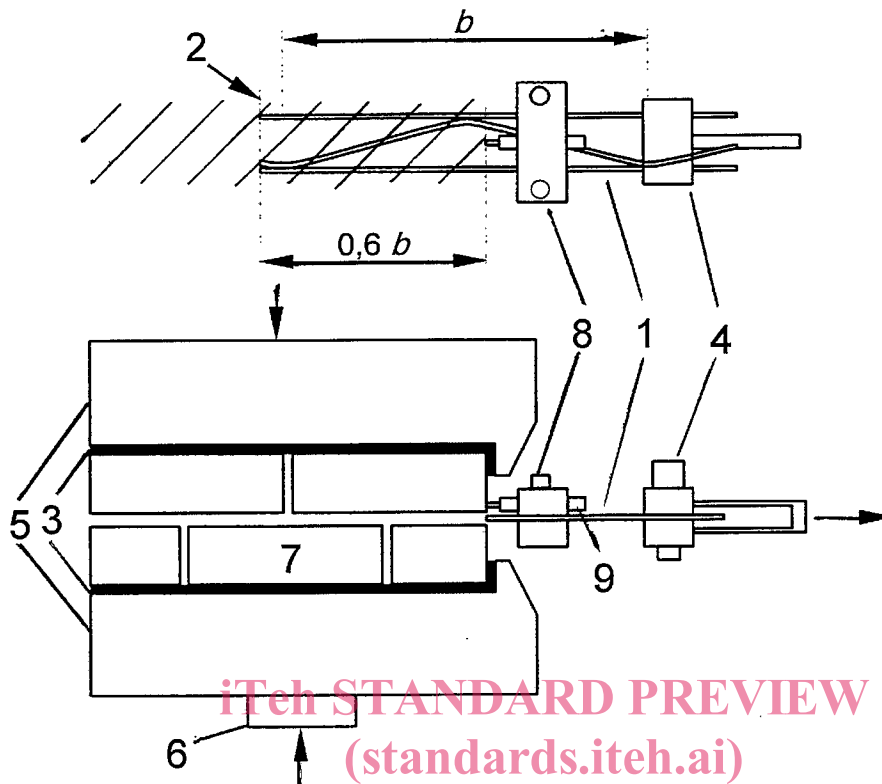
Note: A possible arrangement is shown in Figure 1. Ideally the clamp should have serrated grooves for the wires to lie in and the force should be applied using a small hydraulic ram.

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**Key**

- 1 Specimen of reinforcement
- 2 Length of one cycle of the reinforcement
- 3 Packing mortar
- 4 Loading clamp
- 5 Precompression platens
- 6 Load cell to measure the precompression force
- 7 Small wall specimen
- 8 Clamp
- 9 Displacement measuring device

**Figure 1- Specimen format and test arrangement for truss-type reinforcement**