



**SLOVENSKI STANDARD**  
**SIST EN ISO 1893:2008**

01-oktober-2008

**BUXca Yý U.**  
**SIST EN 993-8:1998**

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Refractory products - Determination of refractoriness under load - Differential method with rising temperature (ISO 1893:2007)

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Einführendes Element - Haupt-Element - Ergänzendes Element (ISO 1893:2007)

SIST EN ISO 1893:2008

Produits réfractaires - Détermination de l'affaissement sous charge - Méthode différentielle avec élévation de la température (ISO 1893:2007)

**Ta slovenski standard je istoveten z: EN ISO 1893:2008**

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**ICS:**

81.080 Ognjevzdržni materiali Refractories

**SIST EN ISO 1893:2008 en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN ISO 1893**

June 2008

ICS 81.080

Supersedes EN 993-8:1997

English Version

**Refractory products - Determination of refractoriness under load  
- Differential method with rising temperature (ISO 1893:2007)**

Produits réfractaires - Détermination de l'affaissement sous charge - Méthode différentielle avec élévation de la température (ISO 1893:2007)

Feuerfeste Erzeugnisse - Bestimmung des Erweichungsverhaltens unter Druck (Druckerweichen) - Differentialverfahren mit steigender Temperatur (ISO 1893:2007)

This European Standard was approved by CEN on 29 May 2008.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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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## Foreword

The text of ISO 1893:2007 has been prepared by Technical Committee ISO/TC 33 “Refractories” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 1893:2008 by Technical Committee CEN/TC 187 “Refractory products and materials” 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 December 2008, and conflicting national standards shall be withdrawn at the latest by December 2008.

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 993-8:1997.

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, 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.

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Endorsement notice

The text of ISO 1893:2007 has been approved by CEN as a EN ISO 1893:2008 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
1893**

Third edition  
2007-09-15

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## Refractory products — Determination of refractoriness under load — Differential method with rising temperature

*Produits réfractaires — Détermination de l'affaissement sous charge —  
Méthode différentielle avec élévation de la température*

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Reference number  
ISO 1893:2007(E)

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## ISO 1893:2007(E)

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Published in Switzerland



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**ISO 1893:2007(E)****Foreword**

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 1893 was prepared by Technical Committee ISO/TC 33, *Refractories*.

This third edition cancels and replaces the second edition (ISO 1893:2005), which has been technically revised. The main changes are corrections to the figures and improvements in the description of the calculation procedure given in 8.2.

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# Refractory products — Determination of refractoriness under load — Differential method with rising temperature

## 1 Scope

This International Standard specifies a method for determining the deformation of dense and insulating shaped refractory products, when subjected to a constant load under conditions of progressively rising temperature (or refractoriness under load), by a differential method. The test may be carried out up to a maximum temperature of 1 700 °C.

## 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.

ISO 3599, *Vernier callipers reading to 0,1 and 0,05 mm*

IEC 60584-1, *Thermocouples — Part 1: References tables*

IEC 60584-2, *Thermocouples — Part 2: Tolerances*

## 3 Terms and definitions

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

### 3.1

#### **refractoriness under load**

measure of the behaviour of a refractory material subjected to the combined effects of load, rising temperature and time

## 4 Principle

A cylindrical test piece is subjected to a specified constant compressive load and heated at a specified rate of temperature increase until a prescribed deformation or subsidence occurs. The deformation of the test piece is recorded as the temperature increases, and the temperatures corresponding to specified proportional degrees of deformation are determined.