SLOVENSKI STANDARD
SIST EN ISO 12680-1:2007

01-julij-2007

Metode za preskuġanje ognjevzdrġnih izdelkov - 1. del: Ugotavljanje dinamiļ nega Youngovega modula (MOE) z impulzi, vzbujenimi z vibracijo (ISO 12680-1:2005)

Methods of test for refractory products - Part 1: Determination of dynamic Young's modulus (MOE) by impulse excitation of vibration (ISO 12680-1:2005)

Verfahren zur Prüfung von feuerfesten Erzeugnissen - Teil 1: Bestimmung des dynamischen E-Moduls durch Schwingungs-Impulsanregung (ISO 12680-1:2005)

Méthodes d'essai pour produits réfractaires - Partie 1: Détermination du module de Young dynamique (MOE) par excitation de vibration par impulsion (ISO 12680-1:2005)

Ta slovenski standard je istoveten z: **EN ISO 12680-1:2007**

ICS:

81.080 Ognjevzdržni materiali Refractories

SIST EN ISO 12680-1:2007 **en;fr;de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12680-1

February 2007

ICS 81.080

English Version

Methods of test for refractory products - Part 1: Determination of dynamic Young's modulus (MOE) by impulse excitation of vibration (ISO 12680-1:2005)

Méthodes d'essai pour produits réfractaires - Partie 1: Détermination du module de Young dynamique (MOE) par excitation de vibration par impulsion (ISO 12680-1:2005)

Verfahren zur Prüfung von feuerfesten Erzeugnissen - Teil 1: Bestimmung des dynamischen E-Moduls durch Schwingungs-Impulsanregung (ISO 12680-1:2005)

This European Standard was approved by CEN on 4 February 2007.

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.

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

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

Ref. No. EN ISO 12680-1:2007: E

Foreword

The text of ISO 12680-1:2005 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 12680-1:2007 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 August 2007, and conflicting national standards shall be withdrawn at the latest by August 2007.

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 United Kingdom.

Endorsement notice

The text of ISO 12680-1:2005 has been approved by CEN as EN ISO 12680-1:2007 without any modifications.

INTERNATIONAL STANDARD

ISO 12680-1

First edition
2005-06-15

Methods of test for refractory products —

Part 1: Determination of dynamic Young's modulus (MOE) by impulse excitation of vibration

Méthodes d'essai pour produits réfractaires —

Partie 1: Détermination du module de Young dynamique (MOE) par excitation de vibration par impulsion

Reference number
ISO 12680-1:2005(E)

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

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 12680-1 was prepared by Technical Committee ISO/TC 33, *Refractories*.

ISO 12680 consists of the following parts, under the general title *Methods of test for refractory products*:

— *Part 1: Determination of dynamic Young's modulus (MOE) by impulse excitation of vibration*

The following part is under preparation:

— *Part 2: Determination of static modulus of elasticity*

Methods of test for refractory products —

Part 1: Determination of dynamic Young's modulus (MOE) by impulse excitation of vibration

1 Scope

This part of ISO 12680 specifies a method for determining the dynamic Young's modulus of rectangular cross-section bars and circular cross-section specimens of refractories by impulse excitation of vibration. The dynamic Young's modulus is determined using the resonant frequency of the specimen in its flexural mode of vibration.

NOTE Although not specifically described in this part of ISO 12680, this method can also be used at high temperatures with suitable equipment modification.

This part of ISO 12680 does not address the safety issues associated with its use. It is the responsibility of the users of this standard to establish appropriate safety and health practices.

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 5022:1979, *Shaped refractory products — Sampling and acceptance testing*

ISO 8656-1:1988, *Refractory products — Sampling of raw materials and unshaped products — Part 1: Sampling scheme*

3 Terms and definitions

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

3.1
modulus of elasticity
MOE
ratio of stress to strain below the proportional limit

3.2
proportional limit
greatest stress which a material is capable of sustaining without deviation from proportionality of stress to strain (Hooke's Law)

3.3
anti-nodes
locations, generally two or more, of local maximum displacement in an unconstrained slender bar or rod in resonance

NOTE For the fundamental flexural resonance, the anti-nodes are located at the two ends and the centre of the specimen.

