

## **Unshaped refractory products - Part 5: Preparation and treatment of test pieces**

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and treatment of test pieces

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1402-5:2004 sisaldab Euroopa standardi EN 1402-5:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 28.01.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1402-5:2004 consists of the English text of the European standard EN 1402-5:2003.</p> <p>This document is endorsed on 28.01.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This part of this European Standard specifies methods for the preparation and treatment (curing, drying and firing) of test pieces from unshaped refractory materials. The dimensions of the test pieces are specified. The methods are applicable to dense and insulating castables and to ramming materials with the four types of chemical composition defined in prEN 1402-1</p>	<p><b>Scope:</b></p> <p>This part of this European Standard specifies methods for the preparation and treatment (curing, drying and firing) of test pieces from unshaped refractory materials. The dimensions of the test pieces are specified. The methods are applicable to dense and insulating castables and to ramming materials with the four types of chemical composition defined in prEN 1402-1</p>
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ICS 81.080

Võtmesõnad:

English version

## Unshaped refractory products - Part 5: Preparation and treatment of test pieces

Produits réfractaires non façonnés - Partie 5: Préparation et traitement des éprouvettes

Ungeformte feuerfeste Erzeugnisse - Teil 5: Herstellung und Behandlung von Probekörpern

This European Standard was approved by CEN on 20 June 2003.

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## Foreword

This document (EN 1402-5:2003) has been prepared 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 April 2004, and conflicting national standards shall be withdrawn at the latest by April 2004.

This document supersedes ENV 1402-5:1999.

EN 1402 "*Unshaped refractory products*" consists of eight parts:

- *Part 1: Introduction and classification*
- *Part 2: Sampling for testing*
- *Part 3: Characterization as received*
- *Part 4: Determination of consistency of castables*
- *Part 5: Preparation and treatment of test pieces*
- *Part 6: Measurement of physical properties*
- *Part 7: Tests on pre-formed shapes*
- *Part 8: Determination of complementary properties*

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

The values of the properties obtained using these test-pieces are used to assess the homogeneity of unshaped materials. They are reference values which do not necessarily correspond with those obtained in industrial applications. Other methods of test-piece preparation or treatment, which differ from those specified by this standard, can lead to different values.

## 1 Scope

This part of this European Standard specifies methods for the preparation and treatment (curing, drying and firing) of test pieces from unshaped refractory materials. The dimensions of the test pieces are specified.

The methods are applicable to dense and insulating castables and to ramming materials with the four types of chemical composition defined in EN 1402-1.

The dimensions of the test pieces are stated and the preparation of the mixture, compaction methods, storage and post-treatment of the test pieces are described.

## 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 (including amendments).

EN 993-3, *Methods of test for dense shaped refractory products - Part 3: Test methods for carbon-containing refractories*.

EN 1402-1, *Unshaped refractory products - Part 1: Introduction and classification*.

EN 1402-2, *Unshaped refractory products - Part 2: Sampling for testing*.

EN 1402-4, *Unshaped refractory products - Part 4: Determination of consistency of castables*.

## 3 Dimensions of test pieces

Shape A: Length: 230 mm; width: 114 mm; thickness: 64 mm;

Shape B: Length: 230 mm; width: 64 mm; thickness: 54 mm;

Shape C: Length: 230 mm; width: 64 mm; thickness: 64 mm.

The width of the test piece as tested shall correspond to the height during preparation. The vibration of the test piece during preparation shall be recorded, and for shape C the compaction surface shall be marked for reference. The selection of test pieces for each type of material shall be as given in Table 1, except that for basic dense castables and ramming materials, test pieces with a diameter of 50 mm and height of  $50 \text{ mm} \pm 1 \text{ mm}$  are permissible. Shape C shall be used as the referee shape.