

**Petroleum and natural gas industries -  
Cements and materials for well  
cementing - Part 2: Testing of well  
cements**

Petroleum and natural gas industries - Cements and  
materials for well cementing - Part 2: Testing of well  
cements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 10426-2:2004 sisaldab Euroopa standardi EN ISO 10426-2:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.02.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 10426-2:2004 consists of the English text of the European standard EN ISO 10426-2:2003.</p> <p>This document is endorsed on 20.02.2004 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> This part of ISO 10426 specifies requirements and gives recommendations for the testing of cement slurries and related materials simulated well conditions.</p>	<p><b>Scope:</b> This part of ISO 10426 specifies requirements and gives recommendations for the testing of cement slurries and related materials simulated well conditions.</p>
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ICS 75.020, 91.100.10

Võtmesõnad:

EUROPEAN STANDARD

**EN ISO 10426-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2003

ICS 75.020; 91.100.10

English version

**Petroleum and natural gas industries - Cements and materials  
for well cementing - Part 2: Testing of well cements (ISO 10426-  
2:2003)**

Industries du pétrole et du gaz naturel - Ciments et  
matériaux pour la cimentation des puits - Partie 2: Essais  
de ciments pour puits (ISO 10426-2:2003)

This European Standard was approved by CEN on 1 October 2003.

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 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 Management Centre has the same status as the official versions.

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

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## Foreword

This document (EN ISO 10426-2:2003) has been prepared by Technical Committee ISO/TC 67 "Materials, equipment and offshore structures for petroleum and natural gas industries" in collaboration with Technical Committee CEN/TC 12 "Materials, equipment and offshore structures for petroleum and natural gas industries", the secretariat of which is held by AFNOR.

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.

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.

**NOTE FROM CMC** The foreword is susceptible to be amended on reception of the German language version. The confirmed or amended foreword, and when appropriate, the normative annex ZA for the references to international publications with their relevant European publications will be circulated with the German version.

### Endorsement notice

The text of ISO 10426-2:2003 has been approved by CEN as EN ISO 10426-2:2003 without any modifications.

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## Foreword

ISO (the International Organisation for Standardisation) 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 organisations, 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 standardisation.

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

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 10426-2 was prepared by Technical Committee ISO/TC 67, *Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries*, Subcommittee SC 3, *Drilling and completion fluids and well cements*.

ISO 10426 consists of the following parts, under the general title *Petroleum and natural gas industries — Cements and materials for well cementing*:

- *Part 1: Specification*
- *Part 2: Testing of well cements*
- *Part 3: Testing of deepwater well cement formulations*
- *Part 4: Preparation and testing of foamed cement slurries at atmospheric pressure*

The following part is under preparation:

- *Part 5: Determination of shrinkage and expansion of well cement formulations at atmospheric pressure*

## Introduction

This part of ISO 10426 is based on API RP 10B, 22nd edition, December 1997, addendum 1, October 1999.

Users of this part of ISO 10426 should be aware that further or differing requirements may be needed for individual applications. This part of ISO 10426 is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This may be particularly applicable where there is innovative or developing technology. Where an alternative is offered, the vendor should identify any variations from this part of ISO 10426 and provide details.

In this part of ISO 10426, where practical, US Customary units are included in brackets for information.

Well cement classes and grades are defined in ISO 10426-1.

# Petroleum and natural gas industries — Cements and materials for well cementing —

## Part 2: Testing of well cements

### 1 Scope

This part of ISO 10426 specifies requirements and gives recommendations for the testing of cement slurries and related materials under simulated well conditions.

### 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 10414-1, *Petroleum and natural gas industries — Field testing of drilling fluids — Part 1: Water-based fluids*

API RP 13J, *Testing of heavy brines (second edition), March 1996*

ASTM C 109, *Standard test method for compressive strength of hydraulic cement mortars (using 2 in. or [50 mm] cube specimens)*

ASTM C 188, *Standard test method for density of hydraulic cement*

### 3 Terms, definitions and symbols

#### 3.1 Terms and definitions

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

##### 3.1.1

##### **absolute volume**

reciprocal of absolute density

NOTE It is expressed as volume per unit mass.

##### 3.1.2

##### **additive**

material added to a cement slurry to modify or enhance some desired property

NOTE Common properties that are modified include: setting time (by use of retarders or accelerators), fluid loss control, viscosity, etc.