

## **Pingsarruse süstmört. Tavaliste tsementeerimismörtide spetsifikaat**

Grout for prestressing tendons - Basic requirements

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 447:2007 sisaldab Euroopa standardi EN 447:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 22.11.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 447:2007 consists of the English text of the European standard EN 447:2007.</p> <p>This document is endorsed on 22.11.2007 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 European Standard covers the materials which may be used in the manufacture of cement grouts and the required properties and composition of the grout. It is applicable to grouting of tendons in all types of structures including bridges and buildings.</p>	<p><b>Scope:</b></p> <p>This European Standard covers the materials which may be used in the manufacture of cement grouts and the required properties and composition of the grout. It is applicable to grouting of tendons in all types of structures including bridges and buildings.</p>
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**ICS** 91.100.30

**Võtmesõnad:** eristuskiri, pingbetoon, sarruskimbud, trossid, tsementeerimine

English Version

## Grout for prestressing tendons - Basic requirements

Coulis pour câble de précontrainte - Prescriptions pour les  
coulis courants

Einpressmörtel für Spannglieder - Allgemeine  
Anforderungen

This European Standard was approved by CEN on 21 June 2007.

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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.

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## Foreword

This document (EN 447:2007) has been prepared by Technical Committee CEN/TC 104 "Concrete and related products", the secretariat of which is held by DIN.

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 2008, and conflicting national standards shall be withdrawn at the latest by April 2008.

This document supersedes EN 447:1996.

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.

## Introduction

In post-tensioned prestressed concrete construction, the grouting of tendons is an important operation. The intention of this European Standard is to provide basic requirements for the approval of cement grouts, compliance with which will satisfy the requirements in prEN 13670.

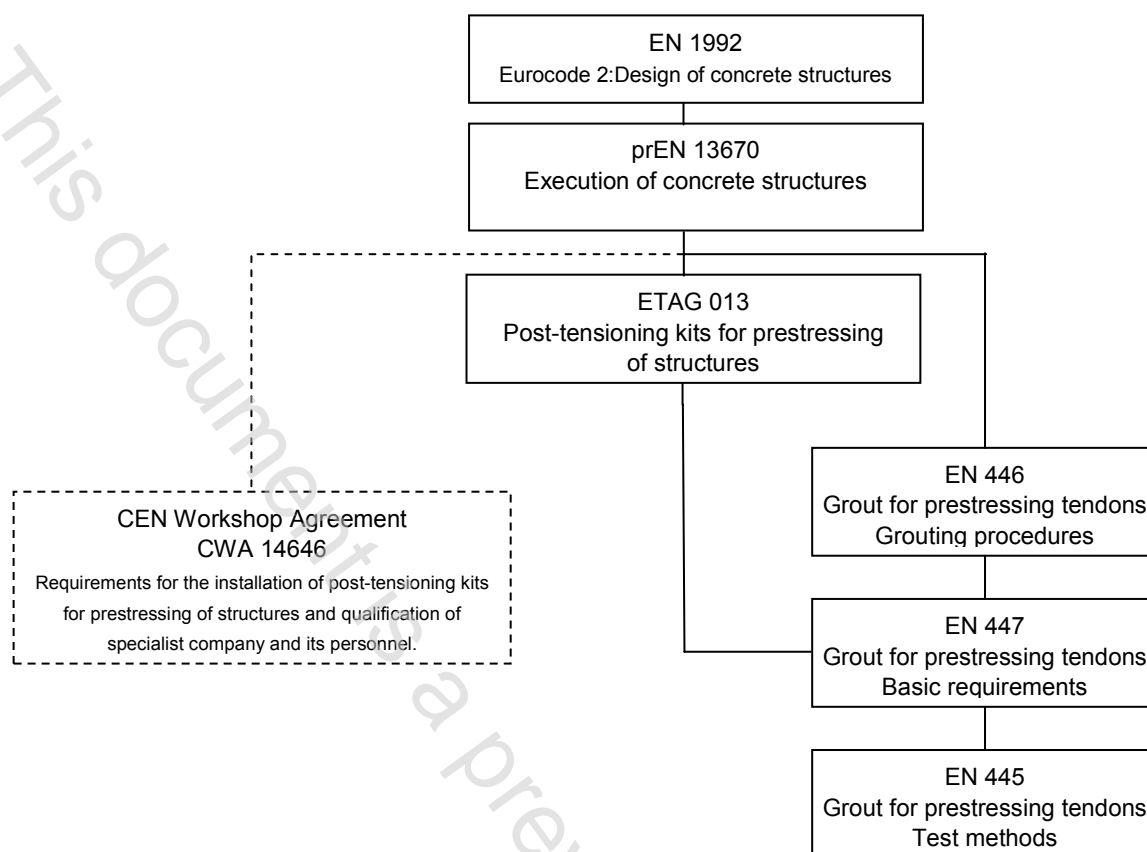
The main function of grouting is to:

- Provide protection to the prestressing steel against corrosion;
- Provide a bond between the prestressing steel and the ducts where required for the design of the structure;
- Allow transfer of compressive stresses in the structure in a direction transverse to internal tendons;
- Fill all voids where water may accumulate and cause frost damage.

The testing regimes anticipated by this European Standard include three levels:

- (1) Initial type and audit testing in accordance with this European standard;
- (2) Suitability testing for confirmation of the selected grout for a specific project in accordance with EN 446;
- (3) Inspection during grouting works on a specific project in accordance with EN 446.

The test methods for each of the regimes are given in EN 445.



System of CEN and EOTA documents as basis for design, execution and materials selection for protective measures of prestressing systems (only main modules).

## 1 Scope

This European Standard covers the materials that may be used in the manufacture of cement grouts and the required properties and composition of the grout. It is applicable to grouting of tendons in all types of structures including bridges and buildings.

## 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.

EN 196-3, *Methods of testing cement – Part 3: Determination of setting times and soundness*

EN 197-1, *Cement – Part 1: Composition, specifications and conformity criteria for common cements*

EN 206-1:2000, *Concrete – Part 1: Specification, performance, production and conformity*

EN 445, *Grout for prestressing tendons – Test methods*

EN 446, *Grout for prestressing tendons – Grouting procedures*

EN 934-2, *Admixtures for concrete, mortar and grout – Part 2: Concrete admixtures - Definitions, requirements, conformity, marking and labelling*

EN 934-4, *Admixtures for concrete, mortar and grout – Part 4: Admixtures for grout for prestressing tendons – Definitions, requirements, conformity, marking and labelling*

EN 1008, *Mixing water for concrete – Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

EN 13263 (all parts), *Silica fume for concrete*

## 3 Terms and definitions

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

### 3.1

#### **grout**

homogeneous mixture of cement and water, it may contain admixtures and additions

### 3.2

#### **tendon**

assembly of prestressing steel and sheath with anchorages and all necessary auxiliary components to permit grouting, either placed internally or externally to the concrete structure

## 4 Materials

### 4.1 Cement

Cement shall comply with EN 197-1 type CEM I (portland cement) or any other type of cement permitted for grouting of tendons in the place of use of the grout. The cement type shall be declared.