

**Products and systems for the
protection and repair of concrete
structures - Test methods - Testing of
anchoring products by the pull-out
method**

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of concrete structures - Test methods - Testing of
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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1881:2006 sisaldab Euroopa standardi EN 1881:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 24.11.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1881:2006 consists of the English text of the European standard EN 1881:2006.</p> <p>This document is endorsed on 24.11.2006 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>Käsitlusala:</p> <p>This European Standard specifies the conditions for carrying out a pull-out test on a reinforcing steel bar (rebar) anchored in a concrete block. The test applies to products based on hydraulic binders or synthetic resins or mixtures of these. It does not include those products intended to be used as grout around tendons used for the prestressing of concrete.</p>	<p>Scope:</p> <p>This European Standard specifies the conditions for carrying out a pull-out test on a reinforcing steel bar (rebar) anchored in a concrete block. The test applies to products based on hydraulic binders or synthetic resins or mixtures of these. It does not include those products intended to be used as grout around tendons used for the prestressing of concrete.</p>
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Võtmesõnad:

ICS 91.100.30

English Version

Products and systems for the protection and repair of concrete structures - Test methods - Testing of anchoring products by the pull-out method

Produits et systèmes pour la protection et la réparation des structures en béton - Méthodes d'essais - Essai d'arrachement d'une armature du béton pour les produits d'ancrage

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Prüfverfahren - Prüfung von Verankerungsprodukten mit der Ausziehprüfung

This European Standard was approved by CEN on 7 September 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, 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

This document (EN 1881:2006) 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 2007, and conflicting national standards shall be withdrawn at the latest by December 2008.

It has been prepared by Sub-committee SC 8 "Protection and repair of concrete structures", the secretariat of which is held by AFNOR.

This European Standard is one of a series dealing with products and systems for the protection and repair of concrete structures. It describes a method of test for determining the pull out resistance offered by a bonding grout or mortar used to anchor reinforcing bar.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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.

1 Scope

This European Standard specifies the conditions for carrying out a pull-out test on a reinforcing steel bar (rebar) anchored in a concrete block.

The test applies to products based on hydraulic binders or synthetic resins or mixtures of these. It does not include those products intended to be used as grout around tendons used for the prestressing of concrete.

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 206-1, *Concrete — Part 1: Specification, performance, production and conformity*

EN 1766, *Products and systems for the protection and repair of concrete structures — Test methods — Reference concretes for testing*

EN 10080, *Steel for the reinforcement of concrete - Weldable reinforcing steel - General*

EN 12390-2, *Testing hardened concrete – Part 2: Making and curing specimens for strength tests*

3 Test principle

A tensile load is applied to a rebar anchored in a concrete test-piece with the product to be tested. The force and displacement of the rebar relative to the test-piece are measured.

The test is performed on concrete, type C (0,40) in accordance with EN 1766.

The test shall be carried out on dry and/or wet concrete, as described in 5.4.1 and 5.4.2, and the product may be applied vertically, horizontally or overhead, or in any combination, as requested by the manufacturer.

NOTE If a bar is tested after being installed overhead it is not necessary to carry out additional tests in the other orientations.

4 Apparatus

The following apparatus is required.

- 4.1 One mixer for concrete.
- 4.2 One mixer for the product to be tested.
- 4.3 Moulds for the preparation of concrete blocks of minimum dimensions (400 × 400 × 250) mm.
- 4.4 One concrete vibrator, 25 mm diameter (EN 12390-2).
- 4.5 One rotary percussive drill or one diamond drill, or both, as specified by the manufacturer.
- 4.6 Three ribbed steel bars type B500B, diameter 16 mm, with a related rib area of 0.075 to 0.085 in accordance with EN 10080 for each test.
- 4.7 Devices for centring and maintaining alignment of the rebars during anchoring.