

**Products and systems for the
protection and repair of concrete
structures - Test methods - Part 2:
Determination of the adhesion of
injection products, with or without
thermal cycling - Adhesion by tensile
bond strength**

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of concrete structures - Test methods - Part 2:
Determination of the adhesion of injection products,
with or without thermal cycling - Adhesion by
tensile bond strength

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12618-2:2004 sisaldab Euroopa standardi EN 12618-2:2004 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12618-2:2004 consists of the English text of the European standard EN 12618-2:2004.</p> <p>This document is endorsed on 23.11.2004 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>Käsitlusala:</p> <p>This Part of this European Standard describes a test method to determine the adhesion to hydraulic concrete of injection products. The test can be applied to polymer and cementitious injection products</p>	<p>Scope:</p> <p>This Part of this European Standard describes a test method to determine the adhesion to hydraulic concrete of injection products. The test can be applied to polymer and cementitious injection products</p>
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Võtmesõnad:

English version

Products and systems for the protection and repair of concrete structures - Test methods - Part 2: Determination of the adhesion of injection products, with or without thermal cycling - Adhesion by tensile bond strength

Produits et systèmes pour la protection et la réparation des structures en béton - Méthodes d'essai - Partie 2: Détermination de l'adhérence des produits d'injection, après cycles thermiques ou non - Procédé d'adhérence par traction

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Prüfverfahren - Teil 2: Bestimmung der Haftzugfestigkeit von Rissfüllstoffen mit oder ohne thermische Behandlung - Haftzugfestigkeit

This European Standard was approved by CEN on 27 February 2004.

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.

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Foreword

This document (EN 12618-2:2004) has been prepared by Technical Committee CEN /TC 104, "Concrete and related products", the secretariat of which is held by DIN.

It has been drafted by Sub-Committee 8 "Products and systems for the protection and repair of concrete structures" (Secretariat 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 February 2005, and conflicting national standards shall be withdrawn at the latest by February 2005.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This document describes a test method to determine the adhesion to hydraulic concrete of injection products. The test can be applied to polymer and cementitious injection products.

The injection may be performed upon cracks in the dry, damp, wet or with water flowing through them. The tensile bond test should always be carried out after the appropriate period of curing under the standard conditions of test detailed below, but may additionally be performed upon a further set of specimens after a period of artificial ageing by thermal cycling.

The test can provide an opportunity for subjective assessment of injectability.

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 1504-1:1998, *Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 1: Definitions.*

prEN 1504-5:2001, *Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 5 - Concrete injection.*

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

EN 13687-3, *Products and systems for the protection and repair of concrete structures - Test methods - Determination of thermal compatibility – Part 3: Thermal cycling without de-icing salt impact.*

EN 24624:1992, *Paints and varnishes - Pull-off test (ISO 4624:1978)*

3 Terms and definitions

For the purposes of document, the terms and definitions given in EN 1504-1:1998, prEN 1504-5:2001 and EN 24624:1992 apply.

4 Tests methods

4.1 Principle

The principle of this test is the tensile testing of composite specimens in the form of a sandwich, concrete/injection product/concrete.

These composite specimens are obtained by sawing or coring a composite test piece prepared by injecting the product into an artificial crack whose moisture content is controlled (dry, damp, wet or under water). The artificial crack is formed by placing two concrete slabs face to face.

NOTE This artificial crack is preferred to natural crack obtained by splitting, due to a better control of the contact area between injection grout and concrete substrate, which is of importance in the measured load.

The standard conditions of test shall be $(21 \pm 2) ^\circ\text{C}$ and $(60 \pm 10) \% \text{ R.H.}$