

**Products and systems for the
protection and repair of concrete
structures - Test methods - Part 2:
Shrinkage of crack injection products
based on polymer binder: volumetric
shrinkage**

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of concrete structures - Test methods - Part 2:
Shrinkage of crack injection products based on
polymer binder: volumetric shrinkage

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12617-2:2004 sisaldab Euroopa standardi EN 12617-2:2004 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 12617-2:2004 consists of the English text of the European standard EN 12617-2:2004.</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: This document describes a method for determining the volumetric shrinkage of products formulated with thermosetting polymer binders, mainly epoxy and polyester binders, that cure at ambient temperature or below. This method is adapted for crack injection products formulated with polymer thermosetting binder.</p>	<p>Scope: This document describes a method for determining the volumetric shrinkage of products formulated with thermosetting polymer binders, mainly epoxy and polyester binders, that cure at ambient temperature or below. This method is adapted for crack injection products formulated with polymer thermosetting binder.</p>
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English version

Products and systems for the protection and repair of concrete structures - Test methods - Part 2: Shrinkage of crack injection products based on polymer binder: volumetric shrinkage

Produits et systèmes pour la protection et la réparation des structures en béton - Méthodes d'essai - Partie 2: Retrait des produits d'injection pour fissures formulé avec des polymères : retrait volumétrique

Produkte und Systeme für den Schutz und die Instandsetzung von Betontragwerken - Prüfverfahren - Teil 2: Schrumpfung von polymeren Rissfüllstoffen : Volumetrische Schrumpfung

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Foreword

This document (EN 12617-2:2004) has been prepared by Technical Committee CEN /TC 104, "Concrete and related products", the secretariat of which is held by DIN.

It has been prepared 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 method for determining the volumetric shrinkage of products formulated with thermosetting polymer binders, mainly epoxy and polyester binders, that cure at ambient temperature or below.

This method is adapted for crack injection products formulated with polymer thermosetting binder.

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 ISO 2811-2, *Paints and varnishes – Determination of density – Part 2: Immersed body (plummet) method (ISO 2811-2:1997)*.

3 Test principle

The total volumetric shrinkage is calculated as the percentage change in density when the polymer system at (21 ± 2) °C cures to the final product also at (21 ± 2) °C.

The density after polymerisation (curing) is measured at $(21 \pm 0,5)$ °C by measuring the buoyancy of the specimen immersed in silicone oil.

4 General requirements for testing - Apparatus

- 4.1 balance accurate to 0,001 g, a density measuring device, and suitable wire for suspending the specimen in silicone oil;
- 4.2 thermometer accurate to 0,2 °C and graduated at intervals of 0,2 °C or finer;
- 4.3 silicone oil bath of density Q_{Si} at $+(21 \pm 0,5)$ °C;
- 4.4 test tube: diameter 20 mm, length 180 mm in polyethylene or glass treated with a silicone release agent;
- 4.5 stopwatch;
- 4.6 desiccator;
- 4.7 temperature – controlled room or enclosure, capable of maintaining the sample at the recommended constant temperature.