

**Agglomerated stone - Test methods -
Part 13: Determination of electrical
resistivity**

Agglomerated stone - Test methods - Part 13:
Determination of electrical resistivity

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14617-13:2005 sisaldab Euroopa standardi EN 14617-13:2005 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 30.05.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14617-13:2005 consists of the English text of the European standard EN 14617-13:2005.</p> <p>This document is endorsed on 30.05.2005 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>
--	---

<p>Käsitlusala: This test method covers the determination of dc insulation resistance, volume resistance and resistivity, as well as surface resistance and resistivity, and the corresponding electrical conductance and conductivity, of specimens of agglomerated stone products conforming to the definition reported in EN 14618.</p>	<p>Scope: This test method covers the determination of dc insulation resistance, volume resistance and resistivity, as well as surface resistance and resistivity, and the corresponding electrical conductance and conductivity, of specimens of agglomerated stone products conforming to the definition reported in EN 14618.</p>
---	---

ICS 91.100.15

Võtmesõnad:

ICS 91.100.15

English version

Agglomerated stone - Test methods - Part 13: Determination of electrical resistivity

Pierre agglomérée - Méthodes d'essai - Partie 13:
Détermination de la résistance électrique

Künstlich hergestellter Stein - Prüfverfahren - Teil 13:
Bestimmung des spezifischen elektrischen Widerstands

This European Standard was approved by CEN on 3 February 2005.

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



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

	Page
Foreword.....	3
1 Scope	4
2 Normative references	4
3 Principle.....	4
4 Definitions and symbols	4
5 Sampling and test specimen preparation	5
6 Specimen conditioning	5
7 Electrode system and measuring equipment.....	5
8 Procedure	6
9 Expression of results	6
10 Report	6
Annex A (informative).....	9
Annex B (informative) Statistical evaluation of test results.....	11
Bibliography	14

Foreword

This document (EN 14617-13:2005) has been prepared by Technical Committee CEN/TC 246 "Natural stones", the secretariat of which is held by UNI.

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 September 2005, and conflicting national standards shall be withdrawn at the latest by September 2005.

Test methods for agglomerated stones consist of the following:

EN 14617-1, *Agglomerated stone - Test methods – Part 1: Determination of apparent density and water absorption*

EN 14617-2, *Agglomerated stone – Test methods – Part 2: Determination of flexural strength (bending)*

prEN 14617-3, *Agglomerated stone - Test methods – Part 3: Determination of slipperiness*

EN 14617-4, *Agglomerated stone - Test methods – Part 4: Determination of the abrasion resistance*

EN 14617-5, *Agglomerated stone - Test methods – Part 5: Determination of freeze and thaw resistance*

EN 14617-6, *Agglomerated stone - Test methods – Part 6: Determination of thermal shock resistance*

prEN 14617-7, *Agglomerated stone – Test methods – Part 7: Determination of ageing*

prEN 14617-8, *Agglomerated stone – Test methods – Part 8: Determination of resistance to fixing (dowel hole)*

EN 14617-9, *Agglomerated stone - Test methods – Part 9: Determination of impact resistance*

EN 14617-10, *Agglomerated stone – Test methods – Part 10: Determination of chemical resistance*

EN 14617-11, *Agglomerated stone – Test methods – Part 11: Determination of linear thermal expansion coefficient*

EN 14617-12, *Agglomerated stone – Test methods – Part 12: Determination of dimensional stability*

EN 14617-13, *Agglomerated stone – Test methods – Part 13: Determination of electrical resistivity*

EN 14617-15, *Agglomerated stone – Test methods – Part 15: Determination of compressive strength*

EN 14617-16, *Agglomerated stone – Test methods – Part 16: Determination of dimensions, geometric characteristics and surface quality of modular tiles*

prEN 14617-17, *Agglomerated stone – Test methods – Part 17: Determination of biological resistance*

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 test method covers the determination of dc insulation resistance, volume resistance and resistivity, as well as surface resistance and resistivity, and the corresponding electrical conductance and conductivity, of specimens of agglomerated stone products conforming to the definition reported in EN 14618. These products are usually made by stone aggregates bound via either resin and filler or cement and water (paste components) or a mixture of polymer/cement and related addition (such as reinforcing fibres, electrically insulating/conducting fillers, etc.). Resistivity/conductivity may be also used as an indirect measure of some properties of agglomerated stones products (see Annex A).

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.

Not applicable

3 Principle

The resistance/conductance of an agglomerated stone specimen is evaluated by the measurement of direct current (dc) flow in the specimen under specified conditions by appropriate electrode systems. Surface and volume resistance/conductance may be measured separately by the same electrode system. The resistivity/conductivity shall be calculated from specimen and electrode dimensions and shapes.

4 Definitions and symbols

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

4.1

insulation resistance ($\Omega \rightarrow \Omega = \text{ohm}$)

insulation resistance between two electrodes that are in electrical contact with an agglomerated stone specimen, calculated as the ratio of the direct voltage applied to the electrodes to the total current flowing between them; it is dependent upon the shape and size as well as the volume and surface resistance of the specimen.

4.2

volume resistance R_V (Ω)

volume resistance between two electrodes that are in electrical contact with a specimen, calculated as the ratio of the direct voltage applied to the electrodes to that portion of the current between them that flows *only* through the volume of the specimen.

4.3

surface resistance R_S (Ω)

surface resistance between two electrodes that are in electrical contact with the surface of an agglomerated stone specimen, calculated as the ratio of the direct voltage applied to the electrodes to that portion of the current between them which is primarily distributed on the specimen surface and a thin material layer beneath the specimen surface. Surface conductivity cannot be known accurately, but only conventionally, because more or less volume contribution is usually involved in the measurement, depending on the nature of the specimen and environment.