

Chemical attack on concrete - Determination of aggressive carbon dioxide content in water

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13577:2007 sisaldab Euroopa standardi EN 13577:2007 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 31.05.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13577:2007 consists of the English text of the European standard EN 13577:2007.</p> <p>This document is endorsed on 31.05.2007 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>Käsitlusala:</p> <p>This European Standard specifies a reference method for the determination of carbon dioxide present in water and which has a capacity to dissolve in lime from concrete. It is not applicable to the measurement of total carbon dioxide present in water. If other methods are used, it needs to be shown, that they give results equivalent to those obtained by this reference method. This test does not apply to water that has a pH less than 4,3. In case of dispute, only the reference method is used.</p>	<p>Scope:</p> <p>This European Standard specifies a reference method for the determination of carbon dioxide present in water and which has a capacity to dissolve in lime from concrete. It is not applicable to the measurement of total carbon dioxide present in water. If other methods are used, it needs to be shown, that they give results equivalent to those obtained by this reference method. This test does not apply to water that has a pH less than 4,3. In case of dispute, only the reference method is used.</p>
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ICS 13.060.50, 91.100.30

Võtmesõnad:

ICS 13.060.50; 91.100.30

English Version

Chemical attack on concrete - Determination of aggressive carbon dioxide content in water

Attaque chimique du béton - Détermination de la teneur en
dioxyde de carbone agressif de l'eau

Chemischer Angriff an Beton - Bestimmung des Gehalts an
angreifendem Kohlendioxid in Wasser

This European Standard was approved by CEN on 8 March 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 13577:2007) 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 October 2007, and conflicting national standards shall be withdrawn at the latest by October 2007.

This European Standard describes a method for testing water which may be aggressive to hardened concrete.

It is based on DIN 4030 "Assessment of water, soil and gases for their aggressiveness to concrete".

No existing European Standard is superseded.

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.

1 Scope

This European Standard specifies a reference method for the determination of carbon dioxide present in water and which has a capacity to dissolve in lime from concrete.

It is not applicable to the measurement of total carbon dioxide present in water.

If other methods are used, it needs to be shown, that they give results equivalent to those obtained by this reference method.

This test does not apply to water that has a pH less than 4,3.

In case of dispute, only the reference method is used.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following term and definition applies.

3.1

aggressive CO₂

quantity of carbon dioxide present in water which has a capacity to dissolve lime in concrete

4 Principle

Calcium carbonate powder is added to water.

After the reaction of aggressive CO₂ with calcium carbonate is complete, the water is titrated with acid.

The difference in titration with a second sample of the same water which has not been subjected to the reaction with calcium carbonate will give the aggressive CO₂ content of the water.

5 Apparatus

5.1 Laboratory equipment

5.1.1 balance reading up to 100 g accurate to 0,1 mg.

5.1.2 pH meter (in calibration) or a pH indicator (e.g. metylorange).

5.1.3 magnetic stirrer fitted with thermostatic control.

5.1.4 thermometer with a measuring range from 0 to 30 °C and scale divisions of 0,2 °C.

5.1.5 25 ml burette accurate to 0,03 ml.

5.1.6 100 ml pipette accurate to 0,1 ml.