

**Bituumensegudes kasutatava  
fillertäitematerjali katsetamine. Osa 1:  
Kuulrõnga katse**

Tests for filler aggregate used in bituminous  
mixtures - Part 1: Delta ring and ball test

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13179-1:2001 sisaldab Euroopa standardi EN 13179-1:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 04.04.2001 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13179-1:2001 consists of the English text of the European standard EN 13179-1:2000.</p> <p>This document is endorsed on 04.04.2001 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><b>Käsitlusala:</b></p> <p>This European Standard specifies the procedure for testing the stiffening effect of filler aggregate by means of the determination of the softening point of a bitumen/filler aggregate mixture. The stiffening effect is used to evaluate the influence of the filler aggregate on the mechanical behaviour of bituminous mixtures. The test procedure is applicable to filler aggregate used in bituminous mixtures.</p>	<p><b>Scope:</b></p> <p>This European Standard specifies the procedure for testing the stiffening effect of filler aggregate by means of the determination of the softening point of a bitumen/filler aggregate mixture. The stiffening effect is used to evaluate the influence of the filler aggregate on the mechanical behaviour of bituminous mixtures. The test procedure is applicable to filler aggregate used in bituminous mixtures.</p>
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ICS 75.140

Võtmesõnad:

ICS 75.140

**English version**

**Tests for filler aggregate used in bituminous mixtures**

**Part 1: Delta ring and ball test**

Essais sur les fillers utilisés dans les  
mélanges bitumineux – Partie 1:  
Essai bille-anneau

Prüfverfahren für mineralische Füller in  
bitumenhaltigen Mischungen – Teil 1:  
Delta-Ring- und Kugel-Verfahren

This European Standard was approved by CEN on 2000-07-13.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 154 "Aggregates", the secretariat of which is held by BSI.

This document

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 2001, and conflicting national standards shall be withdrawn at the latest by December 2003.

This standard forms part of series of tests for bituminous bound filler aggregates.

Test methods for other properties of aggregates will be covered by parts of the following European Standards:

EN 932	Tests for general properties of aggregates
EN 933	Tests for geometrical properties of aggregates
EN 1097	Tests for mechanical and physical properties of aggregates
EN 1367	Tests for thermal and weathering properties of aggregates
EN 1744	Tests for chemical properties of aggregates

The other part of EN 13179 will be:

Part 2: Bitumen number

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies the procedure used to determine the stiffening effect of filler aggregate when mixed with bitumen.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 932-2	<i>Tests for general properties of aggregates - Part 2: Methods for reducing laboratory samples</i>
EN 932-5	<i>Tests for general properties of aggregates - Part 5: Common equipment and calibration</i>
EN 1097-7	<i>Tests for mechanical and physical properties of aggregates - Part 7: Determination of the particle density of filler - Pyknometer method</i>
EN 1427	<i>Bitumen and bituminous binders - Determination of softening point - Ring and Ball method</i>
EN 12591	<i>Bitumen and bituminous binder – Specifications for paving grade bitumens</i>

## 3 Terms and definitions

For the purposes of this European Standard the following terms and definitions apply:

### 3.1

#### **delta ring and ball**

increase of the softening point of a bitumen/filler aggregate mixture in a composition of 37,5 volume parts of filler aggregate and 62,5 volume parts of bitumen, related to the softening point of the bitumen used in that mixture.

### 3.2

#### **constant mass**

successive weighings after drying at least 1 h apart not differing by more than 0,1 %.

NOTE In many cases constant mass can be achieved after a test portion has been dried for a pre-determined period in a specified oven at  $(110 \pm 5) ^\circ\text{C}$ . Test laboratories can determine the time required to achieve constant mass for specific types and sizes of sample dependent upon the drying capacity of the oven used.

### 3.3

#### **laboratory sample**

reduced sample derived from a bulk sample for laboratory testing.