

Bituminous mixtures - Test methods - Part 15:  
Determination of the segregation sensitivity

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

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English Version

## Bituminous mixtures - Test methods - Part 15: Determination of the segregation sensitivity

Mélanges bitumineux - Méthodes d'essai - Partie 15 :  
Détermination de la sensibilité à la ségrégation

Asphalt - Prüfverfahren - Teil 15: Bestimmung der  
Entmischungsneigung

This European Standard was approved by CEN on 19 December 2021.

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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-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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**Contents**

Page

<b>European foreword.....</b>	<b>3</b>
<b>Introduction .....</b>	<b>4</b>
<b>1 Scope.....</b>	<b>5</b>
<b>2 Normative references.....</b>	<b>5</b>
<b>3 Terms and definitions .....</b>	<b>5</b>
<b>4 Principle .....</b>	<b>6</b>
<b>5 Apparatus.....</b>	<b>6</b>
<b>6 Preparation of test portion.....</b>	<b>7</b>
<b>7 Procedure.....</b>	<b>8</b>
<b>8 Analysis.....</b>	<b>8</b>
<b>9 Calculation .....</b>	<b>8</b>
<b>9.1 The binder segregation value .....</b>	<b>8</b>
<b>9.2 The aggregate segregation value.....</b>	<b>9</b>
<b>9.3 The mixing quality value .....</b>	<b>9</b>
<b>10 Test report.....</b>	<b>10</b>
<b>11 Precision.....</b>	<b>10</b>

## European foreword

This document (EN 12697-15:2022) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12697-15:2003.

The main changes compared to the previous edition are listed below:

- the title no longer refers to hot mix asphalt;
- (ge) editorial update according to current standard template;
- addition of new clause “Introduction” according to CEN/CENELEC Internal Regulations Part 3:2019;
- Clause 1, scope clarified according to CEN/CENELEC Internal Regulations Part 3:2019;
- Clause 4, previous clause “Significance and use” deleted. 1<sup>st</sup> and 2<sup>nd</sup> paragraph transferred to Introduction. 3<sup>rd</sup> paragraph including NOTE transferred to Scope (modified);
- Clause 4, revised title to “Principal”. Following clauses renumbered;
- Clause 5, correction of Figure 1 (Clause 6 in previous version);
- Clause 9, completed with references to formulas. “(percentage)” replaced by: “to the nearest 0,1 %”;
- 9.2, correction to 1 % for the calculation of the aggregate segregation value;
- Clause 10, revision of data to be reported.

A list of all parts in the EN 12697 series can be found on the CEN website.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

The homogeneity of the quality level of a bituminous pavement is among others determined by the homogeneity of the composition of the bituminous mixtures applied. The homogeneity of a bituminous mixture in the pavement is influenced by the mixing quality during production and by its segregation sensitivity during handling. The latter is influenced by the mixture composition in terms of type and amount of aggregate and binder. Some segregation is inherent to the nature of bituminous materials. Undue segregation is caused by e.g. not appropriate mixing, improper loading of the hopper, lorry or finisher.

This test method provides useful information on the homogeneity quality of a bituminous mixture. The test data provide information on the efficacy of the mixing procedure and on the sensitivity of the mixture for segregation in its composition during the handling so that appropriate measures can be taken to minimize such segregation where considered necessary.

## 1 Scope

This document specifies a test method for the determination of the mixing quality and the tendency of segregation in composition of bituminous mixtures. This test method is considered suitable for mix-design purposes and for client information.

NOTE This test method is based on hot bituminous mixtures. There is no experience for other types of bituminous mixtures, e.g. asphalt concrete with bituminous emulsions.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 933-1, *Tests for geometrical properties of aggregates - Part 1: Determination of particle size distribution - Sieving method*

EN 12697-1, *Bituminous mixtures - Test methods - Part 1: Soluble binder content*

EN 12697-2, *Bituminous mixtures - Test methods - Part 2: Determination of particle size distribution*

EN 12697-27, *Bituminous mixtures - Test methods - Part 27: Sampling*

EN 12697-35, *Bituminous mixtures - Test methods - Part 35: Laboratory mixing*

## 3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### **mixing quality**

homogeneity of the composition of a bituminous mixture immediately after mixing

### 3.2

#### **segregation**

variability of the aggregate grading and the corresponding binder content in a well-mixed bituminous mixture, due to differential movements of coarse and fine aggregate particles when handling the mixture

### 3.3

#### **segregation value**

difference in bitumen content or sieving result between the fine and the coarse parts of a segregated mixture