

Bituminous mixtures - Test methods - Part 39: Binder content by ignition

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EUROPEAN STANDARD

**EN 12697-39**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

## Bituminous mixtures - Test methods - Part 39: Binder content by ignition

Mélanges bitumineux - Méthodes d'essai - Partie 39 :  
Teneur en bitume par calcination

Asphalt - Prüfverfahren - Teil 39: Bindemittelgehalt  
durch Thermoanalyse

This European Standard was approved by CEN on 18 November 2019.

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

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## European foreword

This document (EN 12697-39:2020) 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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

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 12697-39:2012.

The following is a list of significant technical changes since the previous edition:

- the title no longer makes the method exclusively for hot mix asphalt;
- [ge] editorial update according to current standard template;
- [ge] references added to each formula in related text;
- [ge] NOTES modified or adjusted to normal text where appropriate according to ISO/IEC Directives - Part 2:2016, 24.5;
- [Clause 2] titles for test methods EN 12697-series corrected.

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

**WARNING** — The temperature of the oven and the different accessories is extremely high during the ignition method. Special care should be taken when handling the equipment and the samples baskets etc. should be placed, shielded and marked in a way that helps ensure any unpremeditated contact is avoided.

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.

## 1 Scope

This document describes a test method for the determination of the binder content of samples of bituminous mixtures by ignition. As such, it is an alternative to the more traditional method of extracting the binder using solvents. The method can be used for evaluation of mixture composition because the remaining aggregate can be used for determining aggregate gradation and density, provided excessive breakdown of the aggregate particles does not occur at the temperature reached. The results can be used for process control or checks on the compliance of mixtures. However, the need for calibration of a mixture, either on the complete mixture or on each of its component materials separately, before an analysis can be carried out makes this method easier to use with regularly used mixtures rather than with an extensive range of different mixtures from different aggregate sources. The test method is equally suitable for the analysis of mixtures containing unmodified or modified binders because the method has to be calibrated for each mixture being checked when calibration on mixtures is used. In case of doubt/dispute, the determination of the calibration value based on laboratory-prepared bituminous mixtures (see A.1 and A.2) is the reference method.

## 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 12597, *Bitumen and bituminous binders — Terminology*

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

EN 12697-14, *Bituminous mixtures — Test methods — Part 14: Water content*

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

EN 12697-28, *Bituminous mixtures — Test methods — Part 28: Preparation of samples for determining binder content, water content and grading*

## 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 <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>

### 3.1

#### **binder**

covers bituminous binder as described in EN 12597

### 3.2

#### **corrected binder content**

calculated binder content after correction by the calibration value in order to compensate for components in the asphalt material itself that, due to the high temperatures during ignition, could give rise to misinterpretations