# Bituminous mixtures - Test methods - Part 24: Resistance to fatigue

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD



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|---|---|
| See Eesti standard EVS-EN 12697-24:2018 sisaldab Euroopa standardi EN 12697-24:2018 ingliskeelset teksti. | This Estonian standard EVS-EN 12697-24:2018 consists of the English text of the European standard EN 12697-24:2018. |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
| Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 20.06.2018. | Date of Availability of the European standard is 20.06.2018. |
| Standard on kättesaadav Eesti Standardikeskusest. | The standard is available from the Estonian Centre for Standardisation. |

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 93.080.20

EUROPEAN STANDARD

NORME EUROPÉENNE

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# EN 12697-24

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Supersedes EN 12697-24:2012

English Version

# Bituminous mixtures - Test methods - Part 24: Resistance to fatigue

Mélanges bitumineux - Méthodes d'essai pour mélange hydrocarboné à chaud - Partie 24: Résistance à la fatigue

Asphalt - Prüfverfahren - Teil 24: Beständigkeit gegen Ermüdung

This European Standard was approved by CEN on 26 February 2018.

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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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**



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## European foreword

This document (EN 12697-24:2018) has been prepared by Technical Committee CEN/TC 227 “Road materials”, 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 December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.

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

This document supersedes EN 12697-24:2012.

Compared with EN 12697-24:2012, the following changes have been made:

— the series title no longer makes the method exclusively for hot mix asphalt [Title];

— editing of several text sections in order to clarify the procedures [Ge];

— “load applications” amended to “load cycles" [Ge];

— Figure A.1 corrected: Key 3 pointing at the groove [A.1.2];

— completion of Figure E.3: Line 1 added to extensiometer in front view figure [E.2.5.3];

— introduction of new annex for cyclic indirect tensile test on cylindrical specimens (CIT-CY) [Annex F].

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

# 1 Scope

This European Standard specifies the methods for characterizing the fatigue of bituminous mixtures using alternative tests, including bending tests and direct and indirect tensile tests. The tests are performed on compacted bituminous material under a sinusoidal loading or other controlled loading, using different types of specimens and supports.

The procedure is used:

a) to rank bituminous mixtures on the basis of resistance to fatigue;

b) as a guide to relative performance in the pavement;

c) to obtain data for estimating the structural behaviour of the road; and

d) to judge test data according to specifications for bituminous mixtures.

Because this European Standard does not impose a particular type of testing device, the precise choice of the test conditions depends on the possibilities and the working range of the device used. For the choice of specific test conditions, the requirements of the product standards for bituminous mixtures need to be respected. The applicability of this document is described in the product standards for bituminous mixtures.

# 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12697-6, *Bituminous mixtures — Test methods for hot mix asphalt — Part 6: Determination of bulk density of bituminous specimens*

EN 12697-7, *Bituminous mixtures — Test methods for hot mix asphalt — Part 7: Determination of bulk density of bituminous specimens by gamma rays*

EN 12697-8, *Bituminous mixtures — Test methods for hot mix asphalt — Part 8: Determination of void characteristics of bituminous specimens*

EN 12697-26, *Bituminous mixtures — Test methods — Part 26: Stiffness*

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

EN 12697-29, *Bituminous mixtures — Test method for hot mix asphalt — Part 29: Determination of the dimensions of a bituminous specimen*

EN 12697-31, *Bituminous mixtures — Test methods for hot mix asphalt — Part 31: Specimen preparation by gyratory compactor*

EN 12697-33, *Bituminous mixtures —Test methods — Part 33: Specimen prepared by roller compactor*

# 3 Terms, definitions, symbols and abbreviations

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