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

Táto norma obsahuje anglickú verziu európskej normy. This standard includes the English version of the European Standard.

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## EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

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**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.

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 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of an identical text or by endorsement, at the latest by December 2018, and conflicting national standards shall be withdrawn at the latest by December 2018.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

### koniec náhľadu – text ďalej pokračuje v platenej verzii STN