



SLOVENSKI STANDARD
SIST EN 12697-37:2004
01-junij-2004

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Bituminous mixtures - Test methods for hot mix asphalt - Part 37: Hot sand test for the adhesivity of binder on precoated chippings for HRA

Asphalt - Prüfverfahren für Heißasphalt - Teil 37: Prüfung des Haftvermögens eines Bindemittels auf vorumhülltem Splitt für Hot-Rolled-Asphalt mittels heißem Sand

Mélanges bitumineux - Méthodes d'essai pour enrobés a chaud - Partie 37: Essai au sable chaud de l'adhésion du liant sur des gravillons pré-enrobés pour HRA (hot rolled asphalt)

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Ta slovenski standard je istoveten z: EN 12697-37:2003

ICS:

93.080.20 Materiali za gradnjo cest Road construction materials

SIST EN 12697-37:2004 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12697-37

May 2003

ICS 93.080.20

English version

Bituminous mixtures - Test methods for hot mix asphalt - Part 37: Hot sand test for the adhesivity of binder on precoated chippings for HRA

Mélanges bitumineux - Méthodes d'essai pour enrobés à chaud - Partie 37: Essai au sable chaud de l'adhésion du liant sur des gravillons pré-enrobés pour HRA (hot rolled asphalt)

Asphalt - Prüfverfahren für Heißasphalt - Teil 37: Prüfung des Haftvermögens eines Bindemittels auf vorumhülltem Splitt für Hot-Rolled-Asphalt mittels heißem Sand

This European Standard was approved by CEN on 17 March 2003.

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 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 Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 12697-37:2003) 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 November 2003, and conflicting national standards shall be withdrawn at the latest by August 2005.

It does not replace any existing European Standard.

This European Standard is one of a series of standards as listed below:

EN 12697-1, *Bituminous mixtures — Test methods for hot mix asphalt — Part 1: Soluble binder content.*

EN 12697-2, *Bituminous mixtures — Test methods for hot mix asphalt — Part 2: Determination of particle size distribution.*

EN 12697-3, *Bituminous mixtures — Test methods for hot mix asphalt — Part 3: Bitumen recovery: Rotary evaporator.*

EN 12697-4, *Bituminous mixtures — Test methods for hot mix asphalt — Part 4: Bitumen recovery: Fractionating column.*

EN 12697-5, *Bituminous mixtures — Test methods for hot mix asphalt — Part 5: Determination of the maximum density.*

EN 12697-6, *Bituminous mixtures — Test methods for hot mix asphalt — Part 6: Determination of bulk density of bituminous specimen by hydro-static method.*

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 12697-9, *Bituminous mixtures — Test methods for hot mix asphalt — Part 9: Determination of the reference density.*

EN 12697-10, *Bituminous mixtures — Test methods for hot mix asphalt — Part 10: Compactability.*

prEN 12697-11, *Bituminous mixtures — Test methods for hot mix asphalt — Part 11: Determination of the compatibility between aggregate and bitumen.*

prEN 12697-12, *Bituminous mixtures — Test methods for hot mix asphalt — Part 12: Determination of the water sensitivity of bituminous specimens.*

EN 12697-13, *Bituminous mixtures — Test methods for hot mix asphalt — Part 13: Temperature measurement.*

EN 12697-14, *Bituminous mixtures — Test methods for hot mix asphalt — Part 14: Water content.*

EN 12697-15, *Bituminous mixtures — Test methods for hot mix asphalt — Part 15: Determination of the segregation sensitivity.*

prEN 12697-16, *Bituminous mixtures — Test methods for hot mix asphalt — Part 16: Abrasion by studded tyres.*

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prEN 12697-17, *Bituminous mixtures — Test methods for hot mix asphalt — Part 17: Particle loss of porous asphalt specimen.*

prEN 12697-18, *Bituminous mixtures — Test methods for hot mix asphalt — Part 18: Binder drainage from porous asphalt.*

prEN 12697-19, *Bituminous mixtures — Test methods for hot mix asphalt — Part 19: Permeability of specimen.*

prEN 12697-20, *Bituminous mixtures — Test methods for hot mix asphalt — Part 20: Indentation using cube or marshall specimen.*

prEN 12697-21, *Bituminous mixtures — Test methods for hot mix asphalt — Part 21: Indentation using plate specimens.*

prEN 12697-22, *Bituminous mixtures — Test methods for hot mix asphalt — Part 22: Wheel tracking.*

prEN 12697-23, *Bituminous mixtures — Test methods for hot mix asphalt — Part 23: Determination of the indirect tensile strength of bituminous specimens.*

prEN 12697-24, *Bituminous mixtures — Test methods for hot mix asphalt — Part 24: Resistance to fatigue.*

prEN 12697-25, *Bituminous mixtures — Test methods for hot mix asphalt — Part 25: Cyclic compression test.*

prEN 12697-26, *Bituminous mixtures — Test methods for hot mix asphalt — Part 26: Stiffness.*

EN 12697-27, *Bituminous mixtures — Test methods for hot mix asphalt — Part 27: Sampling.*

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

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

prEN 12697-30, *Bituminous mixtures — Test methods for hot mix asphalt — Part 30: Specimen preparation, impact compactor.*

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

EN 12697-32, *Bituminous mixtures — Test methods for hot mix asphalt — Part 32: Laboratory compaction of bituminous mixtures by a vibratory compactor.*

prEN 12697-33, *Bituminous mixtures — Test methods for hot mix asphalt — Part 33: Specimen preparation, slab compactor.*

prEN 12697-34, *Bituminous mixtures — Test methods for hot mix asphalt — Part 34: Marshall test.*

prEN 12697-35, *Bituminous mixtures — Test methods for hot mix asphalt — Part 35: Laboratory mixing.*

EN 12697-36, *Bituminous mixtures — Test methods for hot mix asphalt — Part 36: Determination of the thickness of a bituminous pavement.*

EN 12697-37, *Bituminous mixtures — Test methods for hot mix asphalt — Part 37: Hot sand test for the adhesivity of binder on precoated chippings for HRA.*

prEN 12697-38, *Bituminous mixtures — Test methods for hot mix asphalt — Part 38: Test equipment and calibration.*

prEN 12697-45, *Bituminous mixtures — Test methods for hot mix asphalt — Part 45: Binder drainage — Schellenberg method.*

The applicability of this European Standard is described in prEN 13108-4.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

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EN 12697-37:2003 (E)**1 Scope**

This European Standard describes a hot sand test method for determining the condition of the binder on coated chippings for use with hot rolled asphalt (HRA) surface course.

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 933-2, *Tests for geometrical properties of aggregates — Part 2: Determination of particle size distribution - Test sieves, nominal size of apertures.*

EN 933-6, *Tests for geometrical properties of aggregates — Part 6: Assessment of surface characteristics — Flow coefficient of aggregates.*

EN 13043, *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas.*

EN 12697-27, *Bituminous mixtures - Test methods for hot mix asphalt - Part 27: Sampling*

EN 12697-28:2000, *Bituminous mixtures — Test methods for hot mix asphalt — Part 28: Preparation of samples for determining binder content, water content and grading.*

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3 Terms and definitions

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

3.1**representative sample**

portion or a combination of portions of a quantity of material, such as a stockpile, for which the extent that the sample accurately represents all the material in the stockpile is important and is, therefore, specified. For a normal sample, the extent of representation is not necessarily important

3.2**set 1, set 2 and basic set**

sets of test sieve sizes in accordance with EN 13043

3.3**precision**

closeness of agreement between independent test results obtained under stipulated conditions

NOTE 1 Precision depends only on the distribution of random errors and does not relate to the true value or the specified value.

NOTE 2 The measure of precision is usually expressed in terms of imprecision and computed as a standard deviation of the test results. Less precision is indicated by a larger standard deviation.

NOTE 3 “Independent test results” means results obtained in a manner not influenced by any previous result on the same or similar test object. Quantitative measures of precision depend critically on the stipulated conditions. Repeatability and reproducibility conditions are particular sets of extreme conditions.

3.4**repeatability**

precision under repeatability conditions

3.5

repeatability conditions

conditions in which independent test results are obtained with the same method on identical test items in the same laboratory by the same operator using the same equipment within short intervals of time

3.6

repeatability limit

value less than or equal to which the absolute difference between two test results obtained under repeatability conditions may be expected to be with a probability of 95 %

NOTE The symbol used for repeatability limit is r .

3.7

reproducibility

precision under reproducibility conditions

3.8

reproducibility conditions

conditions in which test results are obtained with the same method on identical test items in different laboratories with different operators using different equipment

3.9

reproducibility limit

value less than or equal to which the absolute difference between two test results obtained under reproducibility conditions may be expected to be with a probability of 95 %

NOTE The symbol used for reproducibility limit is R .

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4 Principle

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This test is used to ensure that coated chippings to be applied to the surface of surface course rolled asphalt have not been overheated to such an extent that their adhesion to the asphalt will be prevented. The dried coated chippings are immersed in hot sand under specified conditions and the degree of coating by the sand assessed both by weighing and by visual inspection.

NOTE The test should be carried out sufficiently in advance of constructing the asphalt surface course to enable fresh supplies of chippings to be obtained if necessary.

5 Materials

5.1 Clean dry silica sand

In accordance with the grading given in Table 1 and having a flow coefficient (FCF), measured in accordance with EN 933-6, of not less than 27 s.

NOTE The sands used in the hot sand test should be changed after testing approximately 20 samples or earlier if obviously contaminated.

5.2 Clean dry silica grit

In accordance with the grading given in Table 1 and having a flow coefficient (FCF), measured in accordance with EN 933-6, of not less than 27 s.