Bituminous mixtures - Test methods - Part 17: Particle loss of porous asphalt specimens

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

See Eesti standard EVS-EN 12697-17:2017 sisaldab Euroopa standardi EN 12697-17:2017 ingliskeelset teksti.	This Estonian standard EVS-EN 12697-17:2017 consists of the English text of the European standard EN 12697-17:2017.
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 22.02.2017.	Date of Availability of the European standard is 22.02.2017.
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.

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English Version

Bituminous mixtures - Test methods - Part 17: Particle loss of porous asphalt specimens

Mélanges bitumineux - Méthodes d'essai - Partie 17 : Perte de matériau des éprouvettes d'enrobé drainant

Asphalt - Prüfverfahren - Teil 17: Kornverlust von Probekörpern aus offenporigem Asphalt

This European Standard was approved by CEN on 25 December 2016.

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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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European foreword

This document (EN 12697-17:2017) 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of an identical text or by endorsement, at the latest by August 2017, and conflicting national standards shall be withdrawn at the latest by August 2017.

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 12697-17:2004+A1:2007.

Compared with EN 12697-17:2004+A1:2007 the following changes have been made:

a) change from size (diameter/height of specimen) to mass for the suitability of specimen (4.2);

b) Clause 4.3, changed to description of manufacturing and coring when using asphalt with aggregate size larger than 16 mm. Text from (4.3) transferred to (4.4) with addition of reference to EN 12697-5 for determination of maximum density;

c) New clause 4.5; detailed definition of the storage time with addition of explaining NOTE;

d) age of specimen and storage conditions added to the test report (Clause 7);

e) Clause 6.3, including NOTE, deleted. The void content and density shall always be reported. (NOTE transferred to 4.4);

f) Clause 7. Bullet point e) "if required" deleted. To be in line with the deletion of clause 6.3.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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

— 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 12697-3, *Bituminous mixtures — Test methods — Part 3: Bitumen recovery: Rotary evaporator*

— EN 12697-4, *Bituminous mixtures — Test methods — Part 4: Bitumen recovery: Fractionating column*

— EN 12697-5, *Bituminous mixtures — Test methods — Part 5: Determination of the maximum density*

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

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

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

— EN 12697-10, *Bituminous mixtures — Test methods — Part 10: Compactability*

— EN 12697-11, *Bituminous mixtures — Test methods — Part 11: Determination of the affinity between aggregate and bitumen*

— EN 12697-12, *Bituminous mixtures — Test methods — Part 12: Determination of the water sensitivity of bituminous specimens*

— EN 12697-13, *Bituminous mixtures — Test methods — Part 13: Temperature measurement*

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

— EN 12697-15, *Bituminous mixtures — Test methods — Part 15: Determination of the segregation sensitivity*

— EN 12697-16, *Bituminous mixtures — Test methods — Part 16: Abrasion by studded tyres*

— EN 12697-17, *Bituminous mixtures — Test methods — Part 17: Particle loss of porous asphalt specimen*

— EN 12697-18, *Bituminous mixtures — Test methods — Part 18: Binder drainage*

— EN 12697-19, *Bituminous mixtures — Test methods — Part 19: Permeability of specimen*

— EN 12697-20, *Bituminous mixtures — Test methods — Part 20: Indentation using cube or cylindrical specimens (CY)*

— EN 12697-21, *Bituminous mixtures — Test methods — Part 21: Indentation using plate specimens*

— EN 12697-22, *Bituminous mixtures — Test methods — Part 22: Wheel tracking*

— EN 12697-23, *Bituminous mixtures — Test methods — Part 23: Determination of the indirect tensile strength of bituminous specimens*

— EN 12697-24, *Bituminous mixtures — Test methods — Part 24: Resistance to fatigue*

— EN 12697-25, *Bituminous mixtures — Test methods — Part 25: Cyclic compression test*

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

— 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*

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

— EN 12697-30, *Bituminous mixtures — Test methods — Part 30: Specimen preparation by impact compactor*

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

— EN 12697-32, *Bituminous mixtures — Test methods — Part 32: Laboratory compaction of bituminous specimens by vibratory compactor*

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

— EN 12697-34, *Bituminous mixtures — Test methods — Part 34: Marshall test*

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

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

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

— EN 12697-38, *Bituminous mixtures — Test methods — Part 38: Common equipment and calibration*

— EN 12697-39, *Bituminous mixtures — Test methods — Part 39: Binder content by ignition*

— EN 12697-40, *Bituminous mixtures — Test methods — Part 40: In situ drainability*

— EN 12697-41, *Bituminous mixtures — Test methods — Part 41: Resistance to de-icing fluids*

— EN 12697-42, *Bituminous mixtures — Test methods — Part 42: Amount of foreign matters in reclaimed asphalt*

— EN 12697-43, *Bituminous mixtures — Test methods — Part 43: Resistance to fuel*

— EN 12697-44, *Bituminous mixtures — Test methods — Part 44: Crack propagation by semi-circular bending test*

— EN 12697-45, *Bituminous mixtures — Test methods — Part 45: Saturation ageing tensile stiffness (SATS) conditioning test*

— EN 12697-46, *Bituminous mixtures — Test methods — Part 46: Low temperature cracking and properties by uniaxial tension tests*

— EN 12697-47, *Bituminous mixtures — Test methods — Part 47: Determination of the ash content of natural asphalts*

— prEN 12697-48, *Bituminous mixtures — Test methods for hot mix asphalt — Part 48: Interlayer Bonding*

— EN 12697-49, *Bituminous mixtures — Test methods — Part 49: Determination of friction after polishing*

— CEN/TS 12697-50, *Bituminous mixtures — Test methods — Part 50: Resistance to scuffing*

— FprCEN/TS 12697-51, *Bituminous mixtures — Test methods — Part 51: Surface shear strength test* [1)]

— FprCEN/TS 12697-52, *Bituminous mixtures — Test methods — Part 52: Conditioning to address oxidative ageing*

— prEN 12697-53, *Bituminous mixtures — Test methods — Part 53: Cohesion increase by spreadability-meter method*

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, 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] In preparation.

1 Scope

This European Standard specifies a test method for determining the particle loss of porous asphalt mixtures. Particle loss is assessed by the loss of mass of porous asphalt samples after turns in the Los Angeles machine. This test enables the estimation of the abrasion resistance of porous asphalt. The test applies to laboratory compacted cylindrical specimens of porous asphalt mixtures, the upper sieve size of which does not exceed 22,4 mm. It does not reflect the abrasive effect by studded tyres.

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 1097-2, *Tests for mechanical and physical properties of aggregates - Part 2: Methods for the determination of resistance to fragmentation*

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 specimens*

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

EN 12697-30, *Bituminous mixtures - Test methods for hot mix asphalt - Part 30: Specimen preparation by impact compactor*

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

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

3 Apparatus

3.1 Los-Angeles-machine, as specified in EN 1097-2.

3.2 Thermometer, capable of covering the test temperature range with an accuracy of ± 0,5 °C.

3.3 Chamber, **room or enclosure**, large enough for the Los-Angeles-machine. During the test, the air temperature in the chamber shall remain constant to the test temperature ± 2 °C. The air temperature shall be measured near the Los-Angeles-machine.

3.4 Oven, equipped with a closed ventilation system or a chamber fitted with a thermostatic control to maintain the test temperature constant in the vicinity of the samples, stored prior to the test, to ± 1 °C.

3.5 Balances, of suitable capacity for the mass to be weighed with an accuracy of ± 0,1 % and a resolution of 0,1 g.