SLOVENSKI STANDARD
oSIST prEN 12697-19:2019

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Bitumenske zmesi - Preskusne metode - 19. del: Prepustnost preskušancev

Bituminous mixtures - Test methods - Part 19: Permeability of specimen

Asphalt - Prüfverfahren - Teil 19: Durchlässigkeit der Probekörper

Mélanges bitumineux - Méthodes d'essai - Partie 19: Perméabilité des éprouvettes

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ICS:

93.080.20 Materiali za gradnjo cest Road construction materials

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Will supersede EN 12697-19:2012

English Version

Bituminous mixtures - Test methods - Part 19: Permeability of specimen

Mélanges bitumineux - Méthodes d'essai - Partie 19: Perméabilité des éprouvettes

Asphalt - Prüfverfahren - Teil 19: Durchlässigkeit der Probekörper

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 227.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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European foreword

This document (prEN 12697-19:2018) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by BSI.

This document is currently submitted to the enquiry.

This document will supersede EN 12697-19:2012.

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.

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

1 Scope

This document specifies a method for determining the vertical and horizontal permeability of cylindrical specimens of bituminous mixtures with interconnecting voids. The standard applies to specimens cored out of the road, specimens from laboratory made slabs or laboratory specimens prepared with a compaction device provided the thickness of the specimen is not less than twice the nominal maximum particle size of the aggregate in the mixture. The nominal diameter of specimens should be either 100 mm or 150 mm unless the nominal maximum particle size of the aggregate size exceeds 22 mm, when the nominal diameter is 150 mm.

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

3 Principle

A column of water with a constant height is applied to a cylindrical specimen and is allowed to permeate through the specimen for a controlled time in either a vertical or horizontal direction depending upon the parameter being measured. The resultant flow rate of the water Q_v or Q_h is a calculated measure of the permeability value K_v or K_h. The test is carried out at ambient temperature.

NOTE When the void content of the same specimen is determined, the relationship between permeability and void content can be established.

4 Vertical permeability

4.1 General

In this method, only the water flow in a vertical direction through the specimen is measured.

4.2 Apparatus for vertical permeability

4.2.1 Apparatus as shown in Figure 1. The dimensions shall be such so as to ensure the water column height is (300 ± 1) mm. The external diameter of the tube and any fittings shall be such that no water can flow between the wall of the tube and the specimen when in place; the thickness of the tube shall be sufficient to ensure it retains its shape but shall not be more than 5 mm.

The external diameter of the tube should generally be greater than the diameter of the specimen by up to 5 mm.

NOTE A suitable rubber cuff that fits snugly around the tube and sample is one method to ensure that no water can flow between the two. Another approach that could be used is to attach the plastic tube with duck tape to the specimen.

4.2.2 A balance with suitable capacity and capable of weighing to the nearest 0,5 g.