

SLOVENSKI STANDARD

SIST EN 13074-2:2019

01-april-2019

Nadomešča:

SIST EN 13074-2:2011

Bitumen in bitumenska veziva - Ponovna pridobitev veziva iz bitumenskih emulzij ali rezanih ali fluksiranih bitumenskih veziv - 2. del: Stabilizacija po ponovni pridobitvi z izhlapevanjem

Bitumen and bituminous binders - Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders - Part 2: Stabilization after recovery by evaporation

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Bitumen und bitumenhaltige Bindemittel - Rückgewinnung des Bindemittels aus Bitumenemulsion oder verschnittenen oder gefluxten Bitumen - Teil 2: Stabilisierung nach Rückgewinnung durch Verdunstung

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Bitumes et liants bitumineux - Récupération du liant d'une émulsion bitumineuse ou d'un bitume fluidifié ou fluxé - Partie 2 : Stabilisation après récupération par évaporation

Ta slovenski standard je istoveten z: EN 13074-2:2019

ICS:

75.140	Voski, bitumni in drugi naftni proizvodi	Waxes, bituminous materials and other petroleum products
91.100.50	Veziva. Tesnilni materiali	Binders. Sealing materials

SIST EN 13074-2:2019

en,fr,de

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EUROPEAN STANDARD

EN 13074-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2019

ICS 91.100.50

Supersedes EN 13074-2:2011

English Version

Bitumen and bituminous binders - Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders - Part 2: Stabilization after recovery by evaporation

Bitumes et liants bitumineux - Récupération du liant
d'une émulsion bitumineuse ou d'un bitume fluidifié ou
fluxé - Partie 2 : Stabilisation après récupération par
évaporation

Bitumen und bitumenhaltige Bindemittel -
Rückgewinnung des Bindemittels aus
Bitumenemulsion oder verschnittenen oder gefluxten
Bitumen - Teil 2: Stabilisierung nach Rückgewinnung
durch Verdunstung

This European Standard was approved by CEN on 19 November 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.

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

Contents		Page
European foreword.....		3
1	Scope	4
2	Normative references	4
3	Terms and definitions	4
4	Principle	4
5	Apparatus.....	5
6	Procedure.....	6
6.1	Stabilisation of the binder.....	6
6.2	Removal and storage of the stabilised binder	6
6.3	Preparation of the stabilised binder sample for further testing	6
7	Test report.....	7
Bibliography.....		8

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SIST EN 13074-2:2019

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European foreword

This document (EN 13074-2:2019) has been prepared by Technical Committee CEN/TC 336 “Bituminous binders”, the secretariat of which is held by AFNOR.

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 2019, and conflicting national standards shall be withdrawn at the latest by August 2019.

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 13074-2:2011.

The main technical changes are:

- more precise requirements for the ventilated oven (5.1) and the metallic plates (5.2), as well as for the placing of the plates within the oven (6.1);
- description of additional equipment (spatula, oven, beaker) to be used for the removal and reheating of the stabilised binder (5.3 to 5.5);
- shorter storage period of the stabilised binder samples before further testing (6.2);
- more precise instructions (reheating temperatures and maximum reheating time) for the preparation of the stabilised binder sample prior to further testing (6.3).

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.

EN 13074-2:2019 (E)

1 Scope

This document specifies a method for the stabilisation at 85 °C for 24 h of a binder after recovery from a bituminous emulsion or from a cut-back or fluxed bitumen for further testing.

It applies to all types of bituminous emulsions, modified with polymers or non-modified, and as well as to all types of cut-back and fluxed bitumen, both modified with polymers and non-modified.

The recovery test method is specified in EN 13074-1.

WARNING — The use of this document may involve hazardous materials, operations and equipment. This document does not purport to address all of the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

2 Normative references

The following referenced documents are indispensable for the application 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 12594, *Bitumen and bituminous binders — Preparation of test samples*

EN 13074-1, *Bitumen and bituminous binders — Recovery of binder from bituminous emulsion or cut-back or fluxed bituminous binders — Part 1: Recovery by evaporation*

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3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

recovered binder

material remaining after the treatment of a bituminous emulsion or a cut-back or fluxed bitumen under the conditions specified in EN 13074-1

3.2

stabilised binder

binder free from most of the volatile part of its flux oils, obtained from recovered binder by heating at 85 °C for 24 h under the conditions specified according to this method

4 Principle

A thin layer of recovered binder from a bituminous emulsion or a cut-back or fluxed bituminous product is stabilised for 24 h at 85 °C in a ventilated oven.

5 Apparatus

Usual laboratory apparatus and glassware, together with the following:

5.1 Ventilated oven

- capable of maintaining a temperature of (85 ± 2) °C around the sample;
- with a minimum distance between shelves and between shelves and the bottom or top of the oven of 7 cm;
- in which the level of the shelves has been checked;
- with a forced air circulation and exhaust.

NOTE To ensure sufficient air circulation, ovens with a too small internal volume (e.g. less than 50 l) should be avoided. A possible way to check the capability of an oven is to verify that it is able to evaporate a representative amount of water under the time-temperature prescriptions of this standard.

It is acceptable to use the same oven for both the recovery step (EN 13074-1) and the stabilisation step provided that this oven is capable of maintaining around the sample the specified temperatures. In case the same oven is to be used for both steps, the sample may be left in the oven during the period of temperature adjustment (from 50 °C as specified in EN 13074-1 up to 85 °C), provided this period does not exceed 1 h.

5.2 Flat metallic plates, of known surface area, equipped with an edge of maximum internal height 20 mm and a minimum surface area of 0,04 m². The plates shall have a minimum thickness of 2 mm to ensure rigidity.

The number of plates and their dimensions are to be defined bearing in mind following constraints to ensure reproducible air circulation conditions:

- the oven (5.1) has always to be loaded in such a way that the number of plates and their position ensures optimal air circulation conditions;

NOTE To ensure reproducible air circulation conditions, it is further recommended to always load the oven with the same number of plates.

- the minimum distance between two plates on the same shelf and between a plate and the walls of the oven has to be 3 cm.

The plates may be covered with silicone paper or silicone fabric under the following conditions:

- its maximum thickness has to be ≤ 1 mm;
- its temperature resistance has to be ≥ 100 °C;
- any creasing of the paper or fabric has to be avoided.

5.3 Spatula, palette knife, or other suitable device for removing the stabilised emulsion or cut-back or fluxed bitumen from the plates.

5.4 Beaker, 500 ml, low form, for heating according to 6.2.

5.5 Oven for the preparation of samples of stabilised binder for further testing, capable of maintaining the temperatures requested in 6.3 around the sample. The oven can be the same as in 5.1, if it can fulfil both requirements.

EN 13074-2:2019 (E)**6 Procedure****6.1 Stabilisation of the binder**

Stabilisation of the recovered binder shall take place immediately after the recovery procedure (EN 13074-1).

Put the plate(s) with the recovered binder in the oven (5.1) and leave for (24 ± 1) h at (85 ± 2) °C. The oven has to be loaded in accordance with the requirements of 5.2. Plates with binders of which the volatile parts might be of different natures shall not be placed together in a same oven.

At the end of the specified period, remove the plate(s) from the oven.

6.2 Removal and storage of the stabilised binder

Collect without any delay the stabilised binder from the plate(s) using an appropriate tool (5.3) but without applying any extra heat to the sample.

The stabilised binder from all the plates of the same sample shall be placed in a same beaker (5.4).

If the stabilised binder is required for further testing at a later date, it shall be stored for as short a time as possible, but no longer than one week, in a sealed container and stored at a temperature lower than 28 °C.

6.3 Preparation of the stabilised binder sample for further testing

In order to protect the stabilised binder from excessive damage (due to volatile loss or thermal effects), the heating of the stabilised binder shall be strictly controlled in accordance with EN 12594 (samples obtained from a specific procedure) and this method. Before performing further testing, the heated binder shall be homogenized by mixing. Where possible, further testing shall be carried out immediately after removing the stabilised binder from the plate(s).

Heating and homogenising conditions of the stabilised binder in preparation for further testing:

- an oven (5.5) has to be used;
- unmodified samples shall be heated to a temperature of (130 ± 15) °C;
- samples of polymer modified binders shall be heated to a temperature of (165 ± 15) °C;
- actual reheating temperature is to be kept at a minimum depending on the assumed consistency of the stabilised binder. In particular, for polymer modified binders which are non-pourable at the indicated temperature of (165 ± 15) °C, e.g. stabilised binders from latex-modified bitumen emulsions, a lower temperature can be used in order to prevent a gelling effect. The minimum temperature shall be 60 °C above the estimated softening point Ring and Ball (EN 1427). More generally, if special reheating instructions are given by the manufacturer of the polymer modified binder, those should be followed;
- samples shall be mixed with a glass rod at least once during the heating. Stir the material with care in order to avoid incorporating air bubbles into the sample; allow any air bubbles to escape;
- maximum reheating time of 30 min.

Pour the heated, mixed sample into the moulds in accordance with the required further test method.

7 Test report

The test report shall contain at least the following information:

- a) type and complete identification (including the date and place of sampling) of the material under the recovery test (EN 13074-1) followed by the stabilisation test;
- b) temperature of the reheated sample and reheating time (6.3);
- c) reference to this European Standard;
- d) history of treatment applied to the stabilised binder (storage conditions, reheating and homogenizing conditions - see 6.2 and 6.3);
- e) any deviation, by agreement or otherwise, from the procedure described;
- f) date of the test.

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