



SLOVENSKI STANDARD

SIST EN 13108-3:2016

01-november-2016

Nadomešča:

SIST EN 13108-3:2006

SIST EN 13108-3:2006/AC:2008

Bitumenske zmesi - Specifikacije materialov - 3. del: Mehak asfalt

Bituminous mixtures - Material specifications - Part 3: Soft Asphalt

Asphaltmischgut - Mischgutanforderungen - Teil 3: Softasphalt

Mélanges bitumineux - Spécifications des matériaux - Partie 3: Enrobés bitumineux
mous

[SIST EN 13108-3:2016](https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-067ed9f98b6/sist-en-13108-3-2016)

[https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-](https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-067ed9f98b6/sist-en-13108-3-2016)

Ta slovenski standard je istoveten z: **EN 13108-3:2016**

ICS:

93.080.20 Materiali za gradnjo cest Road construction materials

SIST EN 13108-3:2016

en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 13108-3:2016

<https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-0fc7ed9f98b6/sist-en-13108-3-2016>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 13108-3

June 2016

ICS 93.080.20

Supersedes EN 13108-3:2006

English Version

**Bituminous mixtures - Material specifications - Part 3: Soft
Asphalt**

Mélanges bitumineux - Spécifications des matériaux -
Partie 3: Soft Asphalt

Asphaltmischgut - Mischgutanforderungen - Teil 3:
Softasphalt

This European Standard was approved by CEN on 27 February 2016.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

<https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-0fc7ed9f98b6/sist-en-13108-3-2016>



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents	Page
European foreword.....	4
Introduction	6
1 Scope	7
2 Normative references	7
3 Terms, definitions, symbols and abbreviations	8
3.1 Terms and definitions	8
3.2 Symbols and abbreviations	10
4 Requirements for constituent materials	10
4.1 General.....	10
4.2 Binder.....	10
4.2.1 General.....	10
4.2.2 Selection of binder.....	10
4.3 Aggregates	11
4.3.1 Coarse aggregate.....	11
4.3.2 Fine aggregate.....	11
4.3.3 All-in aggregates.....	11
4.3.4 Added filler.....	11
4.4 Reclaimed asphalt.....	11
4.5 Additives.....	12
5 Requirements for the mixture.....	12
5.1 General.....	12
5.2 Composition, grading and binder content	12
5.2.1 Composition	12
5.2.2 Grading.....	12
5.2.3 Minimum binder content	13
5.3 Properties	19
5.3.1 Specimens	19
5.3.2 Void content and voids filled with binder.....	19
5.3.3 Water sensitivity	20
5.3.4 Coating and homogeneity.....	20
5.3.5 Reaction to fire.....	20
5.4 Temperature of the mixture	21
5.5 Regulated dangerous substances.....	22
5.6 Conflicting requirements	22
6 Assessment and verification of constancy of performance — AVCP	22
7 Identification	23
Annex A (normative) Calculations of the penetration, the softening point or the viscosity of the binder of a mixture when reclaimed asphalt is used	24
A.1 General.....	24
A.2 Calculation of the penetration of the binder of a mixture.....	24
A.3 Calculation of the softening point of the binder of a mixture	24
A.4 Calculation of the viscosity of the binder of a mixture	25

Annex ZA (informative) Relationship of this European Standard with Regulation (EU)	
No. 305/2011	26
ZA.1 Scope and relevant characteristics	26
ZA.2 System of Assessment and Verification of Constancy of Performance (AVCP)	27
ZA.3 Assignment of AVCP tasks	28

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

SIST EN 13108-3:2016

<https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-0fc7ed9f98b6/sist-en-13108-3-2016>

EN 13108-3:2016 (E)**European foreword**

This document (EN 13108-3:2016) 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 2016, and conflicting national standards shall be withdrawn at the latest by March 2018.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13108-3:2006.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Regulation (EU) No 305/2011 for construction products (CPR).

For relationship with Regulation (EU) No 305/2011, see informative Annex ZA which is an integral part of this document.

Compared with EN 13108-3:2006, the following changes have been made:

- iTeh STANDARD PREVIEW**
(standards.iteh.ai)
- a) possibility to define specific conditions in documents related to the application of the product;
- b) CPR reference and new Annex ZA according CPR rules.

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

- EN 13108-1, *Bituminous mixtures — Material specifications — Part 1: Asphalt Concrete*
- EN 13108-2, *Bituminous mixtures — Material specifications — Part 2: Asphalt Concrete for Very Thin Layers (BBTM)*
- EN 13108-3, *Bituminous mixtures — Material specifications — Part 3: Soft Asphalt*
- EN 13108-4, *Bituminous mixtures — Material specifications — Part 4: Hot Rolled Asphalt*
- EN 13108-5, *Bituminous mixtures — Material specifications — Part 5: Stone Mastic Asphalt*
- EN 13108-6, *Bituminous mixtures — Material specifications — Part 6: Mastic Asphalt*
- EN 13108-7, *Bituminous mixtures — Material specifications — Part 7: Porous Asphalt*
- EN 13108-8, *Bituminous mixtures — Material specifications — Part 8: Reclaimed Asphalt*
- EN 13108-9, *Bituminous mixtures — Material specifications — Part 9: Asphalt for Ultra-Thin Layer (AUTL)*
- EN 13108-20, *Bituminous mixtures — Material specifications — Part 20: Type Testing*
- EN 13108-21, *Bituminous mixtures — Material specifications — Part 21: Factory Production Control*

Annex A (normative) details the calculation of the viscosity, penetration or the softening point in mixtures containing reclaimed asphalt from the viscosity, penetrations or softening points of the added binder and the recovered binder from the reclaimed asphalt.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 13108-3:2016

<https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-0fc7ed9f98b6/sist-en-13108-3-2016>

Introduction

The aim of this European Standard is to enable specification of Soft Asphalt mixtures on a performance basis. In general, however, there are currently more empirical tests available to describe the mixtures. Depending on the experience with the combination of requirements in this European Standard more or less degrees of freedom for the producer may be given.

This European Standard covers a large variety of materials for different applications, traffic and climate conditions. EN 13108-3 gives properties and listings of possible categories. It has to accommodate the road industry for all of Europe. For this reason the menu approach for properties has been chosen. The tables represent categories that are required all over Europe. For this reason numerical values in tables do not always obey statistical rules. Based on conditions of use specific properties and categories may be defined in documents related to the application of the product. The categories defined in those documents need to take into account the reproducibility of the test when this is given in the appropriate test method.

Care should be taken to only select those tests which are relevant to the application of the Soft Asphalt and the use of the pavement and to avoid a combination of potentially conflicting requirements.

iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN 13108-3:2016

<https://standards.iteh.ai/catalog/standards/sist/8cd4fdb6-7131-4d8a-9070-0fc7ed9f98b6/sist-en-13108-3-2016>

1 Scope

This European Standard specifies requirements for mixtures of the mix group Soft Asphalt for use on low volume roads and roads with low stability. Soft Asphalt is used for surface courses, regulating courses and bases in colder climates.

The mixtures of the mix group Soft Asphalt are produced on the basis of hot bitumen. Mixtures utilizing bitumen emulsion and bituminous materials based on *in situ* recycling are not covered by this standard.

This European Standard includes requirements for the selection of the constituent materials. It is designed to be read in conjunction with EN 13108-20 and EN 13108-21.

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 1097-6:2013, *Tests for mechanical and physical properties of aggregates — Part 6: Determination of particle density and water absorption*

EN 1426, *Bitumen and bituminous binders — Determination of needle penetration*

EN 1427, *Bitumen and bituminous binders — Determination of the softening point — Ring and Ball method*

EN 12591, *Bitumen and bituminous binders — Specifications for paving grade bitumens*

EN 12595, *Bitumen and bituminous binders — Determination of kinematic viscosity*

EN 12596, *Bitumen and bituminous binders — Determination of dynamic viscosity by vacuum capillary*

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

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

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

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

EN 13108-8, *Bituminous mixtures — Material specifications — Part 8: Reclaimed asphalt*

EN 13108-20:2016, *Bituminous mixtures — Material specifications — Part 20: Type Testing*

EN 13108-21, *Bituminous mixtures — Material specifications — Part 21: Factory Production Control*

EN 13108-3:2016 (E)

EN 13501-1:2007+A1:2009, *Fire classification of construction products and building elements — Part 1: Classification using data from reaction to fire tests*

EN ISO 11925-2, *Reaction to fire tests — Ignitability of products subjected to direct impingement of flame — Part 2: Single-flame source test (ISO 11925-2)*

3 Terms, definitions, symbols and abbreviations**3.1 Terms and definitions**

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

3.1.1**pavement**

structure, composed of one or more courses, to assist the passage of traffic over terrain

3.1.2**layer**

element of a pavement laid in a single operation

3.1.3**course**

element of a pavement constructed with a single material

Note 1 to entry: A course can be laid in one or more layers.

3.1.4**surface course**

upper course of the pavement, which is in contact with the traffic

3.1.5**regulating course**

course of variable thickness applied to an existing course or surface to provide the necessary profile for a further course of consistent thickness

3.1.6**base**

main structural element of a pavement

Note 1 to entry: The base can be laid in one or more courses, described as “upper” base, “lower” base.

3.1.7**asphalt**

homogenous mixture of coarse and fine aggregates, filler aggregate and bituminous binder which is used in the construction of a pavement

Note 1 to entry: The asphalt can include one or more additives to enhance the laying characteristics, performance or appearance of the mixture.

3.1.8**Soft Asphalt**

asphalt in which the aggregate particles are continuously graded or open-graded to form an interlocking structure with soft bitumen grades not harder than 250/330

3.1.9**mix formulation**

composition of a single mixture expressed as a target composition

Note 1 to entry: A target composition is expressed in two ways (see 3.1.10 and 3.1.11).

3.1.10**input target composition**

expression of a mix formulation in terms of the constituent materials, the grading curve and the percentage of bitumen added to the mixture

Note 1 to entry: This will usually be the result of a laboratory mix design and validation.

3.1.11**output target composition**

expression of a mix formulation in terms of the constituent materials and the mid point grading and soluble binder content to be found on analysis

Note 1 to entry: This will usually be the result of a production validation.

3.1.12**additive**

constituent material that can be added in small quantities to influence specific properties of the mixture

Note 1 to entry: For example additives are used to influence the affinity of binder to aggregate, and the mechanical properties when using inorganic and organic fibres and polymers. They are also used to influence the colour of the mixture.

3.1.13**conflicting requirements**

combination of requirements or properties which are impracticable to fulfil in their entirety

Note 1 to entry: This can occur by combining specific requirements for the composition and constituent materials together with more performance related tests. These are also relevant when two or more performance or test parameters are selected which measure similar properties using conflicting test methods resulting in a lack of clarity and consistency in the characteristics of the mixture.

3.1.14**premixed binder**

bitumen which is blended on the site of the asphalt mixing plant, with an additive before or during the addition of the binder to the plant mixer, which in the case of a continuous plant, will be before or during the delivery of the binder to the mixing zone of the drier drum

3.1.15**category**

defined level of a property of an asphalt mixture

Note 1 to entry: The designation of a category is expressed with a symbol and a numerical value representing the level.

EXAMPLE $B_{\min} 4,0$ means that the minimum binder content shall be 4,0 %.

Note 2 to entry: Defined categories for each property are listed in EN 13108-3.

EN 13108-3:2016 (E)**3.1.16****class**

range of levels defined by a minimum and a maximum value

3.2 Symbols and abbreviations

SA general designation of Soft Asphalt;

SA *D* designation of Soft Asphalt followed by an indication of *D*, the upper sieve size of the aggregate in the mixture, in millimetres (mm).

EXAMPLE SA 16 Soft Asphalt with upper sieve size of 16 mm.

d dense (continuously) graded aggregate;

o open graded aggregate.

4 Requirements for constituent materials**4.1 General**

Only constituent materials with established suitability shall be used. For all constituent materials information on the relevant properties shall be made available.

The establishment of suitability shall result from one or more of the following:

- European Standard,
- European Technical Assessment,
- Specifications for materials based on a demonstrable history of satisfactory use in asphalt. Evidence shall be based on research and/or the evidence of satisfactory practical use. In documents related to the application of the product details for the assessment of this proof may be defined.

There can be technical limitations regarding the future recycling possibilities. Also traceability of the nature of constituent materials can affect the potential for future recycling.

4.2 Binder**4.2.1 General**

The binder shall be a paving grade bitumen and shall conform to EN 12591. Premix binders and other bituminous binders that are not covered by EN 12591 can be used provided that information is given as stated in 4.1, and that the base bitumen is conforming to EN 12591. The use of these binders may be defined in documents related to the application of the product.

4.2.2 Selection of binder**4.2.2.1 General**

Depending on the conditions of use, the type and grade of bitumen may be defined in documents related to the application of the product.

The bitumen shall be selected from the grades between 250/330 and 650/900 or between V1500 and V12000 inclusively.

When an additive is used to lower the production temperature of the Soft Asphalt and thereby changes relevant properties of the binder at temperatures representative for the climatic conditions in the place