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Bitumenske zmesi - Specifikacije materialov - 20. del: Tipsko preskušanje

Bituminous mixtures - Material specifications - Part 20: Type Testing

Asphaltmischgut - Mischgutanforderungen - Teil 20: Typprüfung

Mélanges bitumineux - Spécifications pour le matériau - Partie 20: Épreuve de formulation

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EUROPEAN STANDARD
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Bituminous mixtures - Material specifications - Part 20: Type Testing

Mélanges bitumineux - Spécifications pour le matériau
- Partie 20: Épreuve de formulation

Asphaltmischgut - Mischgutanforderungen - Teil 20:
Typprüfung

This European Standard was approved by CEN on 27 February 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
EUROPÄISCHES KOMITEE FÜR NORMUNG

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EN 13108-20:2016 (E)**European foreword**

This document (EN 13108-20:2016) 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of an identical text or by endorsement, at the latest by December 2016, and conflicting national standards shall be withdrawn at the latest by March 2018.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 13108-20:2006.

Compared with EN 13108-20:2006, the following changes have been made:

- a) update to align with other parts of EN 13108 series, test methods and CPR requirements;
- b) enhanced guidance on period of validity of Type Test Report and triggers for review;
- c) requirement for retention of technical documentation under CPR.

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*

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.

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Introduction

This European Standard for Type Testing has been written as part of the system for the Assessment and Verification of the Constancy of Performance (AVCP) of bituminous mixtures. It is designed to be used in conjunction with the product standards EN 13108-1 to -7 and EN 13108-9 and is called up by these standards as part of AVCP. The Type Testing procedure has the function of providing assurance that a particular mix formulation complies with requirements in the product standard. The Type Testing procedure is designed to be applied to all harmonized elements of harmonized European Standards for bituminous mixtures whether or not regulatory marking is to be applied. The system can also be extended to non-harmonized elements.

NOTE Products CE marked in accordance with appropriate harmonized European Standards might be presumed to have the performances stated with the CE marking. It is the responsibility of the manufacturer, under Factory Production Control, to ensure that the bituminous mixture continues to be produced in accordance with the declared mix formulation.

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1 Scope

This European Standard specifies the Type Testing procedure for use in Assessment and Verification of the Constancy of Performance (AVCP) of bituminous mixtures for use in roads, airfields and other trafficked areas.

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 932-3, *Tests for general properties of aggregates — Part 3: Procedure and terminology for simplified petrographic description*

EN 933-1, *Tests for geometrical properties of aggregates — Part 1: Determination of particle size distribution - Sieving method*

EN 933-10, *Tests for geometrical properties of aggregates — Part 10: Assessment of fines - Grading of filler aggregates (air jet sieving)*

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

EN 1097-7, *Tests for mechanical and physical properties of aggregates — Part 7: Determination of the particle density of filler — Pyknometer method*

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 12697-1, *Bituminous mixtures — Test methods for hot mix asphalt — 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 for hot mix asphalt — Part 3: Bitumen recovery: Rotary evaporator*

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

EN 12697-5, *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*

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

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

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

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

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

EN 12697-18, *Bituminous mixtures — Test methods for hot mix asphalt — Part 18: Binder drainage*

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

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

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

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

EN 12697-24:2012, *Bituminous mixtures — Test methods for hot mix asphalt — Part 24: Resistance to fatigue*

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

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

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

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

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

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

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

- EN 12697-41, *Bituminous mixtures — Test methods for hot mix asphalt — Part 41: Resistance to de-icing fluids*
- EN 12697-43, *Bituminous mixtures — Test methods for hot mix asphalt — Part 43: Resistance to fuel*
- EN 12697-44, *Bituminous mixtures — Test methods for hot mix asphalt — Part 44: Crack propagation by semi-circular bending test*
- EN 12697-45, *Bituminous mixtures — Test methods for hot mix asphalt — Part 45: Saturation Ageing Tensile Stiffness (SATS) conditioning test*
- EN 12697-46, *Bituminous mixtures — Test methods for hot mix asphalt — Part 46: Low temperature cracking and properties by uniaxial tension tests*
- EN 12697-49, *Bituminous mixtures — Test methods for hot mix asphalt — Part 49: Determination of friction after polishing*
- EN 13043, *Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas*
- 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*
- 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 13108-8:2016, *Bituminous mixtures — Material specifications — Part 8: Reclaimed asphalt*
- EN 13108-9, *Bituminous mixtures — Material specifications — Part 9: Asphalt for Ultra-Thin Layer (AUTL)*
- EN 13108-21:2016, *Bituminous mixtures — Material specifications — Part 21: Factory Production Control*
- EN 13924-1, *Bitumen and bituminous binders — Specification framework for special paving grade bitumen — Part 1: Hard paving grade bitumens*
- EN 13924-2, *Bitumen and bituminous binders — Specification framework for special paving grade bitumen — Part 2: Multigrade paving grade bitumens*
- EN 14023, *Bitumen and bituminous binders — Specification framework for polymer modified bitumens*

EN 13108-20:2016 (E)**3 Terms and definitions**

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

3.1 technical specifications

harmonized European Standards and European Assessment Documents

3.2 mix formulation

composition of a single mixture expressed as a target composition

Note 1 to entry: A target composition can be expressed in two ways; see 3.3 and 3.4.

3.3 input target composition

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

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

Note 2 to entry: The target binder content is defined in the relevant product standards.

3.4 output target composition

expression of a mix formulation in terms of the constituent materials and the target 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.

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Note 2 to entry: The target binder content is defined in the relevant product standards.

3.5 product type

set of representative performance levels or classes of a construction product, in relation to its essential characteristics (determined by Type Testing) of a given mix formulation

4 Requirements for Type Testing**4.1 General**

Type Testing is the terminology adopted in this Standard for the Determination of Product Type.

For each mix formulation the Type Testing procedure shall be carried out to provide proof that the formulation meets relevant requirements in the product standard.

NOTE 1 The European Standards for bituminous mixtures each contain a number of requirements for composition, physical and mechanical properties. Some of these are expressed as direct measurements of mechanical properties such as stiffness or deformation resistance, while others, such as binder content or air voids content, are proxy measurements for other properties.

Determination of Product Type shall be performed to show conformity with the product standard on first use for bituminous mixtures being put onto the market.

The results of the Type Testing shall be presented in a Type Test report containing all of the information required by this European Standard and the relevant Product Standard.