BSI Standards Publication

Bituminous mixtures – Material specifications

Part 31: Asphalt Concrete with Bituminous Emulsion

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National foreword

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European foreword

This document (EN 13108-31:2019) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by March 2019, and conflicting national standards shall be withdrawn at the latest by March 2019.

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Introduction

The aim of this document is to enable specification of asphalt concrete mixtures with bituminous emulsion on a performance basis. In general, however, there are currently more empirical tests available to describe the mixtures.

This document covers a large variety of materials for different applications, traffic and climate conditions. The standard 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 take into account the reproducibility of the test when this is given in the appropriate test method.

Care is to be taken to only select those tests which are applicable to the application of the asphalt and the use of the pavement and to avoid a combination of potentially conflicting requirements.

1 Scope

This document specifies requirements for plant mixtures of the mix group Asphalt concrete with bituminous emulsion for use on roads, and other trafficked areas. Asphalt concrete with bituminous emulsion is used for surface courses, binder courses, regulating courses, and bases. It is a mixture in which mechanical properties evolve over time following installation. This is not just in terms of cooling, as other asphalts but also includes curing effects.

NOTE Asphalt concrete with bituminous emulsion is a mixture in which mechanical properties evolve over time following installation because of curing.

Mixtures utilizing bituminous emulsion based on *in situ* recycling are not covered by this document.

This document includes requirements for the selection of the constituent materials. It is designed to be read in conjunction with:

— Annex A Product Type Assessment (Normative);

— Annex B Factory Production Control (Normative);

— Annex C Performance characteristic assessment (Informative).

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 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 1008, *Mixing water for concrete — Specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete*

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 1428, *Bitumen and bituminous binders — Determination of water content in bituminous emulsions — Azeotropic distillation method*