



BSI Standards Publication

**Hydraulically bound materials for civil
engineering purposes – Specification
for production and installation
in pavements**

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Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 November 2019. It was prepared by Subcommittee B/510/4, *Cementitious bound materials, unbound granular materials, waste materials and marginal materials*, under the authority of Technical Committee B/510, *Road materials*. A list of organizations represented on these committees can be obtained on request to their secretary.

Relationship with other publications

This British Standard gives non-contradictory and complementary information for the use in the UK of BS EN 14227, the European Standard that defines and specifies hydraulically bound granular materials (HBGM) and hydraulically stabilized soils (HSS), known generically as hydraulically bound mixtures in BS EN 14227 and as hydraulically bound materials (HBM) in this British Standard. These terms are used interchangeably but mean the same thing.

This British Standard has been produced in parallel to the 2018 revisions of BS 1924-1 and BS 1924-2. These British Standards detail sampling, sample manufacture and test standards; either in full or by reference to the relevant BS EN standard.

Information about this document

BS EN 14227 provides requirements for the constituents composition and laboratory performance classification of HBGM and HSS, but not requirements for construction. This British Standard satisfies that need and for completeness also covers roller compacted concrete (RCC). This is a new standard and introduces the following:

- production, transport and installation requirements for RCC, HBGM and HSS; and
- testing and conformity requirements for RCC, HBGM and HSS.

This British Standard is appropriate for all types of UK works that incorporate HBM (the term HBM is taken to mean HBGM, HSS and RCC), whether produced by the ex-situ or in-situ method of production. This standard supports the appropriate investigation, specification and application of HBM in pavements whether for roads, of all types and classification, ports, airfields, heavy industrial areas, narrow widening, repairs, trench reinstatement and other applications.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is “shall”.

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. “organization” rather than “organisation”).

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

1 Scope

This British Standard specifies requirements for the production, installation, testing and conformity of hydraulically bound materials (HBM) conforming to BS EN 14227 for pavement applications, whether constructed by the ex-situ or in-situ methods. It also includes requirements for preliminary work at the laying site, needed to ensure that the substrate is fit to receive the HBM.

NOTE 1 The term “hydraulically bound materials” (HBM) used in this British Standard is the generic term to describe the wide range of materials comprising aggregates or soil, hydraulic binders and water; including roller compacted concrete (RCC), hydraulically bound granular material (HBGM) and hydraulically stabilized soils (HSS), which are available for use in the construction and the maintenance of roads and other paved areas.

NOTE 2 This British Standard does not include a framework for investigating and assessing existing pavements to be recycled to produce HBM.

This British Standard relates to HBM for use in pavements, including the pavement foundation. Applications related to earthworks or other uses of HBM are not covered within this British Standard.

NOTE 3 The annexes of this British Standard are informative only and do not contain provisions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions of this document.¹ For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 1924-1, *Hydraulically bound and stabilized materials for civil engineering purposes – Part 1: Sampling, sample preparation and testing of materials before treatment*

BS 1924-2:2018, *Hydraulically bound and stabilized materials for civil engineering purposes – Part 2: Sample preparation and testing of materials during and after treatment*²

BS 594987, *Asphalt for roads and other paved areas – Specification for transport, laying, compaction and product type testing protocols*

BS EN 13242, *Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction*³

BS EN 13286-41, *Unbound and hydraulically bound mixtures – Part 41: Test method for the determination of the compressive strength of hydraulically bound mixtures*

BS EN 13286-42, *Unbound and hydraulically bound mixtures – Part 42: Test method for the determination of the indirect tensile strength of hydraulically bound mixtures*

BS EN 13286-45, *Unbound and hydraulically bound mixtures – Part 45: Test method for the determination of the workability period of hydraulically bound mixtures*⁴

BS EN 13808:2013, *Bitumen and bituminous binders – Framework for specifying cationic bituminous emulsions*

BS EN 14227-1, *Hydraulically bound mixtures – Specifications – Part 1: Cement bound granular mixtures*

BS EN 14227-2, *Hydraulically bound mixtures – Specifications – Part 2: Slag bound granular mixtures*

¹ Documents that are referred to solely in an informative manner are listed in the Bibliography.

² This British Standard also gives informative references to BS 1924-2.

³ This British Standard also gives informative references to BS EN 13242:2013.

⁴ This British Standard also gives informative references to BS EN 13286-45:2003.