



BSI Standards Publication

Unbound, hydraulically bound and stabilized materials for civil engineering purposes

Part 1: Sampling, sample preparation and testing of materials before treatment – Test method

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Foreword

Publishing information

This part of [BS 1924](#) is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 September 2025. 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 the committee manager.

Supersession

This part of [BS 1924](#) supersedes [BS 1924-1:2018](#), which is withdrawn.

Relationship with other publications

[BS 1924](#) is published in two parts:

- Part 1: *Sampling, sample preparation and testing of materials before treatment – Test method*;
- Part 2: *Sample preparation and testing of materials during and after treatment – Test method*.

The tests for materials in the untreated condition are given in BS 1924-1, either by reference to other British Standards or in full.

The tests for materials in the treated condition are given in [BS 1924-2](#), either by reference to other British Standards or in full.

This standard is also suitable for the testing of hydraulically bound materials and roller compacted concrete detailed in [BS 9227](#) and [BS 9228](#), granular mixtures detailed in [BS EN 14227-1](#) to [BS EN 14227-5](#), and hydraulically stabilized soils in [BS EN 14227-15](#).

Information about this document

[BS 1924](#) provides tests for soil and/or aggregate treatment employed solely or in combination: cement, granulated blast furnace slag (GBS), ground granulated blast furnace slag (GGBS), (coal) fly ash and/or lime. GBS and GGBS are hydraulic materials that require activation by the addition of lime and/or sulfate or products that contain these compounds. Coal fly ash exists in two forms: calcareous fly ash and siliceous fly ash. The former is hydraulic, i.e. cementitious, in its own right; the latter is pozzolanic and needs activation by lime or hydraulic binders.

[BS 1924](#) contains the full range of tests required before and after treatment, whether improvement, modification or stabilization.

This is a full revision of the standard, and introduces the following principal changes:

- change of title to reflect the wider scope of this revision, which is intended to cover a greater range of materials within civil engineering applications;
- change of terminology from calcium hydroxide (hydrated lime) to calcium oxide (quicklime);
- general update to include new and revised standards published since 2018; and
- updating the calibration requirements of test sieves.

This revision includes all the tests or materials treated with hydraulic binders and lime that were included in the 2018 edition.

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 knowledge.bsigroup.com, 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 drafting of this part of BS 1924 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 document are presented in roman (i.e. upright) type. Its methods are expressed as a set of instructions, a description, or 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”).

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1 Scope

This part of BS 1924 describes sampling procedures, sample preparation and preliminary tests carried out on materials in the untreated condition to assess their suitability for treatment. It includes laboratory specimen preparation up to and including the addition of the treating agent(s).

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, or limits the application, of this document¹⁾. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 593:1989, *Specification for laboratory thermometers*

BS 1377-3:2018+A1:2021, *Methods of test for soils for civil engineering purposes – Part 3: Chemical and electro-chemical tests*

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

BS EN 932-1, *Tests for general properties of aggregates – Part 1: Methods for sampling*

BS EN 932-2, *Tests for general properties of aggregates – Part 2: Methods for reducing laboratory samples*

BS EN 932-5:2012, *Tests for general properties of aggregates – Part 5: Common equipment and calibration*

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

BS EN 1097-2, *Tests for mechanical and physical properties of aggregates – Part 2: Methods for the determination of resistance to fragmentation*

BS EN 1744-1:2009+A1:2012, *Tests for chemical properties of aggregates – Part 1: Chemical analysis*

BS EN 14227-4, *Hydraulically bound mixtures – Specifications – Part 4: Fly ash for hydraulically bound mixtures*

BS EN ISO 3611, *Geometrical product specifications (GPS) – Dimensional measuring equipment – Design and metrological characteristics of micrometers for external measurements*

BS EN ISO 3696, *Water for analytical laboratory use – Specification and test methods*

BS EN ISO 4787, *Laboratory glass and plastic ware – Volumetric instruments – Methods for testing of capacity and for use*

BS EN ISO 10012, *Measurement management systems – Requirements for measurement processes and measuring equipment*

BS EN ISO 17892-4, *Geotechnical investigation and testing – Laboratory testing of soil – Part 4: Determination of particle size distribution*

BS EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

BS ISO 3310-1, *Test sieves – Technical requirements and testing – Part 1: Test sieves of metal wire cloth*

BS ISO 3310-2, *Test sieves – Technical requirements and testing – Part 2: Test sieves of perforated metal plate*

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