

Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses

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Committees responsible for this British Standard

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Association of Building Engineers
Autoclaved Aerated Concrete Products
British Board of Agrément
Brick Development Association
British Masonry Society
British Precast Concrete Federation
British Wood Preserving and Damp-proofing Association
Building Research Establishment
Concrete Block Association
Eurisol — UK Mineral Wool Association
Institution of Structural Engineers
Mortar Industry Association
National House-Building Council
Office of the Deputy Prime Minister (Building Division)
Royal Institute of British Architects
Stone Federation Great Britain

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Foreword

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 16 November 2005. It was prepared by Subcommittee B/525/6, Use of masonry, under the authority of B/525, Building and civil engineering structure. A list of organizations represented on this committee can be obtained on request to its secretary.

BS 6576:2005+A1:2012 supersedes BS 6576:2005.

Text introduced or altered by Amendment No.1 is indicated in the text by tags **A1** **A1**. Minor editorial changes are not tagged.

This British Standard gives guidance and recommendations on the diagnosis of rising damp in walls of buildings, in particular to the need to differentiate between rising damp and other sources of damp, and the consequent installation of chemical damp-proof courses (d.p.c.s) in walls of buildings where rising damp has been diagnosed. Structure and cost often preclude fitting of physical damp-proof membranes in these circumstances.

The object of installing a chemical d.p.c. is to reduce rising damp, or the risk of rising damp, to acceptable levels, by creating a horizontal barrier to rising damp at the correct level in a wall.

As well as taking into account legal requirements since 1985, this edition includes additional information on diagnosis of dampness.

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

In drafting this British Standard it has been assumed that the assessment and diagnosis of rising damp will be conducted by appropriately qualified and competent surveyors and that the installation of the damp-proof course system and the associated replastering will be conducted by trained operatives under the direction of qualified supervisors.

As a wide range of materials and techniques is used in chemical damp-proof coursing, it has not been found possible to draft a specification for the materials.

NOTE *MOAT 39* [1] describes a range of tests which indicate the quality and efficacy of damp-proofing fluids.

This British Standard calls for the use of substances and/or procedures that require adequate precautions to be taken if they are to be used safely. It refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage (see Annex A).

Suppliers and installers of d.p.c. materials need to take into account the hazards presented by the equipment and materials being used, and need to make, record and act on an assessment of the risks posed by their particular operations.

Specialist advice is obtainable from appropriate organizations represented on the committee (see inside front cover).

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.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 13 and a back cover.

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1 Scope

This British Standard gives recommendations for the procedures to be used in diagnosing and treating rising damp in walls of existing buildings.

This British Standard:

- emphasizes the need to differentiate between rising damp and other causes for damp conditions in diagnosis;
- gives recommendations for the chemical treatment of rising damp in existing buildings with solid walls, cavity walls (unfilled or filled) and random rubble-filled walls, including associated reinstatement of plaster/dry linings; and
- indicates essential precautions and procedures for installing chemical damp-proof courses.

This British Standard does not cover the treatment of walls where treatment is inappropriate, such as stud walls, or where other treatments are appropriate, such as walls below ground level or under hydrostatic pressure, whose treatment is described in BS 8102.

NOTE The successful treatment of rising damp depends not only on following the recommendations of this standard but also on the effectiveness of the damp-proof course materials. It has been assumed in the drafting of the standard that suitable materials will be used. A number of damp-proof course materials are endorsed by third party certification.

2 Normative references

The following referenced documents are indispensable for the application 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.

A1 Text deleted

BS 6100-1, *Building and civil engineering – Vocabulary – Part 1: General terms.*

BS 8215, *Code of practice for design and installation of damp proof courses in masonry construction.*

BS 6100-6, *Building and civil engineering – Vocabulary – Part 6: Construction parts.*

BS 8481, *Design, preparation and application of internal gypsum, cement, cement and lime plastering systems – Specification.*

BS EN 13194-1, *Design, preparation and application of external rendering and internal plastering – Part 1: External rendering.*

BS EN 13914-2, *Design, preparation and application of external rendering and internal plastering – Part 2: Design considerations and essential principles for internal plastering.* A1

CP 102, *Code of practice for protection of buildings against water from the ground.*

A1 PD CEN/TR 15123, *Design, preparation and application of internal plastering systems.* A1

3 Terms and definitions

For the purposes of this British Standard the terms and definitions given in BS 6100-1 and A1 BS 6100-6 A1 and the following apply.

3.1

chemical damp-proof course

chemical d.p.c.

continuous barrier to rising damp created in a wall by chemical treatment

3.2

condensation

process whereby water is deposited from air containing water vapour when its temperature drops to or below dewpoint

3.3

rising damp

upward capillary migration of water in masonry

4 Assessment of buildings

4.1 General

Before installing a chemical d.p.c., it is essential to establish:

- a) whether rising damp is present (see 4.2);
- b) whether the building is suitable for treatment using the particular system proposed (see 4.3);
- c) whether the building is currently being modified and, if so, the effect of this work on the proposed chemical d.p.c.

Installation should be carried out only if the assessment recommends this and that it has:

- a) taken account of all the factors described; and
- b) all other necessary remedial measures have been carried out.

NOTE The assessment of buildings is normally carried out by a specialist surveyor, and is often described as a “survey”.

4.2 Inspection procedures and diagnosis of damp conditions

4.2.1 General

4.2.1.1 When inspecting a structure for signs of rising damp, it is essential to take into account the possible presence of other sources of dampness. Even if the instructions given are limited to the detection of rising damp, other problems should be highlighted if they are present and reasonably obvious.

NOTE 1 Visual observations both externally and internally are important and can provide much of the information needed to arrive at a preliminary diagnosis. Nevertheless, a full understanding of the distribution of dampness in a structure can require the use of various moisture measuring techniques. Surveyors need to be familiar with the use of such equipment and the interpretation of results from them [2].

NOTE 2 An electrical moisture meter is a useful diagnostic instrument; it can be used to discriminate between different explanations for damp conditions, and is non-destructive. The readings it gives are qualitative. Surface moisture measurements alone cannot give proof of rising damp, so further evidence may, where permitted, be obtained by disruptive examination and measurements taken within the depth of the wall. Chemical or gravimetric methods can be used and, generally, moisture contents in excess of 5 % (w/w) in mortar joints at the base of a wall will indicate the need for further investigations [3]. Gravimetric tests give more detail, but require samples to be removed to a laboratory for testing. Chemical tests on site can only show the total moisture content.

4.2.1.2 Damp areas should be clearly identified. If there is any doubt about the occurrence of dampness in general, further investigations should be made.

NOTE Excessive dampness is usually visible, but this does not necessarily indicate the presence of rising damp.

4.2.1.3 All other possible causes of damp conditions should be located. Particular attention should be paid to:

- a) condensation;
- b) lateral penetration associated with changes of floor/ground level;
- c) leaks from roofs, gutters and downpipes;
- d) faulty drains;
- e) internal plumbing leaks;
- f) water penetration through external walls;
- g) water penetration around window frames and doors;
- h) mortar droppings or debris in cavity walls;
- i) history of flooding.

NOTE Further information to discriminate between the possible causes of damp conditions is given in *Understanding dampness — effects, causes, diagnosis and remedies* [4]. Further information on constructions to resist rain penetration is given in BS 5628-3, and on repairing flood damage in *Repairing flood damage* [5].

4.2.1.4 Any existing d.p.c. should be traced around the building to check it is not bridged at any point, externally or internally.

4.2.1.5 If positive evidence of rising damp is being obscured by other faults such as those described in 4.2.1.3, it is preferable that those faults should first be remedied, and that an appropriate period of time should be allowed to elapse before making further checks to ascertain the presence of rising damp.