BRITISH STANDARD

BS EN
84 : 1997

Wood preservatives — Accelerated ageing of treated wood prior to biological testing — Leaching procedure

The European Standard EN 84 : 1997 has the status of a British Standard

ICS 71.100.50

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee B/515, Wood preservation, upon which the following bodies were represented:

British Telecommunications plc
British Wood Preserving and Damp-proofing Association
Chemical Industries Association
Creosote Council
Department of the Environment (Building Research Establishment)
Timber Research and Development Association
Timber Trade Federation
Wood Panel Industries Federation

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

Council of the Forest Industries of British Columbia
Imperial College of Science and Technology
Institute of Wood Science

This British Standard, having been prepared under the direction of the Sector Board for Building and Civil Engineering, was published under the authority of the Standards Board and comes into effect on 15 July 1997

Amendments issued since publication

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The following BSI references relate to the work on this standard:
Committee reference B/515
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Contents

National foreword

This British Standard has been prepared by Technical Committee B/515 and is the English language version of EN 84 : 1997 *Wood preservatives — Accelerated ageing of treated wood prior to biological testing — Leaching procedure*, published by the European Committee for Standardization (CEN). It supersedes BS 5761 : Part 2 which was first published in 1980 and revised in 1990. The 1990 edition is withdrawn.

EN 84 : 1997 was prepared as a result of discussion in CEN Technical Committee 38, Durability of wood and wood-based products, in which the UK participated.

Cross-reference

Publication referred to	Corresponding British Standard
EN ISO 3696 : 1995	BS EN ISO 3696 : 1995 *Water for analytical laboratory use. Specification and test methods*

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 4, an inside back cover and a back cover.

EN 84

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1997

ICS 71.100.50

Supersedes EN 84 : 1989

Descriptors: Wood preservatives, wood, artificial ageing tests, washing tests, effectiveness

English version

Wood preservatives — Accelerated ageing of treated wood prior to biological testing — Leaching procedure

Produits de préservation du bois — Epreuves de vieillissement accéléré des bois traités avant essais biologiques — Epreuve de délavage

Holzschutzmittel — Beschleunigte Alterung von behandeltem Holz vor biologischen Prüfungen — Auswaschbeanspruchung

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Ref. No. EN 84 : 1997 E

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 38, Durability of wood and derived materials, the Secretariat of which is held by AFNOR.

This European Standard supersedes EN 84 : 1989.

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 July 1997, and conflicting national standards shall be withdrawn at the latest by July 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Contents

1 Scope

This European Standard specifies a method for the leaching of test specimens of wood which are used in the testing of the biological efficacy of wood preservatives.

This standard is applicable to:

a) the pre-conditioning of test specimens prior to their being subjected to a biological test; or

b) assessment of loss of effectiveness by comparing the performance in a biological test of treated test specimens subjected to this procedure with others that have not undergone any leaching procedure.

NOTE. The method may also be used for pre-conditioning of wood-based panel products which may or may not have received preservative treatment.

2 Normative reference

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN ISO 3696 *Water for analytical laboratory use — Specification and test methods* (ISO 3696 : 1987)

3 Principle

Impregnation with water under vacuum, followed by immersion in water for a specified period, of test specimens that have been prepared for biological testing of the efficacy of a wood preservative against fungi or insects, using the appropriate standard methods.

4 Material and apparatus

4.1 Material

Water, complying with grade 3 of EN ISO 3696.

4.2 Apparatus

4.2.1 *Conditioning chamber*, controlled at a temperature of $(20 \pm 2)\,^{\circ}C$ and $(65 \pm 5)\,\%$ relative humidity for conditioning the test specimens.

4.2.2 *Test vessels*, of material that does not react with the preservative under test:

– either of glass, especially for the organic solvent products;

– or of plastic materials for products that are likely to attack glass.

The capacity of the test vessels shall be such that they can contain, in addition to the test specimens, the volume of water specified in **6.1.2**.

4.2.3 *Vacuum desiccator*, fitted with a stopcock.

4.2.4 *Vacuum pump*, fitted with a pressure gauge and capable of maintaining a pressure of 4 kPa.

4.2.5 *Weights*, of a material which does not react with the treated blocks, water or the test vessel, for ballasting the test specimens.

4.2.6 *Ordinary laboratory equipment.*

5 Test specimens

5.1 Definition and origin

The test specimens and their preparation are defined in the standards concerning the biological tests to which they are intended to be subjected.

The leaching procedure shall be carried out at the end of the conditioning period that follows the treatment of the test specimens described in the relevant biological test standard.

5.2 Number of test specimens

The number of test specimens to be leached shall be as required by the standard describing the relevant biological tests, bearing in mind that the leaching procedure shall be applied both to treated test specimens that are subjected to biological agents and to control test specimens. The control test specimens are of the following kinds:

– treated test specimens that are not subjected to attack by biological agents after leaching. These will serve as controls for changes in mass in those tests in which this factor is taken into consideration. One set of these control test specimens shall be provided for each concentration;

– untreated control test specimens which, after leaching, are subjected to the biological tests to check any variation in the behaviour of untreated wood. One set of these control test specimens shall be provided for the whole of one test;

– control test specimens of timber treated with solvent or diluent if necessary.

6 Procedure

6.1 Leaching

6.1.1 *Impregnation with water*

Place the test specimens in the test vessels (**4.2.2**) so that the test specimens of different species of wood and with different concentrations of a wood preservative are in separate test vessels. Ballast them with weights (**4.2.5**) to prevent them from floating. Pour sufficient water (**4.1**) into the test vessels to cover the groups of test specimens and to ensure that the test specimens remain covered throughout the impregnation.

Place the test vessels in the vacuum desiccator (**4.2.3**); establish a vacuum corresponding to a pressure of 4 kPa and maintain this for 20 min before release.

Leave the test specimens in the vessels for 2 h.

Empty the water from the vessels.

6.1.2 *Immersion in water*

Refill each vessel with fresh water (**4.1**) to a ratio of approximately five volumes of water to one volume of wood (e.g. 100 ml of water per test specimen of 50 mm $\times$ 25 mm $\times$ 15 mm).

NOTE. It is not necessary to continue to ballast the test specimens as they will not float after the impregnation procedure. This may not apply if panel product test specimens are being processed.

Allow the test specimens to remain immersed in water for 14 days at the temperature specified (**4.2.1**) with nine changes of the water as follows.

– change the water at the end of the first and second day of immersion;

– change the water a further seven times in the remaining 12 days at intervals of not less than one day and not more than three days.

6.2 Drying

Stand the test specimens in the conditioning chamber (**4.2.1**), on one of their narrow sides on a non-absorbent support of a material which does not react with the treated test specimens and taking care to leave a gap of at least 10 mm between individual test specimens, allowing a free flow of air around the test specimens.

Allow the test specimens to stand for at least two weeks or until constant mass i.e. until two consecutive weighings 24 h apart are the same $\pm$ 0,1 g.

7 Destination of the test specimens after the leaching procedure

The test specimens are suitable for use in biological tests in accordance with the appropriate standards, commencing from the clause describing the procedure for exposing the test specimens to the test organisms (insects or fungi).

8 Test report

Quote the leaching procedure by giving the number of this European Standard (i.e. EN 84) in the test report for each biological test.

List of references

See national foreword.

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