

Durability of wood and wood-based products — Performance of preventive wood preservatives as determined by biological tests

Part 1. Specification according to hazard class

The European Standard EN 599-1 : 1996 has the status of a
British Standard

ICS 71.100.50

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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 Wood Preserving and Damp-proofing Association
- Chemical Industries' Association
- Creosote Council
- Department of the Environment (Building Research Establishment)
- Electricity Industry in United Kingdom
- Institute of Wood Science
- National House-building Council
- Timber Research and Development Association
- Timber Trade Federation

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

- Association of Consulting Scientists
- Imperial College of Science and Technology

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 April 1997

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The following BSI references relate to the work on this standard:
Committee reference B/515
Draft for comment 91/58200 DC

ISBN 0 580 27080 7

Amendments issued since publication

Amd. No.	Date	Text affected

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National foreword

This Part of BS EN 599 has been prepared by Technical Committee B/515 and is the English language version of EN 599-1 : 1996 *Durability of wood and wood-based products — Performance of preventive wood preservatives as determined by biological tests — Part 1: Specification according to hazard class*, published by the European Committee for Standardization (CEN). EN 599-1 was produced as a result of international discussion in which the United Kingdom participated.

BS EN 599 will consist of the following Parts:

Part 1. *Specification according to hazard class*

Part 2. *Classification and labelling*

Cross-references

International standard	Corresponding British Standard
	BS EN 20 : Wood preservatives. <i>Determination of the protective effectiveness against <i>Lyctus brunneus</i> (Stephens)</i>
EN 20-1	Part 1 : 1992 <i>Application by surface treatment (laboratory method)</i>
EN 20-2	Part 2 : 1993 <i>Application by impregnation (laboratory method)</i>
EN 46	BS 5434 : 1989 Wood preservatives. <i>Determination of the preventive action against recently hatched larvae of <i>Hylotrupes bajulus</i> (Linnaeus) (laboratory method)</i>
EN 47	BS 5435 : 1989 Wood preservatives. <i>Determination of the toxic values against larvae of <i>Hylotrupes bajulus</i> (Linnaeus) (laboratory method)</i>
	BS EN 49 : Wood preservatives. <i>Determination of the protective effectiveness against <i>Anobium punctatum</i> (De Geer) by egg-laying and larval survival</i>
EN 49-1	Part 1 : 1992 <i>Application by surface treatment (laboratory method)</i>
EN 49-2	Part 2 : 1992 <i>Application by impregnation (laboratory method)</i>
	BS 5761 : Wood preservatives. <i>Accelerated ageing of treated wood prior to biological testing</i>
EN 73	Part 1 : 1989 <i>Evaporative ageing procedure</i>
EN 84	Part 2 : 1990 <i>Leaching procedure</i>
EN 113	BS EN 113 : 1997 Wood preservatives. <i>Test method for determining the protective effectiveness against wood destroying basidiomycetes. Determination of the toxic values</i>
EN 117	BS 6239 : 1990 Wood preservatives. <i>Determination of toxic values against <i>Reticulitermes santonenis</i> de Feytaud (laboratory method)</i>
EN 118	BS 6240 : 1990 Wood preservatives. <i>Determination of preventive action against <i>Reticulitermes santonenis</i> de Feytaud (laboratory method)</i>
	BS 7066 : Wood preservatives. <i>Laboratory method for determining the protective effectiveness of a preservative treatment against blue stain in service</i>
EN 152-1	Part 1 : 1990 <i>Brushing procedure</i>
EN 152-2	Part 2 : 1990 <i>Application by methods other than brushing</i>
EN 252	BS 7282 : 1990 <i>Field test method for determining the relative protective effectiveness of a wood preservative in ground contact</i>
EN 275	BS EN 275 : 1992 Wood preservatives. <i>Determination of the protective effectiveness against marine borers</i>
EN 330	BS EN 330 : 1993 Wood preservatives. <i>Field test method for determining the relative protective effectiveness of a wood preservative for use under a coating and exposed out-of-ground contact. L-joint method.</i>



EN 335-1	BS EN 335 : <i>Hazard classes of wood and wood-based products against biological attack</i>
EN 335-2	Part 1 : 1992 <i>Classification of hazard classes</i> Part 2 : 1992 <i>Guide to the application of hazard classes to solid wood</i>
EN 350-1	BS EN 599 : <i>Durability of wood and wood-based products. Performance of preventive wood preservatives as determined by biological tests</i> BS EN 350 <i>Durability of wood and wood-based products. Natural durability of solid wood</i> Part 1 : 1994 <i>Guide to the principles of testing and classification of natural durability of wood</i>
EN 350-2	Part 2 : 1994 <i>Guide to natural durability and treatability of selected wood species of importance in Europe</i>
EN 460	BS EN 460 : 1994 <i>Durability of wood and wood based products. Natural durability of solid wood. Guide to the durability of requirements for wood to be used in hazard classes</i>
EN 599-2	Part 2 : 1997 <i>Classification and labelling</i>
ENV 807	DD ENV 807 : 1993 <i>Wood preservative. Determination of the toxic effectiveness against soft rotting micro-fungi and other soil inhabiting micro-organisms</i>
ENV 839	DD ENV 839 : 1994 <i>Wood preservatives. Determination of the preventive efficacy against wood-destroying basidiomycete fungi</i>
EN ISO 9002	BS EN ISO 9002 : 1994 <i>Quality systems. Model for quality assurance in production, installation and servicing</i>

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 20, an inside back cover and a back cover.

ICS 71.100.50

Descriptors: Wood, wood preservatives, durability, effectiveness, bio-assay, ageing: materials, biodegradability, hazards, pest control, classifications, specifications

English version

**Durability of wood and wood-based products —
Performance of preventive wood preservatives as determined by
biological tests —
Part 1: Specification according to hazard class**

Durabilité du bois et des matériaux dérivés du bois — Performances des produits préventifs de préservation du bois établies par des essais biologiques — Partie 1: Spécifications par classe de risque

Dauerhaftigkeit von Holz und Holzprodukten — Anforderungen an Holzschutzmittel wie sie durch biologische Prüfungen ermittelt werden — Teil 1: Spezifikationen entsprechend der Gefährdungsklasse

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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European Committee for Standardization
Comité Européen de Normalisation
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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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 1997, and conflicting national standards shall be withdrawn at the latest by March 1997.

The work has resulted in a European Standard in two Parts:

- EN 599-1 *Durability of wood and wood-based products — Performance of preventive wood preservatives as determined by biological tests — Part 1: Specification according to hazard class*
- EN 599-2 *Durability of wood and wood-based products — Performance of preventive wood preservatives as determined by biological tests — Part 2: Classification and labelling*

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.

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Introduction

This Part of EN 599 is one of a series and should be used in conjunction with EN 599-2, with EN 335-1 and EN 335-2 which describe the service conditions for treated wood in terms of hazard classes, and with EN 351-1 which describes a classification system for preservative treated wood in terms of preservative penetration and gives guidance on classes for retentions. The need for wood preservatives depends in part on the natural durability of the wood and therefore this Part of EN 599 should be used also in conjunction with EN 350-1, EN 350-2 and EN 460.

1 Scope

This Part of EN 599 specifies for each of the five hazard classes defined in EN 335-1, the minimum performance requirements for wood preservatives for the preventive treatment of solid timber against biological deterioration. It specifies the biological tests with the minimum ageing tests required according to the hazard class, together with the performance criteria to be achieved in each test.

This Part of EN 599 is applicable to all wood preservative products supplied for application in liquid form for the preventive treatment of timbers (structural and non-structural) against wood-attacking fungi, wood-attacking insects and marine borers as described in HD 1001 and EN 335-1. However it is only applicable to products for preventive treatments against fungi causing disfigurement (blue stain) of wood in service if this forms part of the overall preventive effectiveness of the product.

This Part of EN 599 is not applicable to wood preservative products supplied for application as pastes, solids or in capsule form because they cannot be tested without modification of the biological tests demanded in this standard. It does not apply either to wood preservative products for remedial (curative) treatments, to those applied to prevent fungi causing sap stain on green (unseasoned) timber or to those applied solely to prevent fungi causing disfigurement (blue stain) of wood in service.

NOTE 1. The nature of the laboratory and field tests required in this Part of EN 599 to demonstrate performance of a wood preservative are such that the time required to generate the data is many months or years, depending upon the properties of the wood preservative and the hazard class in which the treated wood is to be exposed.

Therefore, at the date of publication of this Part of EN 599, for many products covered under its scope already placed on the market and used lawfully in accordance with local technical traditions, the minimum data specified in this Part of EN 599 may not be available. Accordingly, for a period not exceeding six years from the date of publication of this Part of EN 599, national standards organizations, or an organization nominated by them may declare interim critical values for use within their territories, to apply to products already placed on the market and used lawfully in accordance with local traditions at the date of publication of this Part of EN 599.

NOTE 2. For re-testing after making variations in product formulation, guidance is given in annex A.

2 Normative references

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.

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| EN 20-1 | <i>Wood preservatives — Determination of the protective effectiveness against Lyctus brunneus (Stephens) — Part 1: Application by surface treatment (Laboratory method)</i> |
| EN 20-2 | <i>Wood preservatives — Determination of the protective effectiveness against Lyctus brunneus (Stephens) — Part 2: Application by impregnation (Laboratory method)</i> |
| EN 46 | <i>Wood preservatives — Determination of the preventive action against recently hatched larvae of Hylotrupes bajulus (Linnaeus) (Laboratory method)</i> |
| EN 47 | <i>Wood preservatives — Determination of the toxic values against larvae of Hylotrupes bajulus (Linnaeus) (Laboratory method)</i> |
| EN 49-1 | <i>Wood preservatives — Determination of the protective effectiveness against Anobium punctatum (De Geer) by egg-laying and larval survival — Part 1: Application by surface treatment (Laboratory method)</i> |
| EN 49-2 | <i>Wood preservatives — Determination of the protective effectiveness against Anobium punctatum (De Geer) by egg-laying and larval survival — Part 2: Application by impregnation (Laboratory method)</i> |
| EN 73 | <i>Wood preservatives — Accelerated ageing of treated wood prior to biological testing — Evaporative ageing procedure</i> |
| EN 84 | <i>Wood preservatives — Accelerated ageing of treated wood prior to biological testing — Leaching procedure</i> |
| EN 113 ¹⁾ | <i>Wood preservatives — Determination of toxic values of wood preservatives against wood destroying basidiomycetes cultured on an agar medium</i> |
| EN 117 | <i>Wood preservatives — Determination of toxic values against Reticulitermes santonensis de Feytaud (Laboratory method)</i> |

¹⁾ Under revision.