PD CEN/TR 16663:2014

BSI Standards Publication

Durability of wood and wood-based products — Determination of emissions from preservative treated wood to the environment — Wooden commodities exposed in Use Class 3 (Not covered, not in contact with the ground) — Semi-field method

bsi.

...making excellence a habit.™

Document Sharing Hub

National foreword

This Published Document is the UK implementation of CEN/TR 16663:2014.

The UK participation in its preparation was entrusted to Technical Committee B/515, Wood preservation.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

© The British Standards Institution 2014. Published by BSI Standards Limited 2014

ISBN 978 0 580 83716 6

ICS 13.020.30; 71.100.50

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

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 30 June 2014.

Amendments issued since publication

Date	Text affected

Documents
Document Sharing Hub

Full document details: PD CEN/TR 16663:2014

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN/TR 16663

May 2014

ICS 13.020.30; 71.100.50

English Version

Durability of wood and wood-based products - Determination of emissions from preservative treated wood to the environment - Wooden commodities exposed in Use Class 3 (Not covered, not in contact with the ground) - Semi-field method

Durabilité du bois et des matériaux dérivés du bois - Détermination des émissions dans l'environnement du bois traité avec des produits de préservation - Produits de base en bois exposés à la classe d'emploi n° 3 (dans un endroit abrité, n'étant pas en contact avec le sol) - Méthode semi-terrain

Dauerhaftigkeit von Holz und Holzprodukten - Abschätzung von Emissionen von mit Holzschutzmitteln behandeltem Holz an die Umwelt - Holzprodukte in Gebrauchsklasse 3 (nicht abgedeckt, ohne Erdkontakt) - Semi-Feldverfahren

This Technical Report was approved by CEN on 20 January 2014. It has been drawn up by the Technical Committee CEN/TC 38.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2014 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. CEN/TR 16663:2014 E

Documents
Document Sharing Hub

Full document details: PD CEN/TR 16663:2014

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Description of the test method 6
3.1 Principle 6
3.2 Quality criteria 6
3.3 Wood preservative 6
3.4 Apparatus 7
3.4.1 Vessel for receiving water 7
3.4.2 Gutter, screws, hooks 7
3.4.3 Weather station 7
3.4.4 Wood working equipment 7
3.4.5 Condition chamber 7
3.4.6 Mixing vessel 7
3.4.7 Preservative treatment 7
3.4.8 Balance 7
3.4.9 Kiln 7
3.4.10 Safety equipment and protection clothing 7
3.4.11 Refrigerator/Freezer 8
3.4.12 Chemical analysis equipment 8
3.4.13 Exposure site 8
3.4.14 Exposure weathering racks 8
3.5 Test specimens 8
3.5.1 General 8
3.5.2 Species of wood 8
3.5.3 Quality of wood and wood moisture content 8
3.5.4 Preparation of test specimens 9
3.5.5 Number of test specimens 9
3.5.6 End seal 9
3.6 Procedure 9
3.6.1 Product under test 9
3.6.2 Treatment and handling of test specimens 9
3.6.3 Untreated controls (optional) 10
3.6.4 Exposure test site 10
3.6.5 Duration of the test 10
3.6.6 Collection of the leachates 11
3.6.7 Chemical analysis 11
3.7 Expression of results 11

4 Test report 12

Annex A (informative) Test set-up and weather rack 14

A.1 Vertical exposure 14

A.2 Horizontal exposure 16

Annex B (informative) Model treatments 17

B.1 For preservative intended for superficial treatment 17

B.2 For preservative intended for penetration treatment 17

Documents
Document Sharing Hub

Full document details: PD CEN/TR 16663:2014

Annex C (informative) Orientation of annual growth rings and accepted heartwood **18**
Annex D (informative) Stability study **19**
Bibliography **20**

Documents
Document Sharing Hub

Full document details: PD CEN/TR 16663:2014

Foreword

This document (CEN/TR 16663:2014) has been prepared by Technical Committee CEN/TC 38 “Durability of wood and wood-based products”, the secretariat of which is held by AFNOR.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

Documents
Document Sharing Hub
Full document details: PD CEN/TR 16663:2014

Introduction

The leaching from preservative treated wood into the environment need to be quantified to enable an environmental risk assessment to be made of the treated wood, e.g. according to the Biocidal Products Regulation, 528/2012. This document describes a semi-field method for the determination of leachate from preservative treated wood where the preservative treated wood is not covered and not in contact with the ground or water (use class 3 according to EN 335).

The method is a semi-field procedure for obtaining water samples (leachate) from treated wood exposed out of ground contact, during a natural exposure. The quantities of emissions in the leachate are related to the surface area of the wood and may be used in scenarios for the environmental risk assessment of the treated wood.

NOTE The leachate can also be tested for eco-toxicological effects (example: OECD 202 testing on *Daphnia* sp.).

Documents
Document Sharing Hub
Full document details: PD CEN/TR 16663:2014

1 Scope

This Technical Report specifies a method for determining the leaching of active ingredients or other compounds from preservative treated wood by a semi-field method for use class 3 (outdoor above ground). The preservative treated wood can be tested with or without subsequently surface coating or other water-repellent treatment. The method is applicable to the testing of commercial or experimental preservatives or paint systems applied to timber by methods appropriate to commercial practice.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 5667-3, *Water quality - Sampling - Part 3: Preservation and handling of water samples (ISO 5667-3)*

3 Description of the test method

3.1 Principle

Panels are treated, assembled and placed outdoors, out of ground contact and exposed to the normal environmental and ecological factors which affect preservative treated wood so exposed in practice. The rainwater is retained and the leachate is monitored by chemical analyses of the active ingredients and/or other compounds.

3.2 Quality criteria

The validity of the analytical method for the substances in question should be determined before conducting the test:

a) accuracy;

b) specificity;

c) limit of detection (LOD);

d) limit of quantification (LOQ);

e) precision

NOTE EN ISO 5667-3 may give guidance on the preservation and handling of water samples.

3.3 Wood preservative

The test report shall state the name and other designation of the preservative, and the trade or common name of the active ingredient(s) as defined in the regulation n°528/2012.

Use of a coating is possible (identity and amount of coating used shall be stated in the test report).

Documents
Document Sharing Hub
Full document details: PD CEN/TR 16663:2014