



BSI Standards Publication

Durability of wood and wood-based products - Determination of emissions from preservative treated wood to the environment

Part 1: Wood held in the storage yard after treatment and
wooden commodities exposed in use Class 3 (not covered,
not in contact with the ground) - Laboratory method

National foreword

This Published Document is the UK implementation of CEN/TS 15119-1:2018. It supersedes DD CEN/TS 15119-1:2008, which is withdrawn.

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.

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English Version

**Durability of wood and wood-based products -
Determination of emissions from preservative treated
wood to the environment - Part 1: Wood held in the
storage yard after treatment and wooden commodities
exposed in Use Class 3 (not covered, not in contact with
the ground) - Laboratory method**

Durabilité du bois et des matériaux à base de bois -
Estimation des émissions dans l'environnement du
bois traité avec des produits de préservation - Partie
1 : Bois stocké en dépôt après traitement et articles
en bois exposés en classe d'emploi 3 (non couverts,
non en contact avec le sol) - Méthode de laboratoire

Dauerhaftigkeit von Holz und Holzprodukten
- Abschätzung von Emissionen von mit
Holzschutzmitteln behandeltem Holz an die Umwelt -
Teil 1: Holz auf dem Lagerplatz nach der Behandlung
von Holzprodukten in Gebrauchsklasse 3 (nicht
abgedeckt, ohne Erdkontakt) - Laborverfahren

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European foreword

This document (CEN/TS 15119-1:2018) 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 shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 15119-1:2008.

CEN/TS 15119 is composed of the following parts:

- *Part 1: Wood held in the storage yard after treatment and wooden commodities exposed in Use Class 3 (not covered, not in contact with the ground) — Laboratory method*
- *Part 2: Wooden commodities exposed in Use Class 4 or 5 (in contact with the ground, fresh water or sea water) — Laboratory method*

This document is a revision of the Technical Specification published in 2008 in order to consider the OECD 107 (see Bibliography) which covers the same topic.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this European Standard: 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The emissions from preservative treated wood into the environment need to be quantified to enable an environmental risk assessment to be made of the treated wood. This document describes a laboratory method for the determination of emissions by leaching from preservative treated wood where the preservative treated wood is not covered and not in contact with the ground or the water. There are two situations in this case where such emissions could enter the environment:

- a) Emissions from preservative treated wood stored outside in the storage yard of a preservative treatment site. Rain falling on the treated wood could produce emissions that run off into surface water and / or soil;
- b) Emissions from treated wood used in commodities exposed in Use Class 3. This is the situation in which the wood or wood-based product is not covered and not in contact with the ground. It is either continually exposed to the weather or is protected from the weather but subject to frequent wetting. Use classes are defined in EN 335 and categorise the biological hazard to which the treated commodity will be subjected. The Use Classes also define the situation in which the treated commodity is used and determine the environmental compartments (air, water, soil) which are potentially at risk from the preservative treated wood. Rain falling on treated wood in Use Class 3 could produce emissions that run off into surface water and/ or soil.

The method is a laboratory procedure for obtaining water samples (leachate) from treated wood exposed out of ground contact, at time intervals after exposure. The quantities of emissions in the leachate are related to the surface area of the wood and the length of exposure, to estimate a flux in milligrams per square metre per day. The flux after increasing periods of exposure (e.g. 1 year, 10 years) can be estimated.

NOTE The leachate can also be tested for eco-toxicological effects.

The quantity of emissions can be used in an environmental risk assessment of the treated wood.

The test can be applied to wood treated using a penetrating process or superficial application (brush, spray or dipping), or to treated wood which has an additional surface treatment (e.g., paint that is applied as a requirement for commercial use).

1 Scope

This Technical Specification describes a laboratory method for obtaining water samples from preservative treated wood exposed out of ground contact (wood held in the storage yard after treatment and which has been in conditions designed to simulate outdoor, out of ground contact situations), at increasing time intervals after exposure.

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 General considerations

The principal agent for causing emissions from wood during open-air storage in the yard and in Use Class 3 is rainfall. Wood exposed in above ground situations is subjected to intermittent wetting by rainfall and drying of the wood surface between the rainfall events. These wetting and drying cycles are simulated by the method described in this document. It is assumed that emissions obtained by short-term immersion in water are indicative of the emissions which will occur during exposure to rainfall.

The wood, in the case of wood treated with a wood preservative, shall be representative of commercially treated wood. It shall be treated in accordance with the preservative manufacturer's instructions and in compliance with appropriate standards and specifications. The parameters for post-treatment conditioning of the wood prior to the commencement of the test shall be stated.

The wood samples used shall be representative of the commodities used.

The composition, amount, pH value and the physical form of rainfall are important in determining the quantity, content and nature of emissions from wood. However, simulating a realistic rainfall regime in the laboratory is time-consuming, expensive and is likely to lack reproducibility, accuracy, precision and reliability.

Two main immersion regimes are recommended as follows:

1. The 3 x 1 minute immersion regime: A 1 minute immersion in water of the treated test specimens to simulate exposure to a rainfall event. There are three immersions or rainfall events per day, with test specimens allowed to dry for 3 hours between immersions simulating the wetting and drying cycles of natural exposure situations. The days of rainfall are set for 1, 3, 5, 8, 10, 12, 15, 17 and 19 days.

NOTE 1 The OECD Emission Scenarios for Wood Preservatives 2013 (see bibliography) that are applied for the authorization procedure of the European BPR are based on the assumptions, that the total amount of rainfall per year is 700 mm. The daily regime is intended to produce the same moisture content on the surface of the wood, and the same moisture content profile in the wood, and thus the same emission, as wood in a real exposure situation on a day during which rain occurs. It is intended that a 3 x 1 minute dip, every third day, will give the same moisture content cycle in the wood, and the same emission from the wood, as exposure under real conditions. If the dipping and drying regime is continued for one year, the emission quantity and rate would be the same as the emission obtained from wood after exposure in a real situation in a region of Europe where there is 700 mm of rain per year, with rain events occurring on 260 days of the year.

2. The 2 x 1 hour immersion regime: A 1 hour immersion in water of the treated test specimens to simulate exposure to a rainfall event. There are two immersions or rainfall events per day, with