Durability of wood and wood-based products - Determination of treatability of timber species to be impregnated with wood preservatives - Laboratory method

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 14734:2022 sisaldab Euroopa standardi EN 14734:2022 ingliskeelset teksti.	This Estonian standard EVS-EN 14734:2022 consists of the English text of the European standard EN 14734:2022.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 08.06.2022.	Date of Availability of the European standard is 08.06.2022.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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EUROPEAN STANDARD

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English Version

Durability of wood and wood-based products - Determination of treatability of timber species to be impregnated with wood preservatives - Laboratory method

Durabilité du bois et des matériaux dérivés du bois - Détermination de l'imprégnabilité d'essences de bois par des produits de préservation - Méthode de laboratoire

Dauerhaftigkeit von Holz und Holzprodukten - Bestimmung der Tränkbarkeit von Holzarten zur Tränkung mit Holzschutzmitteln - Laborverfahren

This European Standard was approved by CEN on 20 April 2022.

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

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European foreword

This document (EN 14734:2022) has been prepared by Technical Committee CEN/TC 38 “Durability of wood and wood-based products”, 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of an identical text or by endorsement, at the latest by December 2022, and conflicting national standards shall be withdrawn at the latest by December 2022.

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This document supersedes CEN/TR 14734:2004.

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Introduction

The basis for this document was prepared as being part of the work for SMT project MAT-CT 94061 project number 3307: Improvement of CEN standards by short term methods for testing the natural durability and treatability of solid wood and wood based panel products.

It provides the means whereby the treatability of sapwood or heartwood of different wood species can be determined in order to determine likely reaction to impregnation with wood preservatives. Such an assessment provides data for use in EN 351-1 which establishes a system for specifying the treatment of wood with wood preservatives based upon the penetration and retention of preservatives achieved by the treatment process. EN 351-1 recognizes that different wood species respond to treatment differently depending on their ability to absorb preservative, and requires a different level of compliance depending on the treatability of the wood concerned. While EN 350 includes a subjective classification of the treatability of different wood species using a four class system, the method described in this document provides the means to determine the treatability objectively.

Although the method described uses an aqueous solution as the impregnating liquid, the method can be modified using other preservative types, e.g. organic solvent or emulsion preparations, if the response of the wood to a specific preservative is required. However, the method does not take account of preservative formulations where the active ingredients are selectively adsorbed on to the wood substrate resulting in the solvent penetrating more deeply than the biocides.

1 Scope

This document specifies a laboratory method for the determination of the treatability of wood in order to determine the likely reaction of different wood species to impregnation with wood preservatives. It is also applicable to investigate variation between samples of the same species but of different origin.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

After moisture and density determination of each of the test specimens, a set of test specimens is impregnated with copper sulfate solution in accordance with a standard test procedure. After application of an indicator solution to the exposed cross-section and to one of the exposed longitudinal surfaces of each of test specimens, the lateral and axial penetration is measured and the treatability class is evaluated.

5 Reagents

5.1 **Copper sulfate pentahydrate,** at least 98 % pure, solution of 50 g/kg

Dissolve 50 g of copper sulfate pentahydrate ($CuSO_4 \bullet 5H_2O$) in 950 g water, preferably deionized.

NOTE The volume of copper sulfate solution required will depend on the capacity of the impregnation apparatus.

5.2 Indicator solution

For the indication of the penetration an indicator solution, e.g. chrome azurol S, can be used. Dissolve 0,5 g chrome azurol S and 5 g sodium acetate in 100 ml water.

Other indicators can be used but should have at least the same sensitivity to copper as chrome azurol S.

5.3 Sealing compound

A sealing compound which is inert to the copper sulfate solution (5.1) and unaffected by the test conditions.