

Durability of wood and wood-based products - Test
method against wood destroying basidiomycetes - Part
1: Assessment of biocidal efficacy of wood preservatives

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 113-1:2020 sisaldab Euroopa standardi EN 113-1:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 113-1:2020 consists of the English text of the European standard EN 113-1:2020.
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.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.12.2020.	Date of Availability of the European standard is 16.12.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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

ICS 71.100.50

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

**Durability of wood and wood-based products - Test
method against wood destroying basidiomycetes - Part 1:
Assessment of biocidal efficacy of wood preservatives**

Durabilité du bois et des matériaux dérivés du bois -
Méthode d'essai vis-à-vis des champignons
basidiomycètes - Partie 1 : Détermination de l'efficacité
protectrice de produits de préservation

Dauerhaftigkeit von Holz und Holzprodukten -
Prüfverfahren gegen Holz zerstörende Basidiomyceten
- Teil 1: Bewertung der bioziden Wirksamkeit von
Holzschutzmitteln

This European Standard was approved by CEN on 2 November 2020.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, 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: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	5
1 Scope.....	6
2 Normative references.....	6
3 Terms and definitions	6
4 Principles	6
5 Test material and apparatus.....	6
5.1 Biological material.....	6
5.1.1 General.....	6
5.1.2 Obligatory fungi in all cases (see also Annex D)	6
5.1.3 Obligatory fungus for particular uses (see also Annex D).....	7
5.1.4 Maintenance of strains.....	7
5.2 Products and reagents.....	7
5.2.1 Culture medium	7
5.2.2 Solvents and diluents.....	8
5.3 Apparatus.....	8
5.3.1 Conditioning chamber	8
5.3.2 Culture chamber.....	8
5.3.3 Drying oven	8
5.3.4 Treatment vessels.....	8
5.3.5 Ballast.....	8
5.3.6 Safety equipment and protective clothing.....	8
5.3.7 Vacuum vessels	9
5.3.8 Vacuum pump.....	9
5.3.9 Kolle flasks or equivalent culture vessels.....	9
5.3.10 Test specimen supports.....	9
5.3.11 Drying vessel(s)	9
5.3.12 Equipment for steam sterilization or access to a radiation source	9
5.3.13 Ordinary laboratory equipment.....	9
6 Sampling of the preservative	9
7 Test specimens.....	9
7.1 Wood species	9
7.2 Wood quality.....	10

7.3	Provision of test specimens	10
7.4	Dimensions and density of test specimens.....	10
7.5	Number and distribution of test specimens.....	10
8	Procedure	11
8.1	Conditioning of test specimens before treatment	11
8.2	Treatment of test specimens	11
8.2.1	Preparation of treatment solutions/dilutions.....	11
8.2.2	Impregnation	12
8.3	Drying and conditioning of test specimens after treatment.....	12
8.4	Exposure to fungi	13
8.5	Culture conditions and duration of test	13
8.6	Assessment of test	14
8.6.1	Examination of the test specimens.....	14
8.6.2	Loss in mass caused by fungal attack	14
8.6.3	Validity of results.....	14
8.6.4	Assessment of results.....	15
9	Statement of results.....	15
10	Test report	15
	Annex A (informative) Example of a test report.....	17
	Annex B (normative) Methods of sterilization.....	23
	Annex C (informative) Culture vessels.....	24
	Annex D (informative) Test fungi.....	27
	Annex E (informative) Non-comprehensive list of optional fungi	29
	Bibliography	31

European foreword

This document (EN 113-1:2020) 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 June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

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 EN 113:1996 and EN 113:1996/A1:2004.

Test results obtained with earlier versions of EN 113 are still valid.

Compared to EN 113:1996 and EN 113:1996/A1:2004 the following major changes have been introduced:

- This is now a first part of EN 113 corresponding to the EN 113:1996 document. Other parts relate to a different scope.
- The title is changed;
- The obligatory fungi are indicated differently;
- The calculation of a correction factor (C) has been differently included;
- The methods for sterilization are updated;
- All annexes are informative except Annex B;
- Some additional validity requirements are introduced for control specimens.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document describes a laboratory method of test, which gives a basis for the assessment of effectiveness of a wood preservative against wood destroying basidiomycetes. By using this method it is possible to determine the loading at which impregnated wood of a susceptible species can be regarded as adequately protected under the conditions of test.

This laboratory method provides one criterion by which the efficacy of a product can be assessed, and this criterion should be used to judge the likely effectiveness of the preservative taking into account the methods of application likely to be used.

The procedures described in this standard method are intended to be carried out by suitably trained and/or supervised specialists. Appropriate safety precautions should be observed throughout the use of the document.

1 Scope

This document specifies a method for determining the efficacy of wood preservatives applied to wood by penetration treatment against wood destroying basidiomycetes cultured on a malt extract agar medium.

The method is applicable to formulated products or to their active ingredients.

NOTE This method can be used in conjunction with an ageing procedure, for example EN 73 or EN 84.

Annex A (informative) contains an example of a test report.

Annex B (normative) contains some methods of sterilization.

Annex C (informative) contains information on the test vessels.

Annex D (informative) contains information on test fungi.

Annex E (informative) contains a recommended but non-comprehensive list of optional fungi.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

supplier

sponsor of a biological test of a wood preservative

4 Principles

Test specimens of a susceptible wood species impregnated with increasing concentrations of wood preservative solutions and reference wood test specimens are exposed to attack by pure cultures of basidiomycetes. After a prescribed period of incubation under defined conditions, the percentage loss in dry mass of the test specimens is used to establish the biocidal efficacy of the product under test.

5 Test material and apparatus

5.1 Biological material

5.1.1 General

The test fungi to be used as follows:

5.1.2 Obligatory fungi in all cases (see also Annex D)

- *Coniophora puteana* (Schumach.) P. Karst (BAM Ebw. 15) on softwood.

Loss in mass in percentage in 16 weeks of Scots pine sapwood specimens: a mass fraction of a minimum 20 %.