SLOVENSKI STANDARD
SIST-TS ENV 1250-2:2004

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Wood preservatives - Methods for measuring losses of active ingredients and other preservative ingredients from treated timber - Part 2: Laboratory method for obtaining samples for analysis to measure losses by leaching into water or synthetic sea water

Wood preservatives - Methods for measuring losses of active ingredients and other preservative ingredients from treated timber - Part 2: Laboratory method for obtaining samples for analysis to measure losses by leaching into water or synthetic sea water

Holzschutzmittel - Verfahren zur Bestimmung der Abgabe von Wirkstoffen und anderer Schutzmittelbestandteile aus behandeltem Holz - Teil 2: Laboratoriumsverfahren, um Analyseproben zur Bestimmung der Abgabe durch Auswaschung in Wasser oder künstlichem Meerwasser zu erhalten

Produits de préservation du bois - Mesurage des pertes de matieres actives et d'autres composants du produit de préservation a partir de bois traité - Partie 2: Méthode de laboratoire pour obtenir des échantillons pour analyse pour mesurer les pertes apres délavage a l'eau ou a l'eau de mer synthétique

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English version

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CEN members are required to announce the existance of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Content list

Foreword

This European Prestandard was drawn up by the WG 11 "Fixation of biocides" of CEN/TC 38 "Durability of wood and wood based products", the secretariat of which is held by AFNOR.

In accordance with the CEN/CENELEC internal Regulation the following countries are bound to announce this European Prestandard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

Introduction

This part of ENV 1250 describes a procedure for obtaining samples for analysis to measure losses by leaching in water or synthetic sea water of active ingredients and other preservative ingredients from test specimens of wood that have previously been treated with a preservative. It is intended that the results of analysis will enable the rate of loss of active ingredients and other ingredients of a wood preservative from treated timber under controlled conditions to be established.

It is not intended that the results of analysis be used to make absolute judgements of losses of wood preservative ingredients from treated timber in service since the results cannot be related to in-service exposure conditions of wooden components. The methodology is therefore of interest, for example, as part of the development of preservatives. The results are relevant to the preservative only, not to a combination of preservative and method of application.

NOTE : EN 84 describes another method involving leaching of treated timber but is not related to this part of ENV 1250. EN 84 is used solely as an accelerated ageing procedure prior to biological testing for efficacy assessment.

1 Scope

This part of ENV 1250 describes a procedure for obtaining samples for analysis to measure losses by leaching in water or synthetic sea water of active ingredients and other preservative ingredients from test specimens of wood that have previously been treated with a preservative.

2 Normative references

This part of ENV 1250 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 part of ENV 1250 only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 599-1 : 1994	Durability of wood and wood-based products - Performance of wood preservatives as determined by biological tests. - Part 1 : Specifications according to hazard class.[1)]
ISO 3696 : 1987	Water for analytical laboratory use - Specification and test methods.

1) En course of preparation

3 Definitions

For the purposes of this part of ENV 1250 the following definitions apply :

3.1 active ingredients

The individual chemical compound or compounds included in the wood preservative product to give it specific activity against the respective biological agencies of deterioration.

3.2 critical value

Value equivalent to the highest biological reference value (in grams per square metre or kilograms per cubic metre) obtained from all the biological tests carried out in accordance with EN 599-1 for any given hazard class. It is the minimum amount of the product required for effectiveness for that hazard class according to the tests carried out.

NOTE : The biological reference is the amount of wood preservative product found to be effective in preventing attack by particular biological agency in a test prescribed in EN 599-1.

3.3 leachate

The sample of water collected for analysis from the test vessel at the end of each period of immersion.

3.4 other preservative ingredients

Substance or substances, other than active ingredients, used in the wood preservative formulation and which may be deposited in treated wood.

3.5 representative sample

A sample having its physical or chemical characteristics identical to the volumetric average characteristics of the total volume being sampled.

3.6 supplier

The sponsor of the test.

4 Principle

End-sealed preservative-treated and untreated timber test specimens are prepared, and subjected to six leaching periods with either water or synthetic sea water. The leachate from each of the six periods is collected for analysis.

5 Agents and materials

5.1 Water complying with grade 3 of ISO 3696

5.2 Synthetic sea water. The reagents used shall be of recognized analytical quality. The composition of the synthetic sea water shall be as follows :

Sodium chloride as NaCl	24,54 g
Magnesium chloride as $MgCl_2.6H_2O$	11,10 g
Sodium sulfate as Na_2SO_4	4,09 g
Calcium chloride as $CaCl_2$	1,16 g
Potassium chloride as KCl	0,69 g
Sodium hydrogen carbonate as $NaHCO_3$	0,20 g
Potassium bromide as KBr	0,10 g
Strontium chloride as $SrCl_2.6H_2O$	0,04 g
Boric acid as H_3BO_3	0,03 g
Sodium fluoride as NaF	0,003 g
Water (5.1) to make up to 1000 ml.	

5.3 End-sealant. A substance which, when applied in accordance with the procedures in 9.1.5, prevents penetration of water into, and loss of preservative from the end grain of test specimens under the conditions of the test. It shall be free of any substances present in the preservative or which may interfere with analytical methods.

NOTE : 2-component epoxylacquers have been found to be suitable.

6 Apparatus and equipment

6.1 Conditioning chamber, well ventilated and controlled at a temperature of (20 ± 2) °C and (65 ± 5) % relative humidity for conditioning the test specimens.

6.2 Vacuum desiccator, fitted with stopcocks

6.3 Vacuum pump fitted with a pressure gauge and capable of maintaining a pressure of 0,7 kPa.

6.4 Weights, of a material that does not react with the preservative solutions under test, to provide ballast for the test specimens.

6.5 Treatment vessels and covers, of materials that do not react with the preservative under test.

6.6 Water baths, capable of being controlled at (20 ± 2) °C in which test vessels (6.7) are placed.

NOTE : Large beakers containing water have been found suitable. It is most convenient if the magnetic stirrer (6.8) incorporates a hot-plate when this can be used to maintain the temperature.

6.7 Test vessels and close fitting lids of material that does not react with the preservative under test.

NOTE 1 : Beakers have been found suitable, made of either glass, especially for the organic solvent products, or plastics materials for products that are likely to attack glass have been found suitable.

The capacity of the test vessels shall be such that they can contain, in addition to the test specimens, the volume of water specified in 9.3.

NOTE 2 : Vessels 170 mm high and 90 mm diameter have been found suitable.

6.8 Magnetic stirrer, follower and framework (see figure 1), of materials that do not react with the preservative under test. The framework to be placed inside the test vessels (6.7) to keep the test specimens (see clause 8) out of contact with, and allow free movement of the follower.

6.9 Ballasting device to keep test specimens submerged