SLOVENSKI STANDARD
SIST EN 1014-2:2011

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Nadomešča:
SIST EN 1014-2:2004

Zaščitna sredstva za les - Kreozotno olje in s kreozotnim oljem zaščiten les - Metode vzorčenja in analize - 2. del: Postopek vzorčenja kreozotnega olja iz lesa, zaščitenega s kreozotnim oljem, za nadaljnjo analizo

Wood preservatives - Creosote and creosoted timber - Methods of sampling and analysis - Part 2: Procedure for obtaining a sample of creosote from creosoted timber for subsequent analysis

Holzschutzmittel - Kreosot (Teerimprägnieröl) und damit imprägniertes Holz - Probenahme und Analyse - Teil 2: Verfahren zur Probenahme von Kreosot aus imprägniertem Holz für die nachfolgende Analyse

Produits de préservation du bois - Créosote et bois créosoté - Méthodes d'échantillonnage et d'analyse - Partie 2 : Procédure pour obtenir un échantillon de créosote du bois créosoté à soumettre à une analyse ultérieure

Ta slovenski standard je istoveten z: **EN 1014-2:2010**

ICS:

71.100.50	Kemikalije za zaščito lesa	Wood-protecting chemicals

SIST EN 1014-2:2011 **en,fr,de**

EUROPEAN STANDARD
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ICS 71.100.50

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English Version

Wood preservatives - Creosote and creosoted timber - Methods of sampling and analysis - Part 2: Procedure for obtaining a sample of creosote from creosoted timber for subsequent analysis

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

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Foreword

This document (EN 1014-2:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

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.

This document supersedes EN 1014-2:1995.

This standard forms part of a series of standards relating to the sampling and analysis of creosote and creosoted timber. The other standards of the series are:

EN 1014-1, *Wood preservatives — Creosote and creosoted timber — Methods of sampling and analysis — Part 1: Procedure for sampling creosote*

EN 1014-3, *Wood preservatives — Creosote and creosoted timber — Methods of sampling and analysis — Part 3: Determination of the benzo(a)pyrene content of creosote*

EN 1014-4, *Wood preservatives — Creosote and creosoted timber — Methods of sampling and analysis — Part 4: Determination of the water-extractable phenols content of creosote*

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a procedure for obtaining a sample of creosote from creosoted timber for subsequent analysis.

2 Normative references

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

EN 351-2, *Durability of wood and wood-based products — Preservative-treated solid wood — Part 2: Guidance on sampling for the analysis of preservative-treated wood*

3 Terms and definitions

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

3.1
batch
clearly identifiable collection of units of preservative-treated wood manufactured to conform to the same defined penetration and retention requirements

[EN 1001-2:2005, 4.04]

4 Sampling

4.1 General

The objective of the sampling is to obtain a representative sample of the creosoted timber from which the creosote may be extracted for further analysis. Samples for analysis shall therefore be taken from a batch of creosoted timber. If it is not possible to identify the batch, then all samples for analysis shall be taken from one piece of creosoted timber.

NOTE It is recommended that the analysis is carried out as soon as possible after the sampling.

4.2 Sampling procedure

From the creosoted timber under examination, remove sufficient timber from the impregnated zones to yield the amount of creosote necessary for subsequent analysis. This shall be done by using any one of the procedures described in EN 351-2.

NOTE Sampling by using borings should be preferred. If this procedure is used, the borings should be cut to include the impregnated zone only.

4.3 Amount of sample

The total amount of impregnated wood sample removed from each batch shall be sufficient to yield the amount of creosote necessary for subsequent chemical analysis. The sample shall be converted to particles of a size suitable for Soxhlet extraction. If storage is necessary the sample shall be transferred to a glass phial with screw top (6.8) stored at a temperature not more than 10 °C.

NOTE Treated timber should normally contain 10 % by mass of creosote. Therefore to obtain 2 g of creosote, about 20 g is needed.

5 Reagent

Toluene ($C_6H_5CH_3$), analytical grade with an evaporation residue of less than 0,001 % (m/m).

6 Apparatus

Ordinary laboratory equipment, including distillation apparatus and the following (see Figure 1):

6.1 **Round-bottom flask**, capacity 250 ml.

6.2 **Heating mantle** 250 ml, (200 to 300) W.

6.3 **Soxhlet-extractor**, capacity 100 ml.

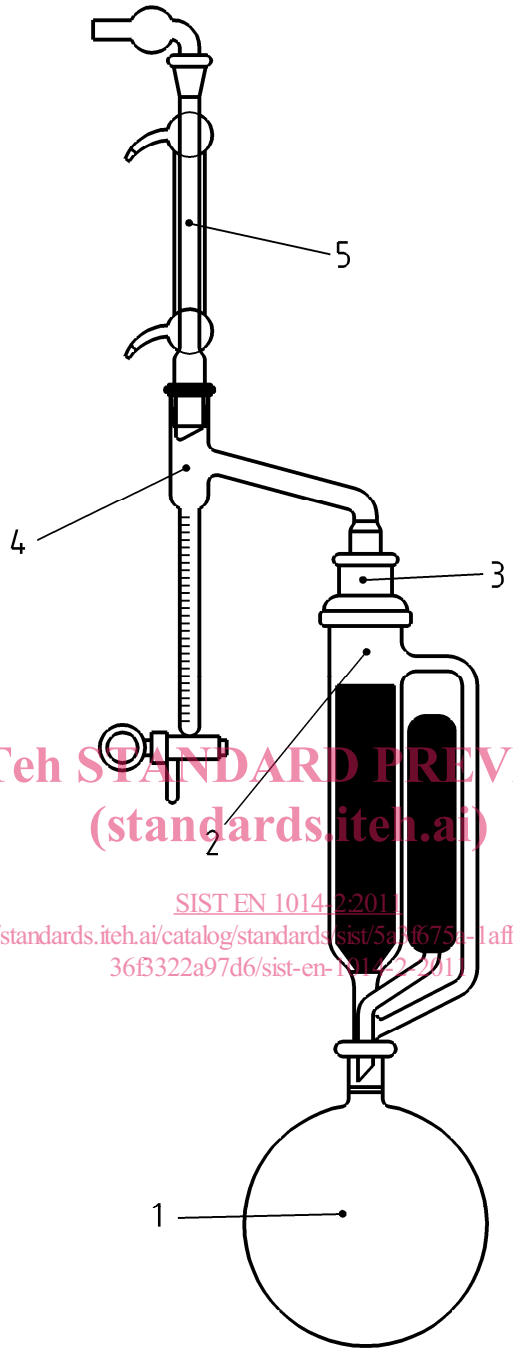
6.4 **Extraction thimble** (33 mm inner diameter, 36 mm outer diameter and 94 mm height).

6.5 **Dean and Stark receiver** with a capacity of 10 ml.

6.6 **Reflux condenser.**

6.7 **Wire gauze** made of stainless steel, which is needed to keep the wood pieces in the extraction thimble.

6.8 **Glass phial** with screw top.



Key
1 Round bottom flask
2 Soxhlet-apparatus and extraction thimble
3 Adaptor that fits between the Soxhlet and the water trap
4 Dean and Stark receiver (water trap)
5 Reflux condenser

Figure 1 — Extraction apparatus

7 Procedure for the extraction of creosote from the sample of the creosoted timber

Place about 200 ml of toluene (5) in the 250 ml round-bottom flask (6.1). Place the sample in the extraction thimble (6.4) and cover with the wire gauze (6.7). If the extraction thimble is too small to contain all of the sample, more than one extraction shall be performed.

Transfer the extraction thimble to the Soxhlet extractor (6.3), assemble the extraction apparatus (see Figure 1) with the round-bottom flask seated in the heating mantle (6.2). Heat the round-bottom flask so that the toluene refluxes at a rate of at least one drop per second from the tip of the condenser (6.6). If necessary, drain and discard the water from the Dean and Stark receiver (6.5).

NOTE 1 Discarding the water from the Dean and Stark receiver introduces the possibility of loss of water soluble components. The losses are not significant in the subsequent determinations.

Continue the refluxing for a minimum of 3 h. If at this stage the toluene in the Soxhlet extractor is not colourless, continue the extraction until the toluene becomes colourless up to a maximum of 6 h.

Allow the toluene to cool, then remove the extraction thimble and reject its contents. If necessary a further portion of the sample (e.g. the remainder) is placed in the extraction thimble and this is extracted (with the same toluene) as described above.

Finally remove the extractor from the flask and connect the flask to a distillation apparatus. Distil off approximately 175 ml of toluene.

Transfer quantitatively the residue to an evaporating basin and evaporate on a water bath until solvent free.

NOTE 2 It should be taken into consideration that the evaporation of toluene could lead to a loss of some low boiling components of the creosote.

Retain the residue, which is the extracted creosote, for subsequent analysis.

8 Sampling report

A sampling report shall be written, containing all essential information concerning the product sampled and the manner in which the sample was prepared. The report shall at least include the following:

a) a reference to this European Standard;

b) unambiguous sample identification marks, such as name and number of the label on the sample container;

c) date of sampling;

d) the approximate size of the batch of creosoted timber;

e) the sampling procedure followed based on EN 351-2; any particular points observed in the course of the sampling procedure;

f) any operations not specified in the method or regarded as optional which might have affected the procedure.