SLOVENSKI STANDARD

SIST EN 1014-1:2010

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Zaščitna sredstva za les - Kreozotno olje in s kreozotnim oljem zaščiten les - Metode vzorčenja in analize - 1. del: Postopek vzorčenja kreozotnega olja

Wood preservatives - Creosote and creosoted timber - Methods of sampling and analysis - Part 1: Procedure for sampling creosote

Holzschutzmittel - Kreosot (Teerimprägnieröl) und damit imprägniertes Holz - Probenahme und Analyse - Teil 1: Verfahren zur Probenahme von Kreosot

Produits de préservation du bois - Créosote et bois créosoté - Méthodes d'échantillonnage et d'analyse - Partie 1 : Procédure d'échantillonnage de la créosote

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ICS:

71.100.50	Kemikalije za zaščito lesa	Wood-protecting chemicals

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EUROPEAN STANDARD

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English Version

Wood preservatives - Creosote and creosoted timber - Methods of sampling and analysis - Part 1: Procedure for sampling creosote

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This European Standard was approved by CEN on 12 May 2010.

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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 Management Centre has the same status as the official versions.

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

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Foreword

This document (EN 1014-1:2010) 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of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.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 1014-1:1995.

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 1014-2, *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*

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 procedures for obtaining a representative sample from a consignment of creosote.

This standard is only applicable to consignments of creosote which are in a single phase at the time of the sampling.

NOTE 1 At ambient temperature, part of the creosote may be in crystalline form. In such cases, it is necessary to heat the creosote to a temperature above the crystallization point of the particular creosote at which it is entirely liquid before sampling.

NOTE 2 All personnel concerned with sampling and testing should be fully acquainted with the safety precautions relating to creosote. It is essential that proper safety measures for handling hazardous materials are followed when sampling creosote.

2 Terms and definitions

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

2.1
consignment
quantity of material covered by a particular consignment note or shipping document

2.2
crystallization point
temperature at which crystal formation starts in the creosote oil

2.3
sample
one or more sampling units taken from a larger number of sampling units, or one or more increments taken from a sampling unit

2.4
laboratory sample
sample as prepared for sending to the laboratory and intended for inspection or testing

3 Sampling flowing creosote from a pipeline by means of a probe

3.1 Apparatus

3.1.1 Sampling probe consisting of a pipe of about 12 mm bore with a valve, fitted into the side of the pipeline on the discharge side of the pump and preferably in a rising section of the pipeline.

The pipe extends into the centre of the pipeline, with its inner end bevelled at 45° or its inner end bent at 90° and extended for a very short distance, in both cases the orifice faces upstream.

NOTE A suitable design is illustrated in Figure 1.

3.1.2 Sample receiver, a glass or metal container of at least 5 l capacity.

3.1.3 Sample container, a glass or metal container of approximately 1 l capacity with an airtight closure which is resistant to creosote.

Rubber closures shall not be used.

3.2 Procedure

3.2.1 Place the clean, dry sample receiver (3.1.2) under the exit of the sampling probe (3.1.1). Adjust the valve on the sampling probe (3.1.1) to produce a steady continuous drip such that the sample receiver (3.1.2) shall be filled in the time required to pump the entire consignment being sampled past the sampling probe.

NOTE This sample is considered to be representative of the consignment being sampled.

3.2.2 Mix the contents of the sample receiver thoroughly. If necessary, heat the contents to ensure that they are in a single phase. Allowing an ullage space of about 5 % (v/v) pour approximately 1 l into the clean, dry sample container (3.1.3) and close the sample container securely.

Mark the sample container to allow identification of the contents. The contents shall constitute the laboratory sample of the consignment being sampled.

4 Sampling from a tank having a uniform horizontal cross section throughout its depth

4.1 Apparatus

4.1.1 **Weighted metal sampling can** of at least 550 ml capacity.

NOTE A suitable design is illustrated in Figure 2.

4.1.2 **Sample receivers**, three glass or metal containers of at least 1 l capacity.

4.1.3 **Intermediate sample container**, a glass or metal container of at least 5 l capacity.

4.1.4 **Sample container**, a glass or metal container of approximately 1 l capacity with an airtight closure which is resistant to creosote.

Rubber closures shall not be used.

4.2 Procedure

4.2.1 A sample shall be taken at each of the following positions in the tank, using the procedure given in 4.2.2:

— the middle of the upper third of the tank contents;

— the middle of the tank contents;

— the middle of the lower third of the tank contents.

4.2.2 Close the sampling can (4.1.1) and lower it to the required depth in the tank and open it.

NOTE If a sampling can of the type illustrated in Figure 2 is used, the can is opened by jerking the chain sharply to remove the conical cap.

When air bubbles cease to rise, lift out the sampling can and contents. Allow the creosote on the outside of the sampling can to drain off and then pour off carefully and reject about 50 ml of the contents.

Measure out a known volume, at least 500 ml, of the contents of the sampling can into the sample receiver (4.1.2).

4.2.3 Repeat the procedure given in 4.2.2 at the other two sampling points. Each sample shall be placed in its own sample receiver (4.1.2) and mixed well. If necessary heat the contents to ensure that they are in a single phase. Withdraw a volume from each of the three sample receivers and transfer it to the intermediate sample container (4.1.3). The volumes shall be the same within ± 5 % of their mean and total not less than 1 l.

NOTE The contents of the intermediate sample container are considered to be representative of the consignment being sampled.

4.2.4 Mix the contents of the intermediate sample container thoroughly. If necessary, heat the contents to ensure they are in a single phase. Allowing an ullage space of about 5 % (v/v), pour approximately 1 l into the clean, dry sample container (4.1.4) and close the sample container securely.

Mark the sample container to allow identification of the contents. The contents shall constitute the laboratory sample of the consignment being sampled.

5 Sampling from a horizontal cylindrical tank

5.1 Apparatus

5.1.1 **Weighted metal sampling can** of at least 550 ml capacity.

NOTE A suitable design is illustrated in Figure 2.

5.1.2 **Sample receivers**, three or more glass or metal containers of at least 1 l capacity.

5.1.3 **Intermediate sample container**, a glass or metal container of at least 5 l capacity.

5.1.4 **Sample container**, a glass or metal container of approximately 1 l capacity with an airtight closure which is resistant to creosote. Rubber closures shall not be used.

5.2 Procedure

5.2.1 If the tank is full, sample at standard depths of 1/6, 1/2 and 5/6 of the total depth, using the procedure given in 4.2.2.

Each sample shall be placed in its own sample receiver (5.1.2) and mixed well. If necessary, heat the contents to ensure that they are in a single phase. Withdraw a volume from each of the three sample receivers and transfer it to the intermediate sample container (5.1.3).

The volumes shall be in the ratio of 3:4:3 by volume (for the samples taken at 1/6, 1/2 and 5/6 of the total depth respectively) and total not less than 1 l.

NOTE The contents of the intermediate sample container are considered to be representative of the consignment being sampled.

5.2.2 If the tank is not full and tank calibration tables are available, ascertain the depths above which 1/6, 1/2 and 5/6 of the total volume is to be found. Sample at these depths, using the procedure given in 4.2.2.

Each sample shall be placed in its own sample receiver (5.1.2) and mixed well. If necessary, heat the contents to ensure that they are in a single phase. Withdraw a volume from each of the three sample receivers and transfer it to the intermediate sample container (5.1.3).

The volumes shall be in the ratio of 3:4:3 by volume (for the samples taken at 1/6, 1/2 and 5/6 of the total volume respectively) and total not less than 1 l.

NOTE The contents of the intermediate sample container are considered to be representative of the consignment being sampled.

5.2.3 If the tank is not full and calibration tables are not available, take samples at evenly spaced intervals commencing at the surface of the creosote, using the procedure described in 4.2.2. The intervals shall not be greater than 300 mm and shall not be less than 80 mm.

Each sample shall be placed in its own sample receiver (5.1.2) and mixed well. If necessary, heat the contents to ensure that they are in a single phase. Withdraw a volume from each of the sample receivers and transfer it to the intermediate sample container (5.1.3).

The volumes shall be in proportion to the horizontal volume interval of the tank about the point at which the sample was taken and total not less than 1 l.

These proportions may readily be obtained by first determining the position of the liquid surface in the tank, then plotting on squared paper the cross-section of the tank, the liquid surface and drawing horizontal lines representing the boundaries of each layer to be sampled. Counting the squares in each area representing a layer of creosote gives the proportions in which the samples shall be combined.

NOTE The contents of the intermediate sample container are considered to be representative of the consignment being sampled.

5.2.4 Mix the contents of the intermediate sample container thoroughly. If necessary heat the contents to ensure that they are in a single phase. Allowing an ullage space of about 5 % (v/v), pour approximately 1 l into the clean dry sample container (5.1.4) and close the sample container securely.

Mark the sample container to allow identification of the contents. The contents shall constitute the laboratory sample of the consignment being sampled.

6 Sampling report

A sampling report shall be written, containing all essential information pertaining to 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 and, in particular, to those clauses that have been followed;

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

c) the date of sampling;

d) the approximate size of consignment;

e) 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.