



# SLOVENSKI STANDARD SIST EN 351-2:2007

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Durability of wood and wood to based products - Preservative to treated solid wood -  
Part 2: Guidance on sampling for the analysis of preservative to treated wood

Dauerhaftigkeit von Holz und Holzprodukten - Mit Holzschutzmitteln behandeltes Vollholz  
- Teil 2: Leitfaden zur Probenentnahme für die Untersuchung des mit Holzschutzmitteln  
behandelten Holzes

(standards.iteh.ai)

Durabilité du bois et des produits a base de bois - Bois massif traité avec produit de  
préservation - Partie 2 : Guide d'échantillonnage pour l'analyse du bois traité avec un  
produit de préservation

**Ta slovenski standard je istoveten z: EN 351-2:2007**

**ICS:**

- 71.100.50 S^ { ã æ ð Á Á æ ä Á • æ Wood-protecting chemicals
- 79.040 Les, hlodovina in žagan les Wood, sawlogs and sawn timber

**SIST EN 351-2:2007 en**

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English Version

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

Durabilité du bois et des produits à base de bois - Bois massif traité avec produit de préservation - Partie 2 : Guide d'échantillonnage pour l'analyse du bois traité avec un produit de préservation

Dauerhaftigkeit von Holz und Holzprodukten - Mit Holzschutzmitteln behandeltes Vollholz - Teil 2: Leitfaden zur Probenentnahme für die Untersuchung des mit Holzschutzmitteln behandelten Holzes

This European Standard was approved by CEN on 21 June 2007.

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 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 Management Centre has the same status as the official versions.

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## Foreword

This document (EN 351-2:2007) 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 January 2008, and conflicting national standards shall be withdrawn at the latest by January 2008.

This document supersedes EN 351-2:1995.

Significant technical differences between this edition and EN 351-2:1995 are as follows:

- a) introduction of terms with their definition in clause 3;
- b) addition of clause 4 "Selection of batch";
- c) deletion of the sub-clause "Longitudinal sections" for sampling to determine the axial penetration.

This document consists of two parts. Part 1 is concerned with defining the penetration requirements and gives guidance on the retention requirements for preservatives in preservative-treated solid wood. Part 2 gives guidance on the general procedures to be followed in the sampling for analysis of preservative-treated solid wood.

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, 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 United Kingdom.

## 1 Scope

This part of EN 351 provides guidance on the general procedures used in obtaining samples of preservative-treated wood to determine the penetration and retention of wood preservative.

This part of EN 351 is applicable for the production of preservative-treated solid wood, including glued laminated timber, suitable for use in those service conditions defined by the use classes in EN 335-1. However, the sampling guidance provided within this part of EN 351 may be applied for the subsequent examination of treated wood in service.

## 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 1001-2:2005, *Durability of wood and wood-based products — Terminology — Part 2: Vocabulary*

ISO 2859-1:1999, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

## 3 Terms and definitions

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For the purposes of this document, the terms and definitions given in EN 1001-2:2005 and the following apply.

**3.1 active ingredient(s)**  
individual chemical compound or compounds included in a wood preservative product to give it specific activity against biological agents of deterioration

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NOTE Adapted from EN 1001-2:2005, 4.01.

**3.2 analytical zone**  
part of the treated wood that is analysed for assessing compliance with the retention requirement (see 3.8)

NOTE The analytical zone is taken from the lateral surfaces of the treated wood. The depth to which sampling is required will depend upon the species of wood being analysed and the treatment level concerned.

[EN 1001-2:2005, 4.03]

**3.3 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]

**3.4 charge**  
all the wood treated together in a single operation

[EN 1001-2:2005, 4.13]

**3.5****composite sample**

collection of all test samples derived from the sampling units (3.9) taken from the batch (3.3) in accordance with the chosen sampling plan for determining retention

[EN 1001-2:2005, 4.15]

**3.6****incising**

procedure of puncturing the lateral surfaces of wood as an aid to secure deeper and more uniform penetration of wood preservative

[EN 1001-2:2005, 4.38]

**3.7****penetration requirement**

minimum depth at which the active ingredient(s) (3.1) of the wood preservative is (are) required to penetrate the wood

[EN 1001-2:2005, 4.59]

**3.8****retention requirement**

loading of the wood preservative product that is required in the analytical zone

NOTE The retention requirement is expressed in grams of product per square metre for superficial application processes and kilograms of product per cubic metre for penetrating treatment processes. It is derived from the critical value in different ways depending upon the particular test involved.

[EN 1001-2:2005, 4.73]

**3.9****sampling unit**

one unit (for example a pole, a board, a fence post) of preservative-treated wood taken from a batch (see 3.3) of preservative-treated wood

[EN 1001-2:2005, 4.75]

**4 Selection of batch**

For the selection of a batch the following shall be considered and deviations reported:

- Batch shall be selected with respect to the aim of the subsequent sampling and analysis.

NOTE 1 In practice the selection of a batch is the result of a compromise between the aim of the inspection and the quality of the analysis in terms of technical and financial considerations.

- Batch shall be selected in such a way that the subsequent selection of sampling units is representative for the batch.
- Batch may consist of one charge or several charges treated on different occasions.

NOTE 2 If sampling is to be carried out from the same commodity manufactured at different plants at the same site, the batch should be selected in such a way that commodities from the different plants are represented in the batch.

- Batch may not consist of different commodities.

NOTE 3 A batch should not consist of a mixture of round and sawn wood.

## 5 Selection of sampling units from a batch

Sampling units shall be selected to be representative of the entire batch being considered.

The number of sampling units shall be in accordance with the guidance in ISO 2859-1. See Annex A for guidance.

NOTE If sapwood penetration is to be determined, units consisting entirely of heartwood should be avoided.

Individual techniques for determining penetration and retention could impose special requirements for sampling and subsequent handling which shall be reported.

## 6 Selection of test samples from a sampling unit

Test samples shall be selected from the sampling units according to the following principles:

- If penetration and retention can be determined from a single test sample, only one test sample per sampling unit is necessary. Otherwise, two test samples shall be taken per sampling unit for the separate determination of penetration and retention.
- Test samples shall be taken from clear, straight-grained wood, away from splits, checks, other defects and man-made holes or cuts and at least 100 mm away from knots in a longitudinal direction. For assessment of retention and lateral penetration, test samples shall be taken midway between ends or at least 100 mm from knots in a longitudinal direction. For assessment of retention and lateral penetration, test samples shall be taken midway between ends or at least 300 mm from the end.
- Test samples shall be taken as borings, cross-sections, or thin sections (see Clause 7 and Clause 8) as appropriate with respect to the commodities sampled and the methods to determine the penetration and retention.

NOTE 1 Borings are normally suited for round wood (poles, piles) and thicker dimensions of sawn wood (railway sleepers).

NOTE 2 To determine the preservative retention, cross-sections will form a more reliable basis than borings, as the whole analytical zone will be available for examination for cross-sections.

## 7 Test samples for determining penetration

### 7.1 Boring

#### 7.1.1 General

Borings shall not be used to determine axial penetration.

Borings shall be taken with a sharp increment borer which extracts a core of minimum diameter of 5 mm.

If any part of the sample is lost the whole sample shall be rejected and a new one taken.

If material is incised, borings shall be taken at a point midway between adjacent incisions.

NOTE All borer holes should be promptly plugged with tight fitting wooden plugs pre-treated with an appropriate preservative.

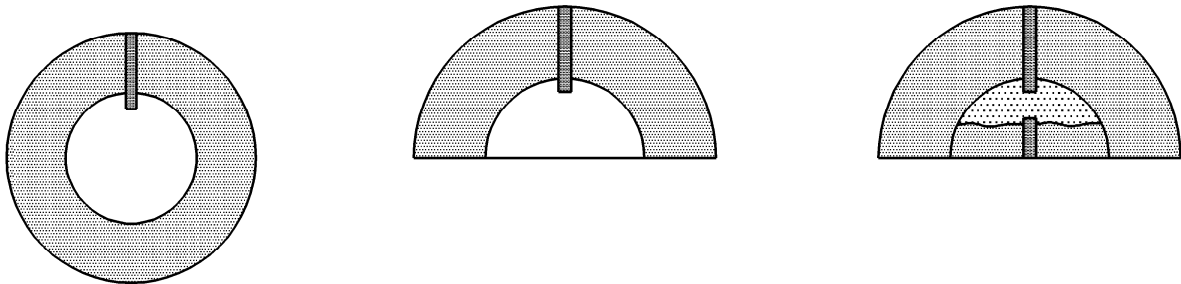






### 7.1.2 Round and part-round wood

For round wood the borer shall be directed towards the pith from any point on the surface.

For part-round wood the borer shall be directed towards the pith (or the point where the pith would have been in the original log) from a point on the curved surface which is furthest away from the cut surface(s).

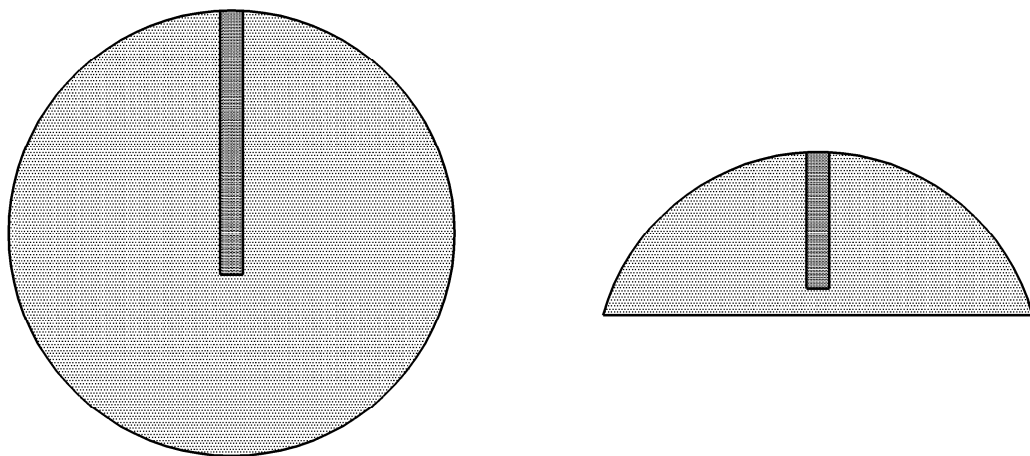
If a defined penetration depth, less than complete penetration, is required, the borer shall penetrate to a depth greater than the penetration measured (see Figure 1).



Key to Figures 1 to 9:			
	Penetration of preservative		Wood taken as sample
	Heartwood		No treatment required

**Figure 1 — Sampling location in round and part-round wood if a defined penetration depth is required**

If the requirement is for complete penetration, it is necessary for the borer to penetrate to the geometrical centre of the cross-section (see Figure 2).



**Figure 2 — Sampling location in round and part-round wood if complete penetration is required**