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# International Standard



# 4471

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Wood — Sampling sample trees and logs for determination of physical and mechanical properties of wood in homogeneous stands

*Bois — Prélèvement d'arbres échantillons et de billes pour la détermination des propriétés physiques et mécaniques du bois des peuplements homogènes*

First edition — 1982-05-01

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4471 was developed by Technical Committee ISO/TC 55, *Sawn timber and sawlogs*, and was circulated to the member bodies in May 1980.

It has been approved by the member bodies of the following countries :

|                |                     |                       |
|----------------|---------------------|-----------------------|
| Australia      | Ghana               | Romania               |
| Austria        | Hungary             | South Africa, Rep. of |
| Belgium        | India               | Sweden                |
| Bulgaria       | Italy               | Turkey                |
| Canada         | Korea, Dem. P. Rep. | USSR                  |
| Czechoslovakia | Mexico              | Yugoslavia            |
| Finland        | Norway              |                       |
| France         | Poland              |                       |

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Ireland  
New Zealand

# Wood — Sampling sample trees and logs for determination of physical and mechanical properties of wood in homogeneous stands

## 1 Scope and field of application

This International Standard specifies the method of selecting sample trees and logs in test areas of homogeneous stands for determination of physical and mechanical properties of wood.

## 2 Reference

ISO 3129, *Wood — Sampling methods and general requirements for physical and mechanical tests*.

## 3 Definitions

**3.1 homogeneous stand** : A plot of forest which is homogeneous by its woody and bushy vegetation and by its live overground cover and which differs from the neighbouring plots in these characteristics.

**3.2 homogeneous forest** : A total combination of trees, growing in the same portion of forest, distinguished by their thickness and height, the values of which do not exceed  $\pm 30\%$  and  $\pm 10\%$ , respectively, of the mean values.

**3.3 generation age** : An interval of time measured in classes of age.

For coniferous species and broad-leaved species of seed origin, the class of age is equal to 20 years. For broad-leaved species of shoot origin, the class of age is equal to 10 years. For rapid growing species and for bushes, the class of age is 5 years.

**3.4 stand of the same age** : Standing forest, whose trees have an age difference not exceeding the duration of one class of age.

**3.5 method of selecting the test area** : The method used in studying the forest and managing the farm in it.

**3.6 root collar** : The portion where the root passes into the stem.

**3.7 crown base** : The place where the first living branch starts.

**3.8 form ratio** : The relation between the diameter at a height of 1,3 m from the root collar and the diameters in the root collar, at a height of 1/4, 1/2, and 3/4 of the total height of the stem.

## 4 Selection of test area

**4.1** The test area shall be selected according to national forest regulation instructions and normative documents. It shall be carried out on a forest plot with most typical taxation characteristics for the stand under study.

**4.2** The test area shall contain not fewer than 100 trees of each generation of the species to be examined, the diameter of the trees at a height of 1,3 m from the root collar being at least 14 cm.

**4.3** The description of the test area shall be made in accordance with the form shown in annex A. Its characteristics shall be determined in compliance with national forest regulation instructions.

**4.4** The trees in the test area shall be inventoried separately by species and age generations in accordance with national forest regulation instructions. The results of the inventory shall be recorded in the report shown in annex B.

While drawing up the inventory, the diameter and height of the trees of the species being examined shall be determined in accordance with national forest regulation instructions and normative documents.

The serial number, diameter and height of the trees as well as the description of the defects occurring shall be recorded in the inventory report shown in annex C.

## 5 Selection of sample trees in test areas

**5.1** When the studied species is 22 cm and over in average diameter, sample trees shall be selected from among trees of not less than 18 cm diameter. When the average diameter is less than 22 cm, sample trees shall be selected from among trees of not less than 14 cm diameter. The inventoried trees shall not contain any visible defects (with the exception of knots) hampering the selection of logs from a sample tree.