INTERNATIONAL STANDARD

ISO 16979

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Wood-based panels — Determination of moisture content

Panneaux à base de bois — Détermination de l'humidité

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16979 was prepared by Technical Committee ISO/TC 89, *Wood-based panels*.

Introduction

This International Standard is based on European Standard EN 322. It cancels and replaces ISO 9425:1989 which has been extended to include provisions for sampling and cutting of test pieces.

Wood-based panels — Determination of moisture content

1 Scope

This International Standard specifies a method for determining the moisture content of wood-based panels.

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.

ISO 16999, *Wood-based panels — Sampling and cutting of test pieces*

3 Principle

Determination, by weighing, of the loss of mass of each test piece between its state at the time of sampling and its state after drying to constant mass at (103 ± 2) °C, and calculation of this loss of mass as a percentage of the mass of the test piece after drying.

4 Apparatus

4.1 **Balance**, with a scale interval of 0,01 g.

4.2 **Drying oven**, ventilated, capable of being controlled at (103 ± 2) °C.

4.3 **Desiccator**, containing silica gel, to maintain the air as close as possible to the absolutely dry condition.

5 Test pieces

5.1 Sampling and cutting

Sampling and cutting of the test pieces shall be carried out in accordance with ISO 16999. Test pieces shall cover the full thickness of the panel.

5.2 Mass and dimensions

The test piece shall have a minimum mass of 20 g. The shape and size of the test piece are unimportant. The test pieces shall be free from loose splinters and sawdust.

6 Procedure

6.1 Weighing before drying

Weigh each test piece in the as-sampled state, to an accuracy of 0,05 % of the mass of the test piece.

This initial weighing shall be carried out immediately after sampling. Where this is impossible, precautions shall be taken to avoid changes in the moisture content of the test piece after sampling.

6.2 Drying

Place the test pieces in the drying oven (4.2) at a temperature of (103 ± 2) °C until constant mass has been reached.

Constant mass is considered to be reached when the results of two successive weighing operations, carried out at a minimum interval of 6 h, do not differ by more than 0,1 % of the mass of the test pieces.

6.3 Weighing after drying

After the test pieces have been cooled to approximately room temperature in the desiccator (4.3), weigh each test piece to an accuracy of 0,05 % of the mass of the test piece, rapidly enough to avoid an increase in moisture content.

7 Expression of results

Calculate the moisture content, H, of each test piece, as a percentage by mass to the nearest 0,1 %, in accordance with the following equation:

$$H = \frac{m_0 - m_1}{m_1} \times 100$$

where

m_0 is the initial mass of the test piece, in grams (g);

m_1 is the mass of the test piece after drying, in grams (g).

8 Estimation of moisture content of a panel

The moisture content of a panel shall be obtained by calculating the arithmetic mean of the moisture contents of all the test pieces taken from the same panel and shall be expressed as a percentage to one decimal place.