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Wood-based panels — Determination of moisture content

iTeh STANDARD PREVIEW
Panneaux à base de bois — Détermination de l'humidité
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9425 was prepared by Technical Committee ISO/TC 89, *Wood-based panels*.

It cancels and replaces ISO 767:1975, ISO 823:1975 and ISO 3806:1977, of which it constitutes a technical revision.

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Wood-based panels — Determination of moisture content

1 Scope

This International Standard specifies a method for determining the moisture content of wood-based panels such as fibre building boards, defined in ISO 818, particle boards, defined in ISO 820, as well as plywood, defined in ISO 2074.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 818:1975, *Fibre building boards — Definition — Classification*.

ISO 820:1975, *Particle boards — Definition and classification*.

ISO 2074:1972, *Plywood — Vocabulary*.

3 Principle

Determination, by weighing, of the loss in mass of a test piece between its state at the time of sampling and its state after drying to constant mass at $103\text{ °C} \pm 2\text{ °C}$, and calculation of this loss in mass as a percentage of the mass of the test piece after drying.

4 Apparatus

4.1 Balance, allowing a measurement to an accuracy of 0,01 g.

4.2 Air convection drying oven, capable of being controlled at $103\text{ °C} \pm 2\text{ °C}$.

NOTE 1 Alternative methods for the drying of test pieces are allowed for panel products containing volatile materials.

4.3 Desiccator containing a desiccant, to maintain air as close as possible to the absolutely dry condition (suitable desiccants are, for example, diphosphorus pentoxide, calcium chloride or silica gel).

5 Sampling and dimensions of test pieces

5.1 Sampling and cutting of test pieces will be the subject of a future International Standard.

5.2 Carry out the test on test pieces of any shape and dimensions, with a minimum area of 25 cm^2 , provided that they are representative of the whole cross-section of the panel. The test pieces shall be free from loose splinters and sawdust.

6 Procedure

6.1 Weigh each test piece in the as-sampled state to an accuracy of 0,01 g.

Carry out this weighing immediately after sampling. If this is impossible, take precautions to avoid variations in the moisture content of the test piece after sampling.

6.2 Dry each test piece, at a temperature of $103\text{ °C} \pm 2\text{ °C}$, to constant mass.

NOTE 2 Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 6 h, do not differ by more than 0,1 % of the mass of the test piece.

6.3 Cool each test piece in the desiccator and then weigh to an accuracy of 0,01 g, rapidly enough to avoid an increase in moisture content of greater than 0,1 %.

7 Expression of results

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

$$H = \frac{m_H - m_0}{m_0}$$

where

m_H is the mass of the test piece at the time of sampling, in grams;

m_0 is the mass of the test piece after drying, in grams.

7.2 The moisture content of a board or of a batch of boards is equal to the arithmetic mean of the moisture contents of all the relevant test pieces. It shall be stated to the nearest 0,1 %.

8 Test report

The test report shall include the following particulars:

- a) the type of board, as defined in ISO 818, ISO 820 and ISO 2074, and all necessary details to identify the board;
- b) the results, expressed as stated in clause 7;
- c) any deviations from this International Standard;
- d) reference to this International Standard.

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