
INTERNATIONAL STANDARD



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Plywood – Determination of density

Contreplaqué – Détermination de la masse volumique

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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 3805 was developed by Technical Committee ISO/TC 139, *Plywood*, and was circulated to the member bodies in June 1975.

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

Austria	Hungary	Romania
Belgium	India	South Africa, Rep. of
Brazil	Iran	Spain
Bulgaria	Israel	Sweden
Canada	Italy	Turkey
Chile	Mexico	United Kingdom
Czechoslovakia	New Zealand	U.S.A.
Finland	Norway	U.S.S.R.
France	Poland	Yugoslavia
Germany	Portugal	

The member body of the following country expressed disapproval of the document on technical grounds:

Australia

Plywood – Determination of density

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of determining the density of plywood panels, defined in ISO 2074.

2 REFERENCES

ISO 1096, *Plywood – Classification.*

ISO 2074, *Plywood – Vocabulary.*

ISO 3804, *Plywood – Determination of dimensions of test pieces.*

ISO 3806, *Plywood – Determination of moisture content.*

ISO ..., *Plywood – Sampling, cutting and inspection.*¹⁾

3 PRINCIPLE

Determination of the ratio of the mass in grams of a test piece to its volume in cubic centimetres.

4 APPARATUS

See ISO 3804.

5 SAMPLING, TEST PIECES AND CONDITIONING

5.1 Sampling and cutting

Sampling and cutting of test pieces shall be carried out in accordance with ISO ...

5.2 Test pieces

The test pieces shall be square in shape, with sides measuring 100 mm.

NOTE – In the case of cellular boards, the dimensions of the test pieces shall be such that they are representative of the whole plywood panel.

5.3 Conditioning

The test pieces shall be conditioned to constant mass²⁾ in an atmosphere of relative humidity $65 \pm 5\%$ and temperature $20 \pm 2^\circ\text{C}$.

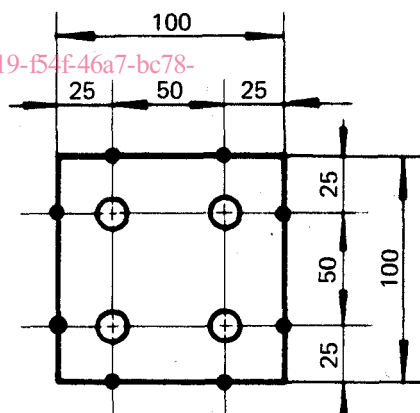
6 PROCEDURE

6.1 Weigh each test piece to an accuracy of 0,1 g.

6.2 Measure the dimensions of each test piece in accordance with ISO 3804, as follows :

6.2.1 The thickness at four different points, shown as circles in the drawing below.

Dimensions in millimetres



The mean arithmetical value of the four measurements is considered to be the thickness of the test piece.

6.2.2 The dimensions of the sides, parallel to the edges, between the respective points shown in the drawing above.

The mean arithmetical value of the two measurements in each direction is considered to be the length of the test piece in the corresponding direction.

1) In preparation.

2) Constant mass is considered to be reached when the results of two successive weighing operations, carried out at an interval of 24 h, do not differ by more than 0,1 % of the mass of the test piece.

6.3 Calculate the volume of the test piece to the nearest 0,1 cm³, using the results obtained in 6.2.1 and 6.2.2.

7 EXPRESSION OF RESULTS

7.1 Calculate the density ρ of each test piece in grams per cubic centimetre to the nearest 0,01 g/cm³, in accordance with the following formula :

$$\rho = \frac{m}{V}$$

where

m is the mass of the test piece, in grams;

V is the volume of the test piece, in cubic centimetres.

7.2 The density of one plywood panel is obtained by calculating to the nearest 0,01 g/cm³ the arithmetical mean value of the density of all test pieces taken from the same panel.

8 TEST REPORT

The test report shall include the following particulars :

- a) the type of the plywood panel as defined in ISO 1096, and all necessary details to identify the plywood panels;
- b) the results expressed as stated in clause 7;
- c) the moisture content of the test pieces at the time of testing, in accordance with ISO 3806 and ISO ...;
- d) the reference to this International Standard;
- e) any operation not included in this International Standard, or regarded as optional, as well as any incidents likely to have affected the results.

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