INTERNATIONAL STANDARD 3729

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Fibre building boards — Determination of surface stability

Panneaux de fibres — Détermination de la stabilité de surface

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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 3729 was drawn up by Technical Committee ISO/TC 89, *Fibre building boards*, and was circulated to the Member Bodies in March 1975.

It has been approved by the Member Bodies of the following countries :

Austria	India	Romania
Belgium	Iran	South Africa, Rep. of
Brazil	Ireland	Spain
Bulgaria	Italy	Sweden
Canada	Korea, Rep. of	Switzerland
Czechoslovakia	New Zealand	Turkey
Finland	Norway	United Kindgom
France	Pakistan	U.S.S.R.
Germany	Poland	Yugoslavia
Hungary	Portugal	

No Member Body expressed disapproval of the document.

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Fibre building boards — Determination of surface stability

1 SCOPE

This International Standard specifies a method for the determination of the surface stability, after a conditioning cycle, of hard and medium fibre building boards.

NOTE — This method is very similar to that for the determination of surface finish (roughness) specified in ISO 3546.

2 FIELD OF APPLICATION

This International Standard applies to hard and medium fibre building boards, defined in ISO 818.

3 REFERENCES

ISO 766, *Fibre building boards — Determination of dimensions.*

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

ISO 3546, *Fibre building boards — Determination of surface finish (roughness).*

ISO . . ., *Fibre building boards — Sampling, cutting and inspection.*[1)]

4 PRINCIPLE

Measurement of the escape of air from a measuring head placed perfectly flat on the surface of a test piece conditioned in a specified atmosphere. Repetition of the measurement after conditioning in a second specified atmosphere, then again after reconditioning in the first specified atmosphere.

5 APPARATUS

See ISO 3546.

6 SAMPLING AND TEST PIECES

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

Test pieces shall be square, of side 300 mm (see ISO 766).

The test pieces shall be conditioned to constant mass[2)] in an atmosphere of relative humidity of 65 ± 5 % and at a temperature of 20 ± 2 °C.

7 PROCEDURE

7.1 Carefully clean all dust and loose particles from the smooth side of a test piece. Fix the test piece in the clamp so that the ten clamp holes are contained within the square. Place the gauge or gauges on the test surface in each of the holes and note the results obtained in millilitres per minute.

7.2 Condition the test pieces in an atmosphere of relative humidity of 90 % for 72 h. Carry out the procedure again as specified in 7.1.

7.3 Condition the test pieces in an atmosphere of relative humidity of 65 % to constant mass (see clause 6). Carry out the procedure again as specified in 7.1.

NOTE — For routine measurement of surface finish, a more sophisticated and quickly operated fixture with ten permanent integral gauges connected in parallel has been designed. The device has a large capacity but the operator is required to observe a rigid discipline.

In this context it may be noted that the greatest care must be taken not to damage the smooth side of the gauges.

8 EXPRESSION OF RESULTS

Surface stability shall be expressed as the air leakage in millilitres per minute, between the surface of the test piece and the measuring device, to an accuracy of 1 ml/min.

The results shall be observed at the following stages :

— A : surface smoothness at the starting point of relative humidity 65 %;

— B : surface smoothness after conditioning at relative humidity 90 %;

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.

– C : surface smoothness after conditioning back to relative humidity 65 %.

The results shall be reported as follows :

– B minus A = total change;

– B minus C = reversible change;

– C minus A = permanent change.

NOTE – If results are obtained which differ considerably from the mean, the reason must be established.

The first cause to be examined is poor cleaning. Blowing the test surface clean or wiping it off with the fingers will immediately result in moisture changes and is not permitted, in view of the changes caused on the test surface.

Subsequently, the surface under the clamp hole concerned should be examined. If anything abnormal is thereby observed, a descriptive note must be made and the result struck from the list for the calculation of mean values. Reasons justifying this are damage due to external cuases, damaged calendering plate or other markedly local defects in manufacture. Shives, bark flakes, distinct fibrous knots and similar defects which may be assumed to be widely present shall not justify deletion of the reading.

9 TEST REPORT

The test report shall include the following particulars :

a) the average for each test piece;

b) the average for each board and for the test batch;

c) description of observed surface faults;

d) all necessary information for the complete identification of the sample;

e) all functional details not considered in this International Standard, as well as any incidents likely to have had an influence on the result.

Dimensions in millimetres

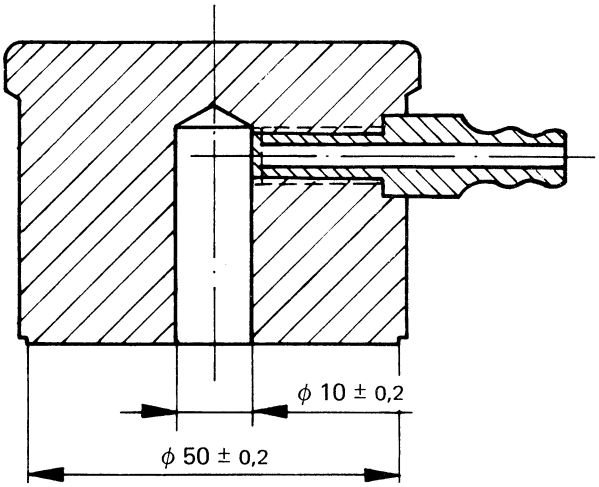
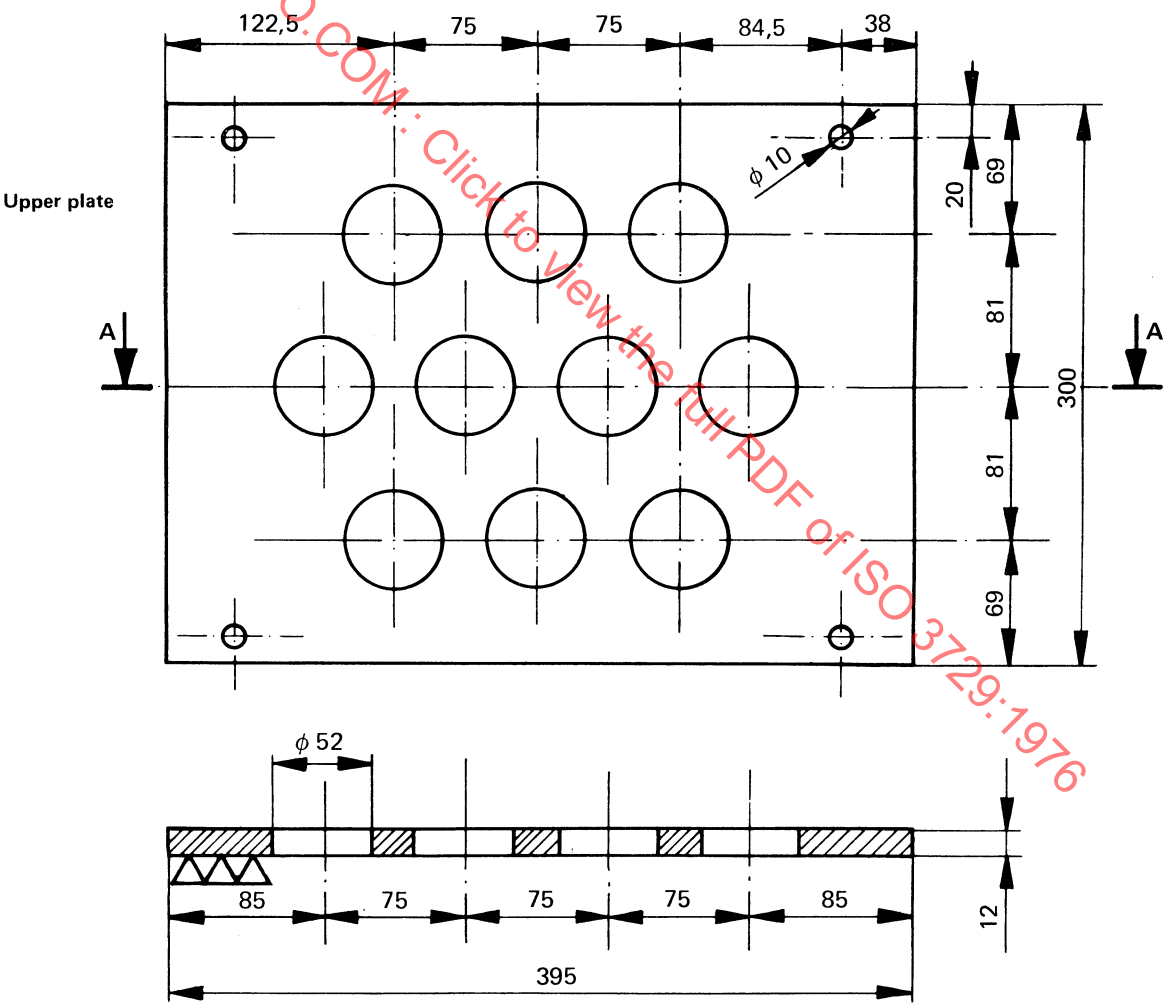


FIGURE 1 — **Measuring head**



Section A — A

Lower plate : as for the upper plate but without the 52 mm diameter holes

FIGURE 2 — **Clamp for holding test piece**

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