International Standard ISO 3689

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Paper and board — Determination of bursting strength after immersion in water

Papier et carton — Détermination de la résistance à l'éclatement après immersion dans l'eau

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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 developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been authorized 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 3689 was developed by Technical Committee ISO/TC 6, *Paper, board and pulps.*

This second edition was submitted directly to the ISO Council, in accordance with clause 6.11.2 of part 1 of Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 3689-1976), which had been approved by the member bodies of the following countries:

Australia	Hungary	Poland
Belgium	Iran	Romania
Bulgaria	Ireland	South Africa, Rep. of
Canada	Israel	Sweden
Czechoslovakia	Italy	Switzerland
Egypt, Arab Rep. of	Mexico	Turkey
Finland	Netherlands	United Kingdom
France	New Zealand	USSR
Germany, F.R.	Norway	USA

No member body had expressed disapproval of the document.

Paper and board — Determination of bursting strength after immersion in water

1 Scope and field of application

This International Standard specifies a method for the determination of the wet strength of paper and board by measuring its bursting strength after it has been immersed in water for a specified period.

In principle, the method is applicable to most kinds of paper and board, provided that an appropriate immersion time is agreed between the interested parties.

Different results may be found if the sample is re-tested after a period of time.

2 References

ISO 186, *Paper and board — Sampling for testing.*

ISO 187, *Paper and board — Conditioning of samples.*

ISO 2758, *Paper — Determination of bursting strength.*

ISO 2759, *Board — Determination of bursting strength.*

3 Definitions

For the purpose of this International Standard, the following definitions apply:

3.1 bursting strength after immersion for X hours: The limiting resistance offered by a single sheet of paper or board, after immersion in water for X hours, to a uniformly distributed pressure applied at right angles to its surface up to the point at which it breaks, under the specified conditions of test.

3.2 bursting strength retention after immersion for X hours: The percentage ratio of the bursting strength of a single sheet of paper or board after immersion in water for X hours to that of the same paper or board in the dry state measured under the specified conditions of test.

4 Principle

Immersion in water for the appropriate period of a test piece of the paper or board to be tested and determination of the bursting strength.

5 Apparatus and material

5.1 Burst testing apparatus, complying with the requirements of ISO 2758 or ISO 2759.

5.2 Thermostatically controlled water tank, large enough to hold the test pieces in a vertical position.

5.3 Water for soaking

Use distilled or deionized water.

6 Sampling

Specimens shall be selected in accordance with ISO 186.

7 Test pieces

7.1 Preparation

Test pieces shall be prepared as specified in ISO 2758 or ISO 2759. Ten test pieces are normally required for the wet bursting test; if multiple bursting is necessary (see 8.3), a larger number of test pieces is required. A duplicate set shall be prepared for the dry bursting test, if required.

7.2 Conditioning

For wet testing, conditioning is not generally necessary. If a dry bursting strength test is also required, the test pieces shall be conditioned as specified in ISO 187.