

INTERNATIONAL STANDARD



3687

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Paper and board — Determination of air resistance (Gurley)

Papier et carton — Détermination de la résistance à l'air (Gurley)

First edition — 1976-08-15

To be withdrawn
(January 1992)

Withdrawn
1992-10-15

UDC 676.2.017.62

Ref. No. ISO 3687-1976 (E)

Descriptors : papers, paperboards, tests, air resistance tests, determination, air permeability.

Price based on 4 pages

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 3687 was drawn up by Technical Committee ISO/TC 6, *Paper, board and pulps*, and was circulated to the Member Bodies in April 1975.

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

Australia	Ireland	South Africa, Rep. of
Belgium	Israel	Spain
Bulgaria	Italy	Sweden
Canada	Mexico	Switzerland
Czechoslovakia	Netherlands	Thailand
Finland	New Zealand	Turkey
Germany	Norway	United Kingdom
Hungary	Pakistan	U.S.A.
Iran	Romania	U.S.S.R.

No Member Body expressed disapproval of the document.

Paper and board – Determination of air resistance (Gurley)

0 INTRODUCTION

This International Standard specifies a method for measuring the resistance to air flow through a sheet of paper or board. The results obtained with the apparatus described cannot be accurately related to those of other instruments, because in this instrument the air pressure varies slightly during the test. Information concerning the relation between air permeance and the results obtainable by the method specified are given in annex D.

1 SCOPE

This International Standard specifies the equipment required and the method for determining the air resistance of paper and board by the principle known as "Gurley".

2 FIELD OF APPLICATION

This method is applicable to papers and boards that (under the conditions specified) permit the passage of 100 ml of air in 5 to 1 800 s. The method is unsuitable for rough-surfaced papers such as crêped and corrugated papers, which cannot be securely clamped to avoid leakage.

3 REFERENCES

- ISO 186, *Paper and board – Sampling for testing.*¹⁾
ISO 187, *Paper and board – Conditioning of test samples.*²⁾

4 PRINCIPLE

Compression of air by the weight of a vertical cylinder floating in a liquid. A test piece is in contact with the compressed air and the cylinder falls steadily as air passes through the test piece. The time for a given volume of air to pass through the test piece is a measure of its air resistance.

5 EQUIPMENT

5.1 Air-resistance apparatus

The apparatus, a diagrammatic sketch of which is shown in the figure, consists of an outer cylinder which is partly filled with sealing fluid, and an inner cylinder, having an open or closed top, sliding freely in the outer cylinder. Air pressure provided by the weight of the inner cylinder is

1) At present at the stage of draft. (Revision of ISO/R 186.)

2) At present at the stage of draft. (Revision of ISO/R 187.)