

INTERNATIONAL STANDARD



187

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Paper and board — Conditioning of samples

Papier et carton — Conditionnement des échantillons

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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 187 was developed by Technical Committee ISO/TC 6, *Paper, board and pulps*, and was circulated to the member bodies in March 1975.

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

Australia	Iran	South Africa, Rep. of
Belgium	Ireland	Spain
Canada	Italy	Sweden
Chile	Mexico	Switzerland
Czechoslovakia	Netherlands	Turkey
Finland	New Zealand	United Kingdom
France	Norway	U.S.A.
Hungary	Poland	
India	Romania	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Bulgaria
Germany

This International Standard cancels and replaces ISO Recommendation R 187-1961, of which it constitutes a technical revision.

Paper and board — Conditioning of samples

0 INTRODUCTION

This International Standard specifies a method that is to be considered as the standard method in the absence of any previous agreement.

The ideal would be for a single atmosphere to be used for conditioning and/or testing, but this is not possible because of the diversity of climates and the different conditions of conversion and use of paper and board.

There is now a marked trend towards the use of atmosphere 23/50 and this is therefore given as the preferred atmosphere. Atmosphere 20/65 is, however, still widely used. Atmosphere 27/65 is in widespread use in tropical climates. In certain fields of usage, other atmospheres may be required for particular purposes.

The physical properties of paper are affected materially by its moisture content, which, in turn, is dependent on the humidity of the surrounding atmosphere. In order that tests may be made on paper in a defined physical state, it is brought into equilibrium with an atmosphere of standardized temperature and relative humidity, and tested in that atmosphere.

The moisture content of a given paper in equilibrium with a given atmosphere varies according to whether the equilibrium is reached by sorption or desorption of moisture. This hysteresis influences those physical properties that change with moisture content; it is recommended that the equilibrium condition be attained by a sorptive process.

1 SCOPE

This International Standard specifies the conditioning atmospheres and the method for conditioning samples of paper and board before and during testing.

2 FIELD OF APPLICATION

This International Standard applies to all papers and boards, but not to containers and packages manufactured from paper and board.

3 REFERENCE

ISO 554, *Standard atmospheres for conditioning and/or testing — Specifications*.

4 PRINCIPLE

Exposure of the samples to a conditioning atmosphere in such a manner that a state of moisture content equilibrium is reached between the paper or board and this atmosphere.

5 DEFINITIONS

For the purposes of this International Standard, the following definitions apply.

5.1 relative humidity (R.H.) : The ratio of the absolute humidity of the air to the humidity of air saturated with water vapour at the same temperature and pressure.

NOTE — This ratio is usually expressed as a percentage. At ordinary atmospheric temperatures, this ratio is almost exactly equal to the ratio of the actual vapour pressure to the saturation vapour pressure at the same (dry bulb) temperature.

5.2 conditioning : The establishment of a moisture content equilibrium between samples of paper or board and an atmosphere of specified temperature and relative humidity. This equilibrium is considered to be attained when the results of two consecutive weighings of the samples, carried out at an interval of not less than 1 h, do not differ by more than a specified amount.

The establishment of moisture content equilibrium is accepted as ensuring that the paper is in a stable physical state, but in special circumstances, conditioning may have to be prolonged until the desired physical equilibrium is attained. Such circumstances are not within the scope of this method.