
**Paper and board — Determination of
grease resistance —**

**Part 1:
Permeability test**

*Papier et carton — Détermination de l'imperméabilité aux graisses —
Partie 1: Essai de perméabilité*



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Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions.....	1
4 Principle.....	2
5 Reagents	2
6 Apparatus	2
7 Sampling.....	4
8 Conditioning.....	4
9 Preparation of test pieces.....	4
10 Procedure	4
10.1 General.....	4
10.2 Determination of show-through	4
10.3 Determination of break-through	5
10.4 Observation intervals	5
11 Precision.....	5
12 Expression of results	5
13 Test report	6
Annex A (normative) Creasing.....	7
Bibliography	8

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16532-1 was prepared by Technical Committee ISO/TC 6, *Paper, board and pulps*, Subcommittee SC 2, *Test methods and quality specifications for paper and board*.

ISO 16532 consists of the following parts, under the general title *Paper and board — Determination of grease resistance*:

- *Part 1: Permeability test*
- *Part 2: Surface repellency test*

The following part is under preparation:

- *Part 3: Turpentine test for voids in glassine and greaseproof papers*

Introduction

The resistance of paper and board to penetration by fats, greases and oils is of particular importance for certain packaging purposes, for example the packaging of food. The packaging should not only provide an effective grease barrier, but should also deter the formation of aesthetically unacceptable grease spots on the packaging surfaces.

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Paper and board — Determination of grease resistance —

Part 1: Permeability test

1 Scope

This part of ISO 16532 specifies a method for the determination of the grease resistance of paper and board. The paper or board can be tested creased or uncreased. The test is primarily intended to establish a level of grease resistance by determining the time taken for a simulated “fat material” (palm kernel oil) to penetrate (break-through) the sheet for papers such as food board, and greaseproof and vegetable parchment. It is also applicable to paper and board which have been internally or surface sized with organophobic materials, or made grease resistant by a plastic extrusion coating.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 186, *Paper and board — Sampling to determine average quality*

ISO 187, *Paper, board and pulps — Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples*

ISO 4046-4, *Paper, board, pulps and related terms — Vocabulary — Part 4: Paper and board grades and converted products*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

grease resistance

ability of paper or board to resist the formation of surface spots or stains or the permeation of grease through the sheet

3.2

grease permeability

ability of the paper or board to resist penetration of the grease through the sheet

NOTE Grease permeability is described by two characteristics: “break-through time” (actual penetration time) and “show-through time” (visual penetration time).

3.3

break-through time

time elapsed between the application of the test grease, together with a weight, to one side of the test piece and the penetration of grease through to the other side of the test piece