

ICS 85.060
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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 22805.3-2025

**Paper and board - Determination of grease resistance - Part 3:
Turpentine test**

纸和纸板 耐脂度的测定 第3部分：松节油法

(English Translation)

Issued on: October 5, 2025

Implemented on: May 1, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 3 of GB/T 22805 "Determination of grease resistance of paper and paperboard". GB/T 22805 has been published with the following...

part.

---Part 1: Permeation Method (GB/T 22805.1);

---Part 2: Surface Repulsion Method (GB/T 22805.2);

---Part 3: Turpentine Method (GB/T 22805.3).

This document is modified to adopt ISO 16532-3:2010 "Paper and paperboard - Determination of grease resistance - Part 3: Tests for glassine strength by turpentine method".

The porosity of paper and greaseproof paper was tested.

The technical differences between this document and ISO 16532-3:2010, and the reasons therefor, are as follows.

a) The scope description has been changed (see Chapter 1 of ISO 16532-3:2010) to conform to the drafting of Chinese standardization documents.

rule;

b) The normative reference to ISO 536 (see 6.3 in ISO 16532-3:2010) has been deleted; it is not referenced in this document.

- c) The spoon (see 6.6 in ISO 16532-3:2010) has been removed to accommodate the technical conditions of our laboratories;
- d) The description of the balance accuracy class has been deleted (see 6.7, 6.8 in ISO 16532-3:2010) to accommodate the technical requirements of our laboratories.
condition;
- e) ISO 186 (see Chapter 7) has been replaced with the normatively referenced GB/T 450 to adapt to my country's technical conditions;
- f) ISO 187 (see Chapter 8) has been replaced with the normatively referenced GB/T 10739 to adapt to my country's technical conditions;
- g) The representation of the examples in the results presentation (see 11.4) has been changed to facilitate industry operations;
- h) The test temperature and humidity conditions in the test report (see Chapter 12) have been added to record the test environment.

The following editorial changes have been made to this document.

---The standard name has been changed to "Determination of Grease Resistance of Paper and Paperboard - Part 3: Turpentine Method".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China National Light Industry Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Paper Industry (SAC/TC141).

Introduction

In fields such as food packaging, the resistance of paper and paperboard to grease penetration is particularly crucial. Packaging must not only provide an effective grease barrier layer, but also...

To prevent the formation of unsightly grease spots on the surface, GB/T 22805 "Determination of Grease Resistance of Paper and Paperboard" specifies the grease resistance of paper and paperboard.

The determination method is specified and consists of three parts.

---Part 1: Penetration Method. The purpose is to determine whether there are creases or no creases, whether the material is applied internally or superficially, or whether it is applied through plastic extrusion coating.

Grease-resistant paper and paperboard grease resistance test method.

---Part 2: Surface Repulsion Method. The purpose is to identify paper and paperboard sizing agents (such as fluoroalkyl compounds) applied internally or superficially.

Methods for testing the grease resistance of plates.

---Part 3: Turpentine Method. The purpose is to determine the types of paper, such as greaseproof paper and glassine paper, that acquire greaseproof properties mechanically.

Methods for testing the grease resistance of cardboard.

Determination of grease resistance of paper and paperboard Part 3: Turpentine Method

1 Scope

This document describes a method for determining the turpentine resistance of paper and paperboard. It evaluates the resistance by measuring the time required for turpentine to penetrate the pores of the paper and paperboard.

Its resistance to oils and greases.

This document applies to paper and paperboard that acquire oil resistance through mechanical processing, such as glassine paper and greaseproof paper.

This document does not apply to paper and paperboard that have undergone treatments such as pulp additives or surface sizing.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 450 Paper and paperboard specimen collection and determination of longitudinal and transverse directions, front and back sides of specimens (GB/T 450-2008, ISO 186.

2002, MOD)

GB/T 10739 Standard atmospheric conditions for the treatment and testing of paper, paperboard and pulp specimens (GB/T 10739-2023, ISO 187.

2022, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

Grease resistance

The ability of paper and paperboard to resist surface stains and grease penetration.

voids

The gaps in the paper sheet that can be penetrated by oils due to the arrangement of fibers.

4 Principles

Place the sample on a smooth coated paper, then place a small pile of sand on the sample, and penetrate the sand with turpentine test solution.

For each sample, record the time it takes for oil stains to appear on the coated paper.

5 Reagents

5.1

Turpentine oil, with a density of 0.860 g/mL to 0.875 g/mL at 20°C.

5.2

Anhydrous calcium chloride, analytical grade.

5.3

Fat-soluble dyes, such as Sudan Red.