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

GB/T 16929-2025

Replacing GB/T 16929-1997

Test method for packaging materials - Oil permeability

包装材料试验方法 透油性

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Foreword

This document was drafted in accordance with the rules provided in GB/T 1.1-2020 Directives for Standardization - Part

1. Rules for the Structure and Drafting of Standardizing Documents. This document serves as a replacement for GB/T 16929-1997 Test Method for Oil Transmission Rate of Packaging Material. In comparison with GB/T 16929-1997, apart from structural adjustments and editorial modifications, the main technical changes are as follows:

---Terms and definitions are added (see Chapter 3);

---"folded plate" and "dropper bottle" are deleted from the test apparatus (see Chapter 4 of Version 1997), and "folded rod" is modified into "metal rod" (see Chapter 5; Chapter 4 of Version 1997);

---"lard is preferred for animal oils, peanut oil is preferred for vegetable oils" is added, and "other oils" is modified into "actually used oils" (see Chapter 6; Chapter 5 of Version 1997);

---The sampling quantity and procedure are deleted, and the requirements for specimens are added (see 7.1;

6.1 of Version 1997);

---The selection of environmental treatment conditions for specimens is added (see 7.2);

---The test method for measuring the size and thickness of specimens is modified (see 7.3;

6.2 of Version 1997);

---The test unit is modified (see 7.5;

6.4 of Version 1997);

---The cleaning mode for frosted glass base plate is deleted (see

7.1 of Version 1997);

1 Scope

GB/T 16929-2025 is the Chinese national standard on test method for packaging materials - oil permeability, in the field of packaging and distribution of goods. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 1 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2026. Classification: ICS 55.040, CCS A83. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document describes the test principle, test apparatus, test oils, specimens and test unit, test procedures, test results, and test report for the oil permeability test of packaging materials. This document is applicable to the test of oil permeability of packaging materials.

2 Normative References

The contents of the following documents constitute indispensable clauses of this document through the normative references in the text. In terms of references with a specified date, only versions with a specified date are applicable to this document. In terms of references without a specified date, the latest version (including all the modifications) is applicable to this document.

GB/T 451.3 Paper and Board - Determination of Thickness

GB/T 6672 Plastics Film and Sheeting - Determination of Thickness by Mechanical Scanning

3 Terms and Definitions

The following terms and definitions are applicable to this document.

3.1 oil permeability The property of a material to allow oily substance to pass through or permeate its internal structure.

3.2 flat specimen A test sample with a smooth, crease-free surface.

3.3 folded specimen A test sample with creases after being folded.

4 Test Principle

Bring one side of a folded or unfolded packaging material into contact with oil in a cotton pad, and determine the time required for the oil to permeate through the material.

5 Test Apparatus

The test apparatus is as follows:

- a) Base plate. 50 mm x 50 mm x 3 mm single-sided frosted glass (one side of which is a ground smooth surface);
- b) Weight. a cylinder weighing 50 g and with a basal diameter of 20 mm;
- c) Cotton pad. a circular piece with a diameter of 20 mm;
- d) Oven. with an accuracy of 1 C;
- e) 5.5 kg square metal rod with a flat base and a side length of 65 mm;
- f) Flat strip. a wooden or metal strip used for the initial folding test of specimens;
- g) Thickness gauge. a thickness gauge conforming to the provisions of GB/T 6672 and GB/T 451.3, used to measure the thickness of specimens.

6 Test Oils

The test oils include, but are not limited to, the following.

- a) Animal oils, preferably lard;
- b) Vegetable oils, preferably peanut oil;
- c) Mineral oils;
- d) Actual oils used.

7 Specimens and Test Units

7.1 Specimens The specimens shall be of uniform thickness and free from defects, such as wrinkles, creases and holes, etc.