

ICS 87.080
CCS A 17



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

GB/T 18724-2024

Replacing GB/T 18724-2008

**Graphic technology - Prints and printing inks - Assessment of
resistance of prints to various agents**

印刷技术 印刷品与印刷油墨 耐各种试剂性的测定

(English Translation)

Issued on: October 26, 2024

Implemented on: May 1, 2025

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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References

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

This document replaces GB/T 18724-2008 "Printing technology - determination of resistance of printed matter and printing inks to various reagents" Compared with GB/T 18724-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- Added information on food safety and consumer protection that does not cover food contact materials (see Chapter 1);
- Added the term "sample" (see 3.3);
- Changed the description of the "Principles" chapter (see Chapter 4, Chapter 4 of the 2008 edition);
- Added the content of "other reagents" (see 5.12);
- Change "Instruments and Reagents" to "Instruments" and delete "Solvents and Resins" (see Chapter 6, Chapter 6 of the 2008 edition);
- Changed the specifications of glass sheets (see 6.1, 6.1.1 of the 2008 edition);
- Changed the description of laboratory filter paper (see 6.2, 6.1.2 of the 2008 edition);
- Changed the description of the Petri dish (see 6.3, 6.1.3 of the 2008 edition);
- Added the stopwatch precision description (see 6.6);
- Changed the measurement range and requirements of thermometers (see 6.7, 6.1.7 of the 2008 edition);
- Changed the name and description of white substrate (see 6.10, 6.1.12 of the 2008 edition);
- Changed the description of the grayscale card (see 6.11, 6.1.13 of the 2008 edition);
- Added spectrophotometer (see 6.13);

- In "Instruments", the oven and thickness gauge capable of heating to 40°C were deleted (see 6.1.8 and 6.1.11 of the 2008 edition);
- Changed the description of the chapter "Preparation of Specimens" (see Chapter 7, Chapter 7 of the 2008 edition);
- Added an overview of "test methods" (see 8.1);
- In the "Test Method", change "solid reagent" to "cheese" (see 8.3, 8.2 of the 2008 edition);
- Changed the test conditions of "Test Reagents" in Table 1 (see 8.7, 8.1 of the 2008 edition), and added hot water and sodium carbonate solution Test conditions for sodium hypochlorite solution (1%), saliva and sweat simulants, and washing machine detergents (see 8.7);
- Added an overview of "results evaluation" (see 9.1);
- Changed the result evaluation requirements for liquid and solid dosage forms and solutions (see 9.2, 9.1 of the 2008 edition).

This document is equivalent to ISO 2836:2021 "Graphic technology - Determination of resistance of printed matter and printing inks to various reagents".

Introduction

During the use of printed materials, they need to be resistant to certain reagents. These reagents will come into contact with the printed materials during the subsequent processes such as varnishing.

or accidental contact with printed matter through interaction with certain vapors, liquids or solids (e.g. spillage of packaging contents onto printed matter).

These types of agents can cause visual changes in printed products. These changes are due to the colorants used in the ink or the substrate itself being sensitive to specific Reagent intolerance.

All methods in this document are intended to allow the rational selection of raw materials for printing inks and substrates, and for testing of prints for use with the purpose of all these methods is to avoid visual changes in the print caused by solvents.

Printing technology Printed materials and printing inks Determination of resistance to various reagents

1 Scope

This document describes the method for determining the resistance of printed materials to liquid and solid reagents, solvents, varnishes and acids.

This document is suitable for all kinds of traditional printing (offset, silk screen, gravure, flexo, etc.), as well as digital printing (inkjet, electrostatic photography, etc.).

This document does not cover food safety and consumer protection aspects of food contact materials.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO 105-A03 Textiles - Tests for colour fastness - Part A03. Grey scale for assessing staining (ISO 105-A03:1993, IDT) ISO 187 Standard atmospheres for temperature and humidity treatment and testing of pulp, paper and board, and procedures for temperature and humidity treatment of specimens (Paper, board and pulps-Standard atmosphere for conditioning and testing and procedure for monitoring the atmosphere and conditioning of samples) Note. GB/T 10739-2023 Standard atmospheric conditions for handling and testing of paper, paperboard and pulp specimens (ISO 187:2022, MOD) ISO 13655 Graphic technology-Spectral measurement and colorimetric calculation of printed images (ISO 13655:1996, IDT) ISO 14487 Pulps - Standard water for physical testing Note. GB/T 22903-2008 Standard water for physical testing of pulp (ISO 14487:1997, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

The URLs for terminology databases used for standardization maintained by ISO and IEC are as follows.

Reagent

Liquid or solid substance used to evaluate the resistance (3.2) of printed samples 3.2 resistance Resistance of printed materials to specific reagents (3.1) determined by the test methods specified in this document