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

GB/T 5211.9-2025

Replacing GB/T 1710-2008

**General methods of test for pigments and extenders - Part 9:
Comparison of resistance to light of coloured pigments of
similar types**

颜料和体质颜料通用试验方法 第9部分: 相同类型着色颜料耐光性的比较

(English Translation)

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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.

This document is Part 9 of GB/T 5211. GB/T 5211 has been published in the following parts.

- Determination of water-soluble pigment matter by cold extraction method (GB/T 5211.1);
- Determination of water-soluble pigment matter by hot extraction method (GB/T 5211.2);
- General test methods for pigments and extenders - Part 3: Determination of volatile matter at 105 °C (GB/T 5211.3);
- Determination of pigment packing volume and apparent density (GB/T 5211.4);
- Determination of pigment resistance (GB/T 5211.5);
- General test methods for pigments and extenders - Part 6: Determination of pH of aqueous suspensions (GB/T 5211.6);
- General test methods for pigments and extenders - Part 9: Comparison of lightfastness of coloring pigments of the same type (GB/T 5211.9);
- Determination of water-soluble sulfate, chloride and nitrate of pigments (GB/T 5211.11);
- Determination of resistivity of aqueous extracts of pigments (GB/T 5211.12);
- Determination of pH of aqueous pigment extracts (GB/T 5211.13);
- General test methods for pigments and extenders - Part 14: Determination of sieve residue - Mechanical flushing method (GB/T 5211.14);

- General test methods for pigments and extenders - Part 15: Determination of oil absorption (GB/T 5211.15);
- Comparison of tinting power of white pigments (GB/T 5211.16);
- Comparison of white pigment contrast ratio (hiding power) (GB/T 5211.17);
- General test methods for pigments and extenders - Part 18: Determination of sieve residue - Water method (manual) (GB/T 5211.18);
- Determination of relative tinting strength and dilute color of coloring pigments - Visual comparison method (GB/T 5211.19);
- Colorimetric method for comparison of the colors of white, black and coloring pigments in the true color system (GB/T 5211.20).

This document replaces GB/T 1710-2008 "Comparison of lightfastness of similar coloring pigments". Compared with GB/T 1710-2008, except for the structural adjustment in addition to the integration and editorial changes, the main technical changes are as follows.

- a) Added "colorimeter" (see 5.5);
- b) "Base material (medium)" has been changed (see 5.7, 4.6 of the 2008 edition);
- c) Added a schematic diagram of an exposure box under glass exposed to natural light (see Figure 1);
- d) Change "equipment exposed to artificial sunlight (for method B)" to "equipment exposed to artificial light (for method B)", change Technical content (see 5.9, 4.8 of the 2008 edition).

This document is modified to adopt ISO 787-15:2019 "Pigments and extenders - General test methods - Part 15: Coloring pigments of the same type" Comparison of Lightfastness.

Compared with ISO 787-15:2019, this document has many structural adjustments. The structural number changes between the two documents are shown in the table below.

See Appendix A.

This document has many technical differences compared to ISO 787-15:2019.

A list of these technical differences and their reasons is given in Appendix B.

The following editorial changes have also been made to this document.

- In order to coordinate with the existing standard document, the document name is changed to "General test methods for pigments and extenders Part 9: Same type Comparison of lightfastness of coloring pigments";
- Added Appendix A (informative) "Structural changes of this document compared with ISO 787-15:2019";

--- Added Appendix B (informative) "Technical differences between this document and ISO 787-15:2019 and their causes";

--- Added Appendix C (informative) "Reference Materials for Dispersion Preparation".

Introduction

GB/T 5211 is a series of standards for general test methods for pigments and extenders. Due to historical reasons, some of the standards developed in the early period were named the unified guide element "General test methods for pigments and extenders" is not used. In addition, there are a few general test methods for pigments and extenders.

Independent standard numbers are not included in the various parts of GB/T 5211. In recent years and in the future, the formulation or revision work will be gradually straightened out and standardized.

The writing format of standard number and standard name will improve the standard system. GB/T 5211 "General test methods for pigments and extenders" is to be formulated the correspondence between the various parts to be updated or revised and the current standards is shown in Table 1.

Table 1 Correspondence between the various parts of GB/T 5211 to be developed or revised and the current standards

Published document number	Published document name	Proposed or revised document number	Proposed or revised document name
GB/T 5211.1-2003	Determination of water-soluble pigments by cold extraction Method	GB/T 5211.1	General test methods for pigments and extenders Part 1: Determination of water-soluble matter - Cold extraction method
GB/T 5211.2-2003	Determination of water-soluble pigments by hot extraction Method	GB/T 5211.2	General test methods for pigments and extenders Part 2: Determination of water-soluble matter - Hot extraction method
GB/T 5211.3-2020	General tests for pigments and extenders Method Part 3.105°C	GB/T 5211.3	Determination of hair-raising substances
GB/T 5211.4-1985	Pigment packing volume and apparent density Determination of	GB/T 5211.4	General test methods for pigments and extenders Part 4: Determination of fill volume and apparent density
GB/T 5211.5-2008	Determination of pigment resistance	GB/T 5211.5	General test methods for pigments and extenders Part 5: Determination of resistance
GB/T 5211.6-2020	General tests for pigments and extenders Method Part 6: Water Suspension	GB/T 5211.6	Determination of liquid pH
GB/T 1864-2012	General tests for pigments and extenders Method Pigment Color Comparison	GB/T 5211.7	General test methods for pigments and extenders Part 7: Color Comparison
GB/T 1713-2008	Determination of pigment density by specific gravity Bottle Method	GB/T 5211.8	General test methods for pigments and extenders Part

8: Determination of density - Pycnometer method GB/T 1710-2008 Comparison of lightfastness of similar coloring pigments GB/T 5211.9 General test methods for pigments and extenders Part 9: Lightfastness of coloring pigments of the same type Compare GB/T 1711-1989 Pigments are heat stable in drying paints Qualitative comparison GB/T 5211.10 General test methods for pigments and extenders Part 10: Heat stability of pigments in baking paints Qualitative comparison GB/T 5211.11-2008 Pigment water-soluble sulfate, chloride and nitrate determination GB/T 5211.11 General test methods for pigments and extenders Part 11: Water-soluble sulfates, chlorides and nitric acids Determination of salt

Table 1 Correspondence between the various parts of GB/T 5211 to be developed or revised and the existing standards (continued)

Published document number	Published document name	Proposed or revised document number	Proposed or revised document name
GB/T 5211.12-2007	Resistivity of pigment water extract Determination	GB/T 5211.12	General test methods for pigments and extenders Part 12: Determination of resistivity of water extract
GB/T 5211.13-1986	pH of pigment water extract Determination	GB/T 5211.13	General test methods for pigments and extenders Part 13: Determination of pH of aqueous extracts
GB/T 5211.14-2021	General tests for pigments and extenders Method	GB/T 5211.14	Screening residue Determination of mechanical flushing method
GB/T 5211.14	General test methods for pigments and extenders Part 14: Determination of sieve residue by mechanical impact	GB/T 5211.15-2014	General tests for pigments and extenders Method
GB/T 5211.15	Oil absorption Determination	GB/T 5211.15	General test methods for pigments and extenders Part 15: Determination of oil absorption
GB/T 5211.16-2007	Comparison of the tinting power of white pigments	GB/T 5211.16	General test methods for pigments and extenders Part 16: Comparison of the tinting power of white pigments
GB/T 5211.17-1988	White pigment contrast ratio (hiding power) Comparison	GB/T 5211.17	General test methods for pigments and extenders Part 17: White pigment contrast ratio (hiding power) Comparison
GB/T 5211.18-2015	General tests for pigments and extenders Method	GB/T 5211.18	Screening residue Determination of water method (manual operation)
GB/T 5211.18	General test methods for pigments and extenders Part 18: Determination of sieve residue	GB/T 5211.19-1988	Relative tinting strength of coloring pigments and Determination of diluted color - Visual ratio Comparison
GB/T 5211.19	General test methods for pigments and extenders Part 19: Relative tinting strength and Determination of diluted color - Visual comparison method	GB/T 5211.20-1999	in the natural color system, white, black and Comparative colors of coloring pigments Method
GB/T 5211.20	General test methods for pigments and extenders Part 20: White, black and Comparative colorimetry of color pigments	HG/T 3834-2006	Comparison of Anti-Bleeding Properties of Pigments
GB/T 5211.21	General test methods for pigments and extenders Part 21: Comparison of pigment resistance to bleeding	HG/T 3835-2006	Determination of pigment density (by centrifugation Machine to remove entrained air)
GB/T 5211.22	General test methods for pigments and extenders Part 22: Determination of density (by centrifuge		