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

GB/T 5211.3-2020

Replacing GB/T 5211.3-1985

**General methods of test for pigments and extenders - Part 3:
Determination of matter volatile at 105 degree-Celsius**

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5.1 and 6.1, Chapters 2 and 3 of the 1985 edition);

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3.1 Weighing bottle. flat, wide mouth, with frosted glass stopper.

3.2 Oven. It can be maintained at (105 ± 2) degrees C.

3.3 Balance. the actual division value $d=0.001g$ or higher.

3.4 Desiccator. It is equipped with effective desiccant.

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5 Test procedure

5.1 Method A (use oven for test)

Foreword

GB/T 5211 "General Test Methods for Pigments and Extender Pigments" is divided into the following parts.

---Part 1.Determination of water-soluble matter by cold extraction method;

---Part 2.Determination of water-soluble matter by thermal extraction method;

---Part 3.Determination of volatile matter at 105 degrees C;

---Part 4.Determination of filling volume and apparent density;

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- Part 17.Comparison of white pigment contrast ratio (hiding power);
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- Part 19.Determination of relative tinting strength and diluted color of colored pigments by visual comparison method;
- Part 20.Comparison of the color of white, black and colored pigments in the natural color system.

This part is Part 3 of GB/T 5211.

This section was drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 5211.3-1985 "Determination of Volatile Matter of Pigments at 105 degrees C". Compared with GB/T 5211.3-1985, the main

The technical differences are as follows.

- Added scope, normative references, samples (see Chapter 1, Chapter 2, and Chapter 4);
- Added moisture analyzer and requirements (see 3.5);
- The original measurement method is listed as Method A (using oven to test), and the test steps and test data processing of Method A are modified (see

5.1 and 6.1, Chapters 2 and 3 of the 1985 edition);

- Added the measurement method B method (using a moisture analyzer to test) and test data processing (see 5.2 and 6.2);
- Modify the content of the test report (see Chapter 7, Chapter 4 of the 1985 edition).

This part uses the redrafting method to amend and adopt ISO 787-2.1981 "General Test Methods for Pigments and Extender Pigments Part 2.

Determination of Volatile Matter at 105°C".

Compared with ISO 787-2.1981, this part has differences in structure. The "Foreword" and "Introduction" of the international standard have been deleted, and symbols have been added.

The "foreword" that meets the requirements of the national standard combines 5.1 and 5.2 in the international standard.

The technical differences between this part and ISO 787-2.1981 and the reasons are as follows.

---Regarding normative reference documents, this section has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is reflected in Chapter 2 "Normative Reference Documents", and the specific

adjustments are. using the equivalent of ISO 15528 (revision of ISO 842)

Version) Chinese document GB/T 3186 instead of ISO 842 (see Chapter 2);

---The moisture analyzer and requirements have been added to meet the test requirements of the determination method B method (see 3.5);

---The determination method in ISO 787-2:1981 is listed as method A (using oven for test), and the test procedure and test of method A are modified.

Test data processing to make the test process of Method A more complete and convenient for users (see 5.1 and 6.1);

---Increase the measurement method B method (using a moisture analyzer to test) and test data processing to improve the test efficiency and meet the actual

International use requirements (see 5.2 and 6.2);

--- This section includes two determination methods, the test report needs to be issued according to different methods (see Chapter 7).

This section also made the following editorial changes.

---Change the standard name, in order to be consistent with the existing standard numbering method, change the standard name to "General Test Methods for Pigments and Extender Pigments"

Part 3.Determination of Volatile Matter at 105 degrees C";

This part was proposed by the China Petroleum and Chemical Industry Federation.

This part is under the jurisdiction of the National Paint and Pigment Standardization Technical Committee (SAC/TC5).

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1 Scope

This part of GB/T 5211 specifies a general test method for determining the volatiles of pigments and extender pigments at 105°C.

This section provides two methods. A method (using an oven to test) and B method (using a moisture analyzer to test).

The method in this section is applicable to pigments and extender pigments that are stable at 105°C.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 3186 Paint, varnish, and raw material sampling for paint and varnish (GB/T 3186-2006, ISO 15528.2000, IDT)

3.4 Desiccator. It is equipped with effective desiccant.

3.5 Moisture analyzer. It can maintain the heating temperature at (105 ± 2) degrees C, and can automatically stop heating according to the set constant weight condition, the actual index value

$d=0.001g$, the accuracy is 0.01% or higher.

4 samples

Take a representative sample of the tested product according to GB/T 3186.

5.1 Method A (use oven for test)

Perform parallel determinations of two samples.

Open the stopper of the weighing bottle (3.1), heat it in an oven (3.2) at (105 ± 2) degrees C for 2h, put it in a desiccator (3.4) to cool, cover the stopper, and weigh the weighing bottle to the nearest 1mg.

Spread (10 ± 1) g of the sample evenly on the bottom of the weighing bottle (3.1), cover the stopper, and weigh the mass of the weighing bottle and sample before baking to the nearest 1 mg.

For pigments with larger loose volume, it is recommended to reduce the sample weight. If