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

GB/T 5211.16-2007

Replacing GB/T 5211.16-1988

Comparison of lightening power of white pigments

白色颜料消色力的比较

(English Translation)

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Foreword

This part identical with ISO 787-17:2002 "pigments and extenders - Common test methods - Part 17. white paint tinting strength of Compare "(in English).

GB/T 5211 Standard Test methods for pigments for the series, which is divided into 20 series of standard parts.

- Part 1. Determination of matter soluble pigments cold extraction method;
- Part 2. Determination of matter soluble pigment heat extraction method;
- Part 3. color at 105 °C volatile matter determination;
- Part 4. Determination of pigment loading volume and apparent density;
- Part 5. Determination of the water resistance of the pigment;
- Part 6. pigment acid assays;
- Part 7. Determination of pigment alkali resistance;
- Part 8. Determination of pigment and oil resistance;
- Part 9. Determination of pigment and solvent resistance;
- Part 10. Determination of the paraffin-resistant pigment;
- Part 11. soluble pigment sulfates, chlorides and nitrates determination;
- Part 12. Determination of resistivity of aqueous extract of pigments of;
- Part 13. Determination of pH of aqueous extract of pigments;
- Part 14. Determination of residue on sieve pigment Mechanical flushing procedure;
- Part 15. Determination of oil absorption of the pigment;
- Part 16. Comparison of tinting strength of white pigments;

- Part 17. Comparison of white pigment ratio (hiding power) of;
- Part 18. Determination of hand-paint sieve residue method is water;
- Part 19. Determination of relative tinting strength of colored pigments and color dilute visual comparison;
- Part 20. The character system, white, black and colored pigments colorimetric color comparison.

This section GB/T 5211 Part 16.

This Part replaces GB/T 5211.16-1988 "relatively achromatic white pigment force." this part of the previous version GB/T 5211.16-1988 main technical differences are as follows.

- Front line version is equivalent to using ISO 787-17. 1973;
- Increased step "polishing by hand or spatula mixing white and blue pigment paste," the.

This part is proposed by the China Petroleum and Chemical Industry Association.

This part of the National Standardization Technical Committee and is under the jurisdiction of paints and pigments.

This part mainly drafted by. China National Chemical Construction Corporation, Changzhou coating Chemical Research Institute.

1 Scope

This section provides general test methods compare with the same type of white pigments agreed achromatic color capabilities.

Standard describes two methods (A and B), faster than the method A method B, for the test samples of a single color; for a plurality of samples Test Method B is better, particularly for unknown samples achromatic pigment force.

Note: The general method is applicable to specify a pigment in the pigment product standard should be noted that the present method, and indicate any due to the characteristics of the pigment and the need to do Detailed changes. Only when this general method does not apply to a specific pigment, only the provisions of a special method to compare the tinting strength of white pigments.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 3186-2006 Paints, varnishes and raw materials for paints and varnishes - Sampling
(ISO 15528:2000, IDT) ISO 788 ultramarine

3 Reagents

3.1

Blue paste, composed as follows.

- Castor oil (pharmaceutical). 500g;
- Calcium sulfate precipitation $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$. 475g;
- Ultramarine (in line with the provisions of ISO 788). 5g;
- Treated natural soil 1). 20g.

1) Suitable materials are treated bentonite.

Blue slurry prepared as follows.

The natural soil in a beaker mixed with a sufficient amount of castor oil to prepare a homogeneous slurry, the remaining castor oil was added under stirring, the mixture was heated to 50 °C incubated 15min, then added in small portions with stirring ultramarine and calcium sulfate, and then through a dryer or other suitable grinders the slurry was mechanically thoroughly dispersed, and uniformly stirring the slurry sufficiently, if necessary, may be heated.

The slurry was placed in a sealed container, preferably a screw cap.

4 Instrument

4.1

spatula. steel; tapered blade, length (140 ~ 150) mm, a maximum width (20 ~ 25) mm, the narrowest point of not less than 12.5mm.

4.2

glass. colorless and transparent, a size of 150mm x 150mm, or other suitable dimensions.

4.3

automatic grinding machine. with frosted glass disc diameter (180 ~ 250) mm, the pressure exerted by the use of a maximum of about 1000N, disc Speed (70 ~ 120) r/min. Each has a counting device 25 into gear. The best cooling water can pass, if automatic grinding machine can not pass cooling Water, should ensure a constant temperature during the grinding process.

4.4

tablet. frosted glass plate or a marble slab, is used when no grinder available.

4.5

Balance. accurate to 0.001g.

4.6

hand grinder.

GB/T 5211.16-2007/ISO 787-17:2002