

ICS 85.010

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

GB/T 10339-2018

Replacing GB/T 10339-2007

**Paper, board and pulp -- Determination of light scattering and
absorption coefficients (Kubelka-Munk method)**

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Standardization Administration**

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Foreword

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

This standard replaces GB/T 10339-2007 "Determination of light scattering and light absorption coefficient of paper, paperboard and pulp". This standard and

Compared with GB/T 10339-2007, the main changes are as follows.

---Modified the standard name, adding "Kubelka-Munk method" to the name;

--- Revised the scope of application, increased the measurement of samples containing fluorescent substances under specific conditions (see Chapter 1,.2007 edition)

Chapter 1);

--- Revised the normative reference file, using the latest version (see Chapter 2, Chapter 2 of the.2007 edition);

---Modified the terms and definitions, and changed the "single layer reflection factor" and "internal reflection factor" to "single layer brightness" with reference to international standards.

Factor" and "inner brightness factor" (see Chapter 3, Chapter 3 of the.2007 edition);

---Modified the test procedure to increase the measurement of the sample containing the fluorescent substance, the instrument should use UV cut-off filter (see 8.1);

--- Increase the measurement accuracy of "single layer brightness factor" and "inner light brightness factor" to 0.01% (see 8.2, 8.3,.2007 edition)

8.1, 8.2);

--- Added a checklist of the standard number of this standard and ISO 9416.2017 (see Appendix A);

--- Increased the spectral characteristics of the measured lightness factor reflectance photometer (see Appendix B).

This standard uses the redrafting method to modify the ISO 9416.2017 "paper light scattering and light absorption coefficient determination (using Kubelka-Munk theory).

This standard has more structural adjustments than ISO 9416.2017. Appendix A lists the standards and ISO 9416.2017 chapters.

The bar number comparison checklist.

The main technical differences and their causes compared with ISO 9416.2017 are as follows.

---About the normative reference documents, this standard has made technical adjustments to adapt to China's technical conditions, adjustments

The situation is reflected in Chapter 2, "Regulatory References".

- * Replace ISO 186 with GB/T 450 modified to international standards;
- * Replace ISO 536 with GB/T 451.2 equivalent to the international standard;
- * Replace ISO 2469 with GB/T 7973, which is not equivalent to the international standard;
- * Replace ISO 187 with GB/T 10739 equivalent to the international standard;
- * Add references to GB/T 740, GB/T 1543, GB/T 24324 and GB/T 24326.

--- Revised the scope of application according to the actual use of the standard (see Chapter 1);

---Modified terms and definitions to suit our national conditions (see Chapter 3);

--- Modify the reflectance photometer used in the instrument to meet the requirements of GB/T 7973 (see 5.1);

--- Change the C light source to a D65 light source that meets China's national conditions (see 5.2);

--- Increased reference standards and requirements to improve the accuracy of the instrument (see 5.5);

--- Increased experimental atmospheric conditions, as well as the preparation of pulp samples to improve the consistency of test data (see 6.2);

--- According to the actual situation of China's instruments, modified the spectral characteristics of the measurement brightness factor reflectance photometer (see Appendix B);

--- Adjust the accuracy of Appendix B in ISO 9416.2017 (informative) to the text requirements (see Chapter 10).

This standard has made the following editorial changes.

--- Modified the standard name.

1 Scope

This standard specifies the method for determining the light scattering and light absorption coefficient of paper, paperboard and pulp based on the Kubelka-Munk theory.

This standard applies to white and near-white uncoated paper or paperboard and pulp with opacity less than 95%.

Note. When using this standard to determine samples containing fluorescent whitening agents, use the 420 nm UV cut filter on the instrument to eliminate all fluorescence excitation.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

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

GB/T 450 paper and paperboard samples taken and the longitudinal, lateral and frontal measurements of the samples (GB/T 450-2008, ISO 186.

2002, MOD)

GB/T 451.2 Determination of the quantitative determination of paper and paperboard (GB/T 451.2-2002, eqv ISO 536.1995)

GB/T 740 pulp sample (GB/T 740-2003, ISO 7213.1981, IDT)

GB/T 1543 Determination of opacity (paper backing) of paper and paperboard (Diffuse reflection method) (GB/T 1543-2005, ISO 2471.

1998, MOD)

GB/T 7973 Determination of diffuse reflection factor of paper, paperboard and pulp (Diffuse/Vertical Method) (GB/T 7973-2003, neq ISO

2469.1994)

GB/T 10739 Standard atmospheric conditions for the treatment and testing of paper, board and pulp samples (GB/T 10739-2002, eqv ISO 187.1990)

GB/T 24324 Preparation of laboratory paper sheets for pulp physics test. Conventional paper sheet former method (GB/T 24324-2009,

ISO 5269-1.2005, MOD)

GB/T 24326 Preparation of laboratory paper sheets for pulp physics test Fast Kaiser method (GB/T 24326-2009,

ISO 5269-2.2004, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Reflection factor

The ratio of the reflected flux of an object to the amount of flux reflected by a fully reflective diffuser under the same conditions, expressed as a percentage.

3.2

Luminance factor (D65) luminancefactor(D65)

R_y

Refer to the reflection factor defined by the color matching function $y(\lambda)$ under the CIE standard illuminant D65 and CIE 1964 standard observer conditions.

3.3

Single layer brightness factor (D65) single-sheetluminancefactor (D65)

$R_y, 0$

The brightness factor (D65) of the single-layer sample backing black cylinder (3.2).