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

GB/T 24328.11-2020

**Tissue paper and tissue products - Part 11: Determination of
optical properties--Measurement of brightness and
colour--C/2°(indoor daylight) illuminant**

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

Foreword

GB/T 24328 "Toilet Paper and Its Products" is divided into the following 12 parts.

---Part 1.Terminology guidelines;

---Part 2.Determination of thickness, laminate thickness, apparent laminate tightness and bulk;

---Part 3.Determination of tensile strength, elongation at maximum force and tensile energy absorption;

---Part 4.Determination of wet tensile strength;

---Part 5.Quantitative determination;

---Part 6.Determination of water absorption time and water absorption capacity basket immersion method;

---Part 7.Determination of the burst resistance of the spherical shape;

---Part 8.Determination of optical properties, determination of brightness and color D65/10° (outdoor daylight conditions);

---Part 9.Determination of the burst resistance of the wet spherical shape;

---Part 10.Determination of the tensile strength of the punching line and calculation of the punching efficiency;

---Part 11.Determination of optical properties, determination of brightness and color C/2° (indoor daylight conditions);

--- Part 12.Determination of optical properties. Determination of opacity. Diffuse reflectance method.

This part is Part 11 of GB/T 24328.

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

This part uses the redrafting law to amend and adopt ISO 12625-15:2015 "Tissue paper

and its products Part 15.Measurement of optical properties

Determination of brightness and color $C/2^\circ$ (indoor sunlight conditions)".

Compared with ISO 12625-15.2015, this part has structural adjustments, adding the 5.1 suspension section of ISO 12625-15.2015

Article number 5.1.1, 5.1.1 and 5.1.2 will be adjusted to 5.1.2 and 5.1.3.

The technical differences between this part and ISO 12625-15.2015 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 collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

- * Replace ISO 186 with GB/T 450 which is modified to adopt international standards;
- * Replace ISO 2469 with non-equivalent adopting international standard GB/T 7973;
- * Replace ISO 187 with GB/T 10739, which is equivalent to the international standard;
- * Replace ISO 5631-1.2009 with GB/T 21245-2007, which is equivalent to the international standard.

---Deleted the content of the note in the scope to adapt to the technical conditions of our country.

--- The explanatory sentence in the $C/2^\circ$ color definition has been deleted to keep it consistent with the existing national standard technical content.

---11.2.1 Added the description of the calculation method of tristimulus value to facilitate standard use.

This section has made the following editorial changes.

---Modified the standard name.

Please note that certain contents of this document may involve patents. The issuing agency of this document is not responsible for identifying these patents.

This part was proposed by the China National Light Industry Council.

This part is under the jurisdiction of the National Paper Industry Standardization Technical Committee (SAC/TC141).

Drafting organizations of this section. Sichuan Changjiang Paper Instrument Co., Ltd., Leshan City Product Quality Supervision and Inspection Institute, Anhui Zhongzhi Branch Standard

Zhunchua Research Institute Co., Ltd., China Pulp and Paper Research Institute Co., Ltd.,
Huzhou Xintian Paper Co., Ltd.

1 Scope

This part of GB/T 24328 specifies the method for determining the brightness and color of toilet paper and its products under indoor sunlight conditions.

This section applies to toilet paper and its products.

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 article

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

The collection of GB/T 450 paper and paperboard samples and the determination of the longitudinal and transverse directions, front and back sides of the samples (GB/T 450-2008, ISO 186.

2002, MOD)

GB/T 7973 Determination of diffuse reflection factor of paper, paperboard and pulp (diffuse/vertical method) (GB/T 7973-2003, ISO 2469.

1994, NEQ)

GB/T 10739 Standard atmospheric conditions for handling and testing of paper, paperboard and pulp samples (GB/T 10739-2002, eqvISO 187.

1990)

GB/T 21245-2007 Determination of the color of paper and cardboard (C/2° diffuse reflection method) (ISO 5631.2000, IDT)

ISO 2470-1.2009 Paper, paperboard and pulp. Determination of blue diffuse reflectance factor. Part 1.Indoor daylight conditions (ISO Brightness

Degree)(Paper,boardandpulp-Measurementofdiffusebluereflectancefactor-Part 1.Indoordaylight

conditions(ISO brightness)]

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

Reflection factor

Under the same illumination and observation conditions, the ratio of the radiant flux reflected by an object to the radiant flux reflected by a fully reflective diffuser.

Note 1. The reflection factor is expressed as a percentage.

Note 2. If the object is translucent, the reflection factor is affected by the backing.

3.2

Diffuse reflection factor

Under the same diffuse illumination and orthogonal observation conditions, the ratio of the radiant flux reflected by the object to the radiant flux reflected by the fully reflective diffuser.

Note. The diffuse reflection factor is expressed as a percentage.

3.3

Internal reflection factor

R_{infinity}

The reflection factor when the number of sample layers reaches opacity, that is, the measurement result no longer changes with the doubling of the number of sample layers.