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

GB/T 24328.2-2020

Replacing GB/T 24328.2-2009

**Tissue paper and tissue products - Part 2: Determination of
thickness, bulking thickness and apparent bulk density and
bulk**

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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 2 of GB/T 24328.

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

This part replaces GB/T 24328.2-2009 "Toilet paper and its products Part 2.Measurement

of thickness, laminate thickness and apparent density

Compared with GB/T 24328.2-2009, the main technical changes in this part are as follows.

- The definition of bulk and quantitative has been added (see Chapter 3);
- Modified the flatness of the thickness gauge, from "0.001mm" to "0.003mm" (see 5.1, Chapter 5 of the.2009 edition);
- Modified sample collection and processing, and adjusted "Sample Temperature and Humidity Processing" to a separate chapter (see Chapter 6,.2009 Edition 6.1);
- Modified the description of the sample sampling size (see Chapter 7, Chapter 6 of the.2009 edition);
- Modified the sampling requirements for single layer thickness (see Chapter 7, Chapter 6 of the.2009 edition);
- Modify the position of the thickness standard deviation result, from "reserve two significant digits" to "reserve three significant digits" (see section Chapter 9, Chapter 8 of the.2009 edition);
- Modified the expression of the unit of lamination thickness t_b in "apparent lamination tightness", from "micron" to "mm" (see Chapter 9,.2009 edition Chapter 8);
- Added the calculation method of "bulk thickness" (see Chapter 9);
- Adjust "Precision" to an informative appendix (see Appendix A, Chapter 10 of the.2009 edition);
- Modified "Working surface parallelism error" from "0.0004mm" to "0.006mm" (see B.3,.2009 edition of A.3).

This part uses the redrafting law to amend and adopt ISO 12625-3:2014 "Toilet paper and its products Part 3.Thickness, laminate thickness,

Determination of apparent compactness and bulkiness of laminates.

The technical differences between this part and ISO 12625-3:2014 and the reasons are as follows.

- Deleted the content of the note in the scope to meet the technical conditions of our country.
- 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 187 with GB/T 10739, which is equivalent to the international standard;
- * Replace ISO 12625-1 with GB/T 24328.1 which is modified to adopt international standards;
- * Replace ISO 12625-6 with GB/T 24328.5 which is modified to adopt international standards.

This section has made the following editorial changes.

---In order to be consistent with the existing standard series, the standard name is revised to "Toilet paper and its products Part 2. Thickness, laminated thickness,

Determination of apparent compactness and bulkiness of laminates.

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. Shandong Huatai Paper Co., Ltd., China Pulp and Paper Research Institute Co., Ltd., China Light (Jinjiang) Sanitary

Product Research Co., Ltd.

1 Scope

This part of GB/T 24328 specifies the measurement of the thickness and layer thickness of toilet paper and its products under the condition of 2.0kPa measurement pressure

Method, as well as the calculation method of apparent compactness and bulk.

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

1990)

GB/T 24328.1 Toilet paper and its products Part 1.Terminology guidelines (GB/T 24328.1-2020, ISO 12625-1.

2019, MOD)

GB/T 24328.5 Toilet paper and its products Part 5.Quantitative determination (GB/T 24328.5-2009, ISO 12625-6.

2005, MOD)

3 Terms and definitions

The following terms and definitions defined in GB/T 24328.1 apply to this document.

3.1

Single-plythickness

The measured distance between the two surfaces of a single-layer toilet paper under a specified static pressure.

Note. Single "layer" refers to toilet paper that cannot be layered, such as a single-layer toilet paper produced directly by a toilet paper machine.

3.2

Singlesheetthickness

Under a specified static pressure, the measured distance between the two surfaces of a single (single finished layer) toilet paper product.

Note. A single "sheet" is a finished product processed by a single or multiple layers of toilet paper, such as a toilet paper product that has been processed.

3.3

Bulkingthickness

The thickness of a single sheet (single finished layer) of toilet paper and its products is determined by a stack of multiple sheets (multiple finished layers) measured under a specified static pressure.

Calculated by adding thickness.