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

GB/T 2679.8-2016

Replacing GB/T 2679.8-1995

**Paper and board -- Determination of compressive strength
(Ring crush method)**

纸和纸板 环压强度的测定

(English Translation)

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Table of Contents

- Foreword
- 1 Scope
- 2 Normative reference documents
- 3 Terms and definitions
- 4 Principle

Foreword

GB/T 2679 includes the following sections.

GB/T 2679.1 Determination of transparency of paper - Diffuse reflection method;

GB/T 2679.2 Determination of moisture permeability of sheet material Weight (Moisture cup) method;

GB/T 2679.6 Determination of flattening strength of corrugated paper;

GB/T 2679.7 Determination of puncture strength of cardboard;

GB/T 2679.8 Determination of compressive strength of paper and paperboard;

Paper and board - Determination of short - range compressive strength; GB/T 2679.10;

GB/T 2679.11 Qualitative analysis of inorganic fillers and inorganic coatings for paper and paperboard - Electron microscopy/X - ray spectroscopy;

GB/T 2679.12 Qualitative analysis of inorganic and inorganic coatings for paper and paperboard - Chemical analysis;

GB/T 2679.14 Determination of maximum pore size of filter paper and paperboard;

Determination of edge strength of corrugated cardboard (edge reinforcement method) GB/T 2679.17.

This part is part 8 of GB/T 2679.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part of the replacement GB/T 2679.8-1995 "paper and paperboard ring strength determination." This part is mainly compared with GB/T 2679.8-1995 the changes are as follows.

--- modified the scope of the standard, the original application of the thickness range of 0.15mm ~ 1.00mm modified to 0.10mm ~ 0.58mm;

- modified the requirements of the compression tester (see 5.3), the parallelism of the upper and lower platen from 1.2000 to 1.4000, cancel the bend Beam Compressor;
- modified the thickness of the specimen and the disk diameter of the corresponding relationship, and increased the diameter of 48.90mm disk;
- modified the sampling method (see Chapter 8) and the sample size, the sample length from (152.0 ± 0.2) mm to 152.40-2.5mm;
- modified the formula, the original formula 152 to sample length l .

This part uses the re-drafting method to modify ISO 12192.:2011 "Determination of the strength of paper and paperboard ring compressions".

The technical differences between this part and ISO 12192 are as follows.

--- on the normative reference documents, this part has made a technical differences in the adjustment to meet China's technical conditions, the adjustment of the situation is reflected in Chapter 2, "normative reference documents", the specific adjustments are as follows.

- replace GB 186 with GB/T 450 with international standard;
- replace ISO 534 with GB/T 451.3 with equivalent international standard;
- replace ISO 187 with equivalent GB/T 10739 with international standard;
- GB/T 22876 instead of ISO 13820 with international standard modification;
- Added GB/T 451.2 "Quantitative determination of paper and paperboard".
- the number of reserved bits for the results of ring compressive strength and ring compressive strength;
- modified the ring compressive strength index formula, see formula (2);
- ring pressure intensity index unit changed from $\text{kN} \cdot \text{m/g}$ to $\text{N} \cdot \text{m/g}$;
- Combine Chapter 6 and Chapter 7 of ISO 12192.:2011 into one chapter.

1 Scope

This part of GB/T 2679 specifies the method of measuring the compressive strength of paper and paperboard using a compression tester.

This part applies to the thickness of 0.10mm ~ 0.58mm in the paper and cardboard ring strength test. For thickness less than 0.28mm of the test results for the destruction of instability and pure compression of the force.

Note: This section can also be used for tests where the thickness of paper and paperboard is greater than 0.58 mm. In this case, the specimen may be bent into a ring Internal stress increases, resulting in the test results are not accurate, this time in the test report should indicate the thickness

of the sample beyond the scope of this part of the application.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article. For undated references, the latest edition (including all modifications) applies to this document.

GB/T 450 Paper and paperboard samples taken and samples longitudinal and horizontal, positive and negative measurements (GB/T 450-2008, ISO 186.

2002, MOD)

GB/T 451.2 Quantitative determination of paper and paperboard (GB/T 451.2-2002, eqvISO 536..1995) GB/T 451.3 Determination of paper and board thickness (GB/T 451.3-2002, ISO 534. 1988, IDT) GB/T 10739 Standard atmospheric conditions for the handling and testing of paper, board and pulp samples (GB/T 10739-2002, eqvISO 187. 1990)

GB/T 22876 Description and calibration of paper, cardboard and corrugated cardboard compression test apparatus (GB/T 22876-2008, ISO 13820.

1996, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

Compressive strength the maximum compressive force that can be sustained by the unit length of the test specimen until it is crushed is expressed in kilohertz (kN/m).

Ring-crush-resistance Under the specified conditions, the edge of the annular specimen is compressed until the maximum compressive force per unit length of the crush can be reduced to (kN/m).

Ring-crush-resistanceindex the ring compressive strength is divided by the amount of denim, expressed in grams per kilogram ($N \cdot m/g$).

4 Principle

Paper or cardboard of the strip-shaped ring sample is gradually increased edge compression until crushed. The ring compressive strength consists of sample length and maximum compression