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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

ICS 85.080

Y 31

GB/T 6545-1998

eqv ISO 2759:1983

Replacing GB 6545-1986

**Corrugated Fiberboard -
Determination of Bursting Strength**

瓦楞纸板耐破强度的测定

Issued on: May 19, 1998

Implemented on: February 01, 1999

Issued by: State Bureau of Quality and Technical Supervision

Table of Contents

Foreword	3
1 Scope	4
2 Normative References.....	4
3 Definitions.....	4
4 Test Principle	4
5 Test Instrument.....	5
6 Sample Taking and Handling.....	5
7 Preparation of Sample.....	5
8 Test Procedures	5
9 Result Expression	6
10 Test Report	6

Corrugated Fiberboard - Determination of Bursting Strength

1 Scope

This Standard specifies using the hydraulic increase method to determine the bursting strength of the corrugated fiberboard.

This Standard is applicable to the corrugated fiberboard with bursting strength of 350~5500kPa.

2 Normative References

The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. At the time of publication, the editions indicated are valid. All standards are subject to revision. The parties who are using this Standard shall explore the possibility of using the latest version of the following standards.

GB 450-1989 Paper and Board - Sampling for Testing

GB 10739-1989 Paper Board and Pulps - Conditioning of Samples and Testing Atmospheres

3 Definitions

For the purpose of this Standard, the following definition apply.

Bursting strength

Under the test conditions, the maximum pressure that the corrugated fiberboard can withstand in a unit area is uniformly increased perpendicular to the surface of the sample.

4 Test Principle

Place the sample on the adhesive film; clamp it with the sample clamp; and then apply pressure evenly to make the sample and the adhesive film freely protrude until the sample ruptures. The bursting strength of the sample is the maximum value when the

hydraulic pressure is applied.

5 Test Instrument

5.1 Sample chuck system

The diameter of the upper chuck is (31.5 ± 0.5) mm, and the diameter of the lower chuck hole is (31.5 ± 0.5) mm. The upper and lower clamp rings shall be concentric, and the maximum error shall be no greater than 0.25 mm. The two clamp rings are parallel to each other and flat. The contact surface is evenly stressed during the test.

In order to prevent the sample from sliding during the test, the sample chuck shall have a clamping force of no less than 690 kPa. However, such a pressure shall generally collapse the sample's corrugate, which shall be indicated in the report.

5.2 Adhesive film

The adhesive film is round and composed of elastic material. The adhesive film is firmly clamped, and its upper surface is about 5.5 mm lower than the top surface of the lower clamp ring. The material and structure of the adhesive film shall make the height of the lower chuck protruding from the adhesive film fit the elastic resistance, that is: when the protruding height is 10 mm, the resistance range is (170~220) kPa; when the protruding height is 18 mm, the resistance range is (250~350) kPa.

6 Sample Taking and Handling

6.1 The sample shall be taken according to the provisions of GB 450.

6.2 The sample shall be conducted conditioning according to the provisions of GB 10739.

7 Preparation of Sample

The sample area must be larger than the chuck of the burst tester; and the sample must not have watermarks, creases or obvious damage. During the test, sample that have been pressed by the chuck must not be used.

8 Test Procedures

Cut samples and test under the atmospheric conditions specified in 6.2.

Open the sample chuck; clamp the sample in the middle of the two sample chucks;

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