

ICS 19.060; 85.100
CCS N 72



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

GB/T 21190-2007

**Paper, board and corrugated fibre board -- Description and
calibration of compression-testing equipment**

纸、纸板和瓦楞纸板压力试验仪的描述与校准

(English Translation)

Issued on: November 14, 2007

Implemented on: May 1, 2008

Issued by: Standardization Administration of China

Table of Contents

- Foreword
- Introduction
- 1 Scope
- 2 Normative references
- 4 Instrument
- 4.1 Pressure plate pressure tester
- 4.2 Beam bending pressure tester

Foreword

This revised standard adopts ISO 13820:1996 "Paper, paperboard and corrugated board pressure tester description and Calibration" (in English).

This standard is based on ISO 13820:1996 using the translation method of drafting, the text structure and the technical content of ISO 13820:1996 a Cause, but in accordance with the relevant provisions of the preparation of standards, we made the following editorial changes.

- Use the "standard" instead of "this International Standard";
- With a preface written from scratch instead of the ISO 13820:1996 Foreword;
- In Chapter 2, "Normative references" in direct reference to the ISO 13820:1996 international standard referenced in the corresponding country National standard;
- Of standards and documents "References" listed in the country has been transformed into a standard, a direct reference to this standard with the corresponding country National standard;
- With Chinese usual decimal notation. "" English instead of using decimal notation "." this standard and ISO 13820:1996 in comparison, there are technical differences as follows.
- 4.1.1 This standard prescribed grade emery cloth, using GB/T 9258.3-2000 specified in Table 1 of emery cloth grade;
- Remove the ISO 13820:1996 4.1.3 in the note because domestic "paper, cardboard and corrugated board pressure tester" is not configured the kind of a recording apparatus according to international standards;
- References cited increased national standard GB/T 9258.3-2000.

In the body of the corresponding provisions of 4.1.1 and 4.1.3 to modify positions be identified with a single vertical line.

Appendix A of this standard is a normative appendix.

Please note that some of the content of this standard may involve patents, the issuing authority of this standard should not bear the responsibility to identify these patents.

The standard proposed by China Machinery Industry Federation.

This standard by the National Standardization Technical Committee tester (SAC/TC122) centralized.

Introduction

This standard describes two different types of equipment for paper, cardboard and corrugated cardboard used for compression test. Wherein the preferred device type A pressure plate pressure tester, it is a constant strain rate increase pressure; another type of device is a beam bending pressure tester, it is increasing the pressure between the two platens, wherein a pressure plate run at a constant rate while the other plate is fixed to a flexible beam, such Stress rate and strain rate type of equipment is not constant. When used for compression tests, although both types of devices have similar Feature, but the results may not be the same. References [1], [4], [5] The test results are expressed curved beam tester test pressure than the pressure plate Test results tester to test a large value. The degree of difference between test results depends on the processing method and test instrument characteristics test, especially by the elastic properties of the test material.

Pressure plate tester for people of all ages, because it has a good reliability for almost all existing test different levels Test test range, and the performance characteristics of existing equipment has been very clear, and widely accepted. Past beam bending formula tester provisions it is not very precise, and the existing equipment in different afterburner speed, different stiffness of the beam, so that there is a different strain rates. Further, generally Limited by the stiffness of the beam using a beam can not be applied to all existing test different levels. Thus, in fact usually used alternately Two different stiffness of the beam to cover the full range of force.

He suggested that in the future to minimize the use of curved beam tester may also cancel the provisions of such instruments during the next revision of this standard.

For GB/T 2679.6, GB/T 2679.8, ISO 3035 or ISO 3037 test recommended in the use of this standard test Test instruments.

Paper, cardboard and corrugated board Pressure Tester description and calibration

1 Scope

This standard specifies the paper, cardboard and corrugated board compression characteristics and basic principles of calibration test pressure tester.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 10739 paper, paperboard and pulp sample processing and testing standard atmospheric conditions (GB/T 10739-2002, eqv ISO 187:1990) Principle 3 Pressure tester is calibrated according to the standard quality or other traceable standards.

4.1 Pressure plate pressure tester

At a constant rate of deformation (strain) work, and having the following properties.

4.1.1 Platen and lower platen

Each plate size should be large enough to completely fit the sample and has sufficient rigidity to resist significant deformation caused by stress.

Platen movement in the horizontal direction should be less than 0.05 mm. Two platen surface should be parallel to each other, the parallelism in 0.05mm/100mm or less. Platen surface flatness of less than 0.05mm.

Some tests on the platen surface roughness is required, in order to prevent sliding during the test specimens. As long as the requirements of parallelism can Use glue or double-sided pressure-sensitive tape P240 low pressure emery cloth firmly adhered to the surface of the platen (see note), or on the platen surface roughened or mining Treatment with other equivalent method.

Once Shabu damage should be replaced immediately. Do a knife or other sharp instrument to remove the emery cloth or other material stuck to the platen.

Note: Although the GB/T 2679.6-1996 regulations allow the use of emery cloth on the platen surface, but does not provide for other test methods; for ISO 3037 is concerned, do an amount not use emery cloth. However, for the same tester on the platen need to use emery cloth to test this is a habit, if you use emery cloth Grade level than P240 coarse emery cloth, then all test methods for national standards now require the use of such pressure tester allows the use of emery cloth trial Posterior probability of erroneous test results obtained will be sufficiently small.

4.1.2 Method of moving a platen

A platen at a constant velocity (12.5 ± 2.5) mm/min pressure to another piece of plate.

4.1.3 Maximum force measurement method

Placed on the platen between two samples of the most vigorously applied, showing the value of the maximum permissible error of the force $\pm 1\text{N}$ or indication of the maximum permissible relative error Difference of $\pm 1\%$, whichever is greater.

4.2 Beam bending pressure tester

Beam bending pressure tester has the following properties.

4.2.1

When applying 175N, 300N or 350N force, corresponding to the bending beam (1.00 ± 0.01) mm.

4.2.2 Platen and lower platen

Each plate size should be large enough to completely fit the sample and has sufficient rigidity to resist significant deformation caused by stress.