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

**GB/T 22906.7-2008**

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**Testing of cores -- Part 7: Determination of flexural modulus by  
the three-point method**

纸芯的测定 第7部分：弹性模量的测定（三点法）

**(English Translation)**

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### Foreword

GB/T 22906 "paper core measurement" is divided into nine sections.

- Part 1. sample taken;
- Part 2. temperature and humidity of the treated samples;
- Part 3. Determination of moisture content (oven drying method);
- Part 4. Determination of dimensions;
- Part 5. Determination of characteristics of concentric rotation;
- Part 6. Determination of flexural strength (three-point method);
- Part 7. Determination of modulus of elasticity (three-point method);
- Part 8. Determination of natural frequency and the elastic modulus (experimental modal analysis);
- Part 9. Determination of flat crush strength.

This section GB/T Part of 722,906.

The partial modification of the use of ISO 11093-7:1997 "Paper and board Determination - Part 7. Determination of modulus of elasticity of the use of three-point method." this part of ISO 11093-7:1997 compared to the main differences are as follows.

--- International Standard ISO document standard will be referenced in normative references converted to its corresponding national standard, GB /22906.2 Zhixin Determination T - Part 2. temperature and humidity of the treated samples (GB/T 22906.2-2008, ISO 11093-2:1994, MOD);

--- International Standard ISO document standard will be referenced in normative references converted to its corresponding national standard, GB /22906.8 paper core

measurement T Part 8. Determination of natural frequency and the elastic modulus (experimental modal analysis) (GB/T 22906.8-2008, ISO 11093-8:1997, MOD).

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

This part of the paper by the National Standardization Technical Committee (SAC/TC141) centralized.

This section drafted by. China Pulp and Paper Research Institute, China Paper Association Professional Committee of Standardization.

## 1 Scope

This section GB/T 22906 specifies the method for determination of the modulus of elasticity of the paper core, said core should meet the following criteria.

- Inner diameter. 50mm ~ 350mm;
- Minimum wall thickness.  $0.02 \times$  inner or not less than 2.0mm;
- Minimum length.  $8 \times$  inner diameter or less than 1000mm.

This section applies to the determination of the modulus of elasticity of the paper core.

## 2 Normative references

The following documents contain provisions which, through reference GB/T 22906 in this section constitute provisions of this section. For dated references Documents, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Research into whether the parties to the agreement to use the latest versions of these documents. For undated references, the latest version applies to this section.

GB /22906.1 Zhixin Determination T - Part 1. Sample taken (GB/T 22906.1-2008, ISO 11093-1:1994, IDT) GB /22906.2 Zhixin Determination T - Part 2. temperature and humidity of the treated samples (GB/T 22906.2-2008, ISO 11093-2.

1994, MOD)

22906.3 paper core measurement GB/T Part 3. Determination of moisture content (oven drying method) (GB/T 22906.3-2008, ISO 11093-3:1994, IDT) GB /22906.8 paper core measurement T Part 8. Determination of natural frequency and the elastic modulus (experimental modal analysis) (GB/T 22906.8-2008, ISO 11093-8:1997, MOD)

## 3 Terms and definitions, code

The following terms and definitions apply to this part of the code GB/T 22906 of.

A material characteristic, together with the size of the paper core is used to indicate the nature of offset paper core resistance to bending.

#### Principle 4

Bending test, paper core sample is considered to be "bending beam" application "Timoshenko curved beam theory", measured offset bend specimens.

In this theory, taking into account the effect of shear deformation offset. During the test, samples of both ends of the support, and then the overhang in a plane perpendicular to the axial direction of the sample is applied to a force. Determination of the approach adopted is rather special, in order to avoid permanent deformation of the sample, thereby ensuring the formula accurate and feasible. Modulus of elasticity of the provisions of Chapter 8 shall be calculated.

### 5.1 Specimen support means

Two support body (Figure 1), respectively, with two rollers on the sample specimen supported at both ends, each support member, between the two rollers