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

GB/T 1455-2022

Replacing GB/T 1455-2005

**Test method for shear properties of sandwich constructions or
cores**

夹层结构或芯子剪切性能试验方法

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Test principle
- 5 Test equipment

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for Standardization Work Part

1. Structure and Drafting Rules of Standardization Documents" drafted. This document replaces GB/T 1455-2005 "Sandwich structure or core shear performance test method", compared with GB/T 1455-2005, In addition to structural adjustments and editorial changes, the main technical changes are as follows:

a) Added requirements for wood core samples (see 6.5);

b) The provisions on hierarchical loading are deleted (see 9.7 of the 2005 edition);

c) Added the letter code of the destruction form (see Table 1);

d) Added 2% bias stress as a result output and added related calculations (see

10.2 and Figure 4). Please note that some content of this document may be patented. The issuing agency of this document assumes no responsibility for identifying patents. This document is proposed by China Building Materials Federation. This document is under the jurisdiction of the National Standardization Technical Committee of Fiber Reinforced Plastics (SAC/TC39). This document is drafted by: Shanghai FRP Research Institute Co., Ltd., Shanghai Shangbo Testing Co., Ltd., Beijing Jinfeng Kechuang Wind Power Equipment Co., Ltd. Co., Ltd., Huibo New Material Technology (Shanghai) Co., Ltd., Mingyang Smart Energy Group Co., Ltd., Zhejiang Lianyang New Materials Co., Ltd. Company, Weihai Weisai New Material Technology Co., Ltd., Jiangsu Zhongke Polymer New Material Industry Technology Research Institute Co., Ltd., Beijing Glass Steel Institute Center Ltd. The main drafters of this document. Fu Zhen, Zhang Xiaoping, Liu Baofeng, Lin Yanjian, Wang Yanli, Lei Weifeng, Liu Huawei, Chen Yujiao, Peng Xingcai. The previous versions of this document and its superseded documents are as follows:

--- First published in 1978 as GB/T 1455-1978, first revised in 1988, second revised in 2005;

---This is the third revision. Test method for shear properties of sandwich structures or cores

1 Scope

GB/T 1455-2022 is the Chinese national standard on test method for shear properties of sandwich constructions or cores, in the field of rubber and plastic industries. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 March 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 October 2022. Classification: ICS 83.120, CCS Q23. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the test principle, test equipment, sample, sample preparation, state adjustment, test Test procedures, test results and processing and test reports. This document applies to sandwich structures or core specimens for the determination of the in-plane shear strength and in-plane shear modulus of the core.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB/T 1446 General Principles of Test Methods for the Properties of Fiber Reinforced Plastics

GB/T 1464 Sandwich structure or core density test method

GB/T 3961 Terminology of Fiber Reinforced Plastics

3 Terms and Definitions

The terms and definitions defined in GB/T 3961 and the following apply to this document.

3.1 plane shear strength Shear force is measured along the shear strength of the sandwich panel.

Note. The plane shear strength is mainly borne by the core, also known as the core shear

strength.

3.2 plane shear modulus planeshear modulus Shear Force The ratio of shear stress to shear strain measured in the elastic range under the action of a sandwich panel.

Note. Plane shear modulus is also called core shear modulus.

4 Test principle

By applying a tensile or compressive load to the metal loading block bonded to the sample, a plane shear is generated on the core along the direction of the sandwich panel, The in-plane shear strength of the core is thus measured. When the deformation gauge is installed to measure the relative displacement of the two panels or the two loaded steel plates, the core can be measured. plane shear modulus.

5 Test equipment

5.1 The testing machine shall comply with the provisions of GB/T 1446.

5.2 The shear test is divided into two types. tensile shear and compression shear. The schematic diagram of the tensile shear test device is shown in Figure 1, and the schematic diagram of the compression shear test device is shown in Figure 2.