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

中华人民共和国国家标准

GB/T 1453-2005

Replace GB/T 1453-1987

**Test method for flatwise compression properties
of sandwich constructions or cores**

夹层结构或芯子平压性能试验方法

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China**

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Foreword

During the modification of this standard, the Test Method for Flatwise Compression Properties of Sandwich Constructions or Cores (ASTM C0365-00) is adopted. The Comparison List of Serial Numbers of Clauses and Clauses in This Standard and ASTM C365-00 is listed in Annex A.

The main technical differences of this standard and ASTM C365-00 are as follows:

- The test sample of this standard is not only the test sample of the core, but the sandwich construction sample;
- The flatwise compression clamp specified in this Standard is more simple, convenient and reasonable;
- The test sample in this standard is provided with the uniform size and the common principles;
- The terms and definitions are listed in this standard;
- The formula for calculation of compression performance of the cell walls (such as honeycomb walls) (see the annex) is listed in this standard;

This standard may substitute the Test Method for Flatwise Compression Properties of Non-metal Sandwich Constructions or Cores.

In comparison with GB/T 1453-1987, the major changes are as follows:

- The preface is added;
- The scope is added;
- The normative reference document is added (see Clause 2);
- The terms and definitions are added (see Clause 3);
- The testing principles are added (see Clause 4);
- The sample preparation is added (see Clause 7);
- The preparation of the original testing conditions is divided into two Clauses of the test

equipment and status regulation (Clause 3 of the 1987 version and Clause 5 and 7 of this version).

The Annexes A and B of this Standard are informative annex.

This Standard is proposed by China Building Material Federation.

This Standard is under the centralized management of National Technical Committee 39 on Fiber Reinforced Plastic of Standardization Administration of China.

Responsible drafting organization of the Standard: Shanghai FRP Research Institute.

Drafting organization of the Standard, Beijing Institute of Aeronautical Materials.

Main drafters of this Standard: Zhou Zhulin, Wang Yaxiong and Zhang Zilong.

This standard was first published in 1978, the first revision was in 1987, and the second revision in 2003.

Test method for flatwise compression properties of sandwich constructions or cores

1 Scope

This Standard specifies the testing principles, testing equipment, test samples, status adjustment, Test Procedures, calculations, test results, test reports, etc. of sandwich constructions or cores.

This Standard is applicable for the measurement for modulus of the flatwise compression strength and elasticity of the sandwich constructions or cores, also for the measurement for modulus of the flatwise compression strength and elasticity of the cell walls (such as honeycomb walls).

2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 1446-2005 Generals of Test Methods for Properties of Fiber-reinforced Plastics

GB/T 1464 Density Test Methods for Sandwich Constructions or Cores

GB/T 3961 Terms for Fiber Reinforced Plastics

3 Terms and Definitions

For the purpose of this standard, the following terms and determined defined in GB/T 3961 shall apply.

3.1

Flatwise Compression

Compression perpendicular to the direction of the sandwich panel.

3.2

Modulus of Flatwise Compression

Ratio of the compressive stress and strain measured along the direction perpendicular to the sandwich panel in the elastic scope.

3.3

Honeycomb Wall Compression Strength

Maximum compression force borne on the actual unit honeycomb wall area perpendicular to the direction of the sandwich panel for the honeycomb wall sandwich constructions.

3.4

Honeycomb Wall Compression Modulus



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