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

GB/T 20312-2026

Replacing GB/T 20312-2006

**Hygrothermal performance of building materials and products -
Determination of hygroscopic sorption properties**

建筑材料及制品的湿热性能 吸湿性能的测定

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 20312-2006 "Determination of Hygroscopic and Moisture-Absorbing Properties of Building Materials and Products", and is consistent with GB/T 20312-Compared to 2006, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The term and definition of "hygroscopic effect" have been removed (see 3.1.1 in the 2006 edition);
- b) The term "equilibrium moisture content" has been added (see 3.1.1);
- c) A description of the testing requirements for tropical regions has been added to the "Test Conditions" section (see 7.1);
- d) An illustration of the dryer has been added to the "Dryer Method" section (see 7.2);
- e) A method for accelerating the specimen to reach the desorption initiation point has been added (see 7.2.3);
- f) The calculation formula for "hygroscopic effect" now requires a specific number of specimens (see 8.1);
- g) An equilibrium mass moisture content curve has been added (see 8.2).

This document adopts ISO 12571:2021 "Building materials and products - Determination of hygroscopic properties and moisture absorption properties".

The following minimal editorial changes have been made to this document.

---Corrected a typographical error in ISO 12571:2021, changing "see Appendix D" in section 8.1 and Appendix B to...

"See References", Table B.1 The solubility of cesium fluoride per 100 mL of distilled water is revised from 336.5 g to 366.5 g.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Building Materials Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Thermal Insulation Materials (SAC/TC191).

1 Scope

This document specifies two alternative methods for determining the hygroscopic properties of porous building materials and products.

a) Desiccator method, using a desiccator and weighing cup;

b) Climate chamber method, using a climate chamber.

The dryer method is the benchmark method.

This document does not specify the sampling method.

The methods specified in this document can also be used to determine the moisture content of a sample when it reaches moisture equilibrium at a specified temperature and humidity.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ture)

Note: GB/T 20313-2006 Determination of moisture content of building materials and products by drying method (ISO 12570:2000, IDT)

3.1 Terms and Definitions

The terms and definitions defined in ISO 9346 and the following terms and definitions apply to this document.

3.1.1

The moisture content of a porous material when it reaches equilibrium with the relative humidity of the ambient air at a specified temperature.

3.1.2

The ratio of the mass of evaporable water to the mass of the dried material.

3.1.3

The ratio of the volume of evaporable water to the volume of the dry material.

3.1.4

The mass of evaporable water contained in a unit volume of dried material.

Note: The mass of the water can be determined by weighing the specimen before drying and after drying to constant weight at a certain temperature.