
**Hygrothermal performance of building
materials and products — Determination
of moisture adsorption/desorption
properties in response to humidity
variation**

*Performance hygrothermique des matériaux et produits pour le
bâtiment — Détermination des propriétés d'adsorption/désorption de
l'humidité en réponse à une fluctuation de l'humidité*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 24353 was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*.

Introduction

This International Standard describes a test method that is applicable to materials used to inhibit fluctuation of indoor relative humidity. Testing of sorption/desorption efficiency permits the evaluation of materials for applications such as adjusting the relative humidity of museum storage and exhibition spaces.

Materials selected for their adsorption/desorption efficiency have recently come to be used in homes and medical care facilities in the interest of creating healthy and comfortable indoor environments.

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Hygrothermal performance of building materials and products — Determination of moisture adsorption/desorption properties in response to humidity variation

1 Scope

This International Standard specifies a test method for determining moisture adsorption/desorption properties of building materials in response to humidity variation. This International Standard also defines the adsorption/desorption efficiency of building materials, measured as the change in mass of a specimen moved from a given space to another one of different relative humidity and equal temperature.

Moisture adsorption/desorption properties of materials are measured under conditions of a single cycle and several cycles.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12571:2000, *Hygrothermal performance of building materials and products — Determination of hygroscopic sorption properties*

ISO 12572:2001, *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties*

3 Terms, definitions and symbols

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1

moisture adsorption/desorption property

property of a material related to its capacity for and efficiency in moisture adsorption/desorption

3.1.2

moisture adsorption process

process by which moisture is adsorbed into a material from ambient air until equilibrium is reached

3.1.3

moisture desorption process

process by which moisture is desorbed from a material into ambient air until equilibrium is reached

3.1.4

moisture adsorption content

amount of moisture adsorbed into a specimen of a given material per unit of surface area of that material