

INTERNATIONAL STANDARD



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Thermal insulation — Mass transfer — Physical quantities and definitions

Isolation thermique — Transfert de masse — Grandeurs physiques et définitions

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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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 9346 was prepared by Technical Committee ISO/TC 163, *Thermal insulation*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Thermal insulation — Mass transfer — Physical quantities and definitions

0 Introduction

This International Standard forms part of a series of vocabularies related to thermal insulation.

The series will include

ISO 7345, *Thermal insulation — Physical quantities and definitions*.

ISO 9251, *Thermal insulation — Heat transfer conditions and properties of materials — Vocabulary*.

ISO 9346, *Thermal insulation — Mass transfer — Physical quantities and definitions*.

ISO 9229, *Thermal insulation — Thermal insulating materials and products — Vocabulary*.¹⁾

ISO 9288, *Thermal insulation — Heat transfer by radiation — Physical quantities and definitions*.¹⁾

1 Scope and field of application

This International Standard defines physical quantities and other terms in the field of mass transfer relevant to thermal insulation systems, and gives the corresponding symbols and units.

2 General terms

2.1 mass transfer : Transmission of mass (especially moisture or air) by various mechanisms.

2.2 moisture : Water in gaseous, liquid or solid phase.

2.3 water vapour : Moisture in the gaseous phase.

2.4 water vapour diffusion : Movement of water vapour molecules in a gas mixture tending to equalize the vapour content in the air or the partial pressure of the vapour, with the total pressure being constant.

2.5 water vapour convection : Transfer of water vapour in a gas mixture by movement of the whole gas mixture due to a difference in total pressure.

2.6 hygroscopic sorption curve : Relation between moisture content in a porous material and the relative humidity of the ambient air at equilibrium.

NOTE — There are curves for sorption and for desorption. Because of measuring difficulties there is an upper limit for the relative humidity at 95 % to 98 %.

2.7 suction curve : Relation between the equalized moisture content in a porous material and the suction (negative pore pressure) in the pore water.

NOTE — Generally there are curves for sorption and for desorption. Theoretically the suction curve covers the whole moisture range, from absolute dryness to full saturation.

¹⁾ At present at the stage of draft.