TEST APPARATAUS FOR THE DYNAMIC MEASUREMENT OF MOISTURE TRANSPORT AND STORAGE PROPERTIES OF POROUS MATERIALS

Innovative System for Evaluating Moisture Behavior in Building Materials

TYPE OF DEVELOPMENT

Test systems for porous materials.

DESCRIPTION

The invention describes a test apparatus with a housing that forms a watertight main measuring chamber for housing a bar framework structure. It includes a sample holder, an air-conditioning system for regulating humidity and temperature, a humidifying system, a thermal regulation system, and a humidified air recirculation system.

The sample holder has two lower support elements for supporting the first and second end parts of the sample bar. A suspension arm and a second suspension are hinged at their lower ends to one of the lower support elements, connected to a 20 force gauge in the main chamber. The lower support elements maintain the sample bar axially suspended in a horizontal plane without causing axial stresses.

INDICATION

The invention focuses on test systems for porous materials to determine moisture transport and storage properties, specifically for monolithic porous building materials, to prevent aesthetic and functional deterioration.

NOVELTY/ADVANTAGES

Test apparatus for the dynamic measurement of moisture transport and storage properties of porous materials, comprising a housing, a framework structure, a sample holder, and an air-conditioning system.

•Water transport in porous building materials can be described using a macroscopic diffusion equation.

•The moisture diffusivity that will be used in modelling mass transfer in buildings and building materials is highly dependent on the initial conditions .

Reference: Apparatus measurement porous materials

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COOPERATION GOAL

License agreement .