A comparison of the Nordtest and Japanese test methods for the moisture buffering performance of building materials

Two test methods, one worked out in a Nordtest project and the other available as a Japanese Industrial Standard, both developed to characterize building materials with respect to moisture buffering performance, are analyzed in detail by a numerical study on four different materials. Both test methods are based on a similar kind of dynamic loading, but the specifications of each test protocol vary. Therefore, the sensitivity of the test protocols is investigated by varying different protocol parameters. Subsequently, the practical applicability of the obtained values is investigated by confronting the values obtained for the four materials with the dynamic response of a small room with each of the materials used in turns as finishing material. Finally, the results determined according to the dynamic test protocol are compared with values calculated from steady-state material data.

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