



Reduction effect of surface temperature of baked bricks with different pore shapes during absorption-evaporation test

Chiaki T. Oguchi (1) and Katsumi Shinozuka (2)

(1) Saitama University, Department of Science and Engineering, Saitama, Japan (ogchiaki@mail.saitama-u.ac.jp), (2) Undergraduate Student, Saitama University (Present: Graduate Student, Tokyo Metropolitan University, Tokyo, Japan)

To study the effect of decreasing in surface temperature of baked bricks with various pore shapes, the present study performed several experiments such as water absorbance test and heating test. For the preparation of experimental specimens, bricks with artificial spherical pores, artificial linear pores and non-additional artificial pores were made. The bricks were examined their properties of bulk density, Equotip hardness and absorbing properties by putting in the water. Wet bricks were also put in the incubator set at 50 °C, and monitored the increasing of surface temperature of each brick. Brick with linear pores shows higher water absorption rate in a short time than those with spherical pores. They evaporated moisture faster than those with a spherical pores. They kept the temperature by 11.7 °C lower than the setting temperature, whereas the bricks with a spherical pores kept the temperature by 10.5 °C . Bricks with linear pores has about 10% higher effectiveness of decreasing in surface temperature than those with spheroidal pores.