

1. Field Measurement and Numerical Simulation of Air Infiltration from entrances in an Airport in Winter (Open Access)

Weng, Jiantao (1); Zhao, Kang (1); Ge, Jian (1)

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Author affiliation: (1) Department of Architecture, Zhejiang University, Yueya building 506, Hangzhou; 310058, China

Abstract: In the large spaces of airport terminals, such as check-in hall and arriving hall, there are many entrances. The air infiltration from entrances has great influence on the indoor environment, which should be paid high attention to. In this paper, on-site measurement of indoor environment is conducted in an airport terminal, which is located in the hot summer and cold winter zone, in winter. The field test results show that air infiltration rate on the first floor is obviously larger than that on the second floor, which leads to lower temperature and higher heating load on the first floor. On the basis, numerical model is built with Airpak and verified by comparing with the measured data. According to the simulation results, adopting air curtain can help reduce the influence of air infiltration and improve indoor thermal comfort in winter. (5 refs)

Main heading: Airports

Controlled terms: Air conditioning - Airport buildings - Computer simulation - Floors - Numerical models

Uncontrolled terms: Air infiltration - Airport terminals - Field measurement - Hot summer and cold winter zones - Indoor environment - Indoor thermal comfort - Lower temperatures - On-site measurement

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