

عنوان مقاله:

Energy Consumption of Floor Heating System in Buildings

محل انتشار:

دومین کنفرانس بین المللی گرمایش، سرمایش، و تهویه مطبوع (سال: 1389)

تعداد صفحات اصل مقاله: 5

نویسندگان:

V. Golkarfard - M. sc. Student , Mechanical Engineering Department, Shahid Bahonar university of Kerman, Iran

M. Salmanzadeh - Assistant Professor, Mechanical Engineering Department, Shahid Bahonar university of Kerman, Iran

P. Talebizadeh - M. sc. Student , Mechanical Engineering Department, Shahid Bahonar university of Kerman, Iran

خلاصه مقاله:

High energy demand in recent years has caused the countries to change their energy consumption policies. Buildings are one of the important energy consumers in the world. High temperature gradients in heating systems of buildings can increase the heat loss of the envelopes during the cold season and consequently increase the energy consumption. Floor heating systems generate lower temperature gradients in compare with other convective heating systems. In this work, the CFD simulation has been done to investigate the energy loss in rooms with floor and radiant heating systems. The required energy to achieve the thermal comfort in a room by floor and radiant heating systems has been calculated by modeling the velocity and temperature fields and compared with each other and with the data calculated by conventional method of heating load calculation. The outdoor temperature is considered for the Kerman city climate in winter and the Ashrae standard is used for the indoor air design emperature. The calculated results showed that the total heating load for radiant heating system is 58 percent higher than the floor heating system for the .tested room

کلمات کلیدی:

Floor heating, Radiant heating, Energyconsumption

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/268343>

