



CHAPTER 6 RADIATION HEAT TRANSFER IN BUILDINGS

6.3 Combined Radiation and Convection

Radiation heat transfer rarely occurs by itself in a building. It is usually coupled with convection. Several such cases are considered in this section. First, we determine the total U value of a double-glazed window, and the radiative and convective heat transfer coefficients in a cavity. Then, we consider a thermometer, which is used to measure air temperature, and determine the error caused in the measurement due to the radiation effect. Finally, combined radiative-convective heat loss from an exposed pipe is calculated.

6.3.1 Combined Radiation-Convection Heat Transfer in Cavities and Thermal Resistance of Windows

6.3.2 Measurement of Air Temperature

6.3.3 Combined Radiation-Convection Heat Loss from Pipe