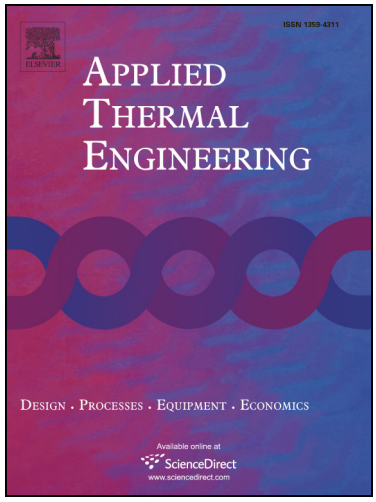

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Impact of openings on fire properties in the confined corridors

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Abstract

In corridor fires, ventilation condition plays an important role on the fire development. Relevant studies have attracted extensive concern, and mainly focused on the effect of opening size on a compartment fire, or on the blockage effect for a tunnel fire. However, the ceiling-jet flow in a corridor under different opening conditions has not been studied. In this paper, the CFD simulation has been carried out to study effect of openings on vertical velocity, which is useful for the theoretical analysis on the smoke layer. Vertical velocity profile in the far-field agreed well with Gauss function. What is more, a small experimental set has been established to carry out the effect of openings on smoke temperature in a confined reduced-scale corridor. By varying the opening size and opening position, while other parameters were fixed,

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