

Provision of adequate separation between commercial spaces and exit path

Currently, the code allows maximum 50% of the staircase exits in a sprinkler protected building to be discharged through the ground level circulation space, which must be within 10m from the exterior safe area. As there is possibility that part of the circulation space is used for commercial activities such as shops and kiosks, SCDF conducted a study on the effect of radiation from a fire involving such commercial activities on occupants evacuating pass them. The intent of the study is therefore to look into the provision of an adequate separation between commercial spaces and the escape path such that radiation from the shop/kiosk fire would not jeopardize the occupants' safety.

FSSD has conducted the study through the use of CFD modeling. In the study, a sprinkler controlled 5MW shop fire was adopted. The study is confined to radiation from fire at the shop and it is assumed that the building is installed with engineered smoke control system. The study found that a minimum of 10m separation distance is needed between the commercial activities and the designated escape, as illustrated below.

Separation distance between shop and designated escape route

