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FIRE SAFETY IN THE BUILT-ENVIRONMENT: A CASE STUDY IN A RESIDENTIAL FACILITY

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Abstract

In light of the spread of residential fires worldwide, this paper aims to identify the current fire safety code requirements for providing the minimum level of safety in residential facilities, hence, mitigating the risk of fire occurrence. The paper also presents the findings of a case study to demonstrate the compliance level of a sample residential facility, with code requirements. The case study building is composed of three floors and a basement. It can accommodate 214 persons. It was built in 2013, and it is located in Khobar, Saudi Arabia. The study revealed that the assessed facility had an adequate distribution of fire detection and notification systems. Moreover, the level of the housekeeping practices and concentration of hazardous material was found to be acceptable. However, the means of egress, fire doors and fire suppression systems were not up to code requirements. The study recommended measures to improve the level of safety in the building. These include increasing the number of fire exits; installing sprinkler heads on each floor; distributing fire extinguishers sufficiently; and installing fire rated doors. This study aims at raising awareness about the incidences of fires accidents in residential facilities and their catastrophic implications. It serves to provide a standardized fire safety management checklist, for the use of design professionals and property managers, towards the effective design and maintenance of residential facilities.

Keywords: **Fires safety; Residential facilities; Checklist, Inspection.**