PAPER 1:

Title: Building safety and human behavior in fire

Author: M.Kobes, I Helsloot, B De Vries, JG Post

Publication year: 2008

Description:

The ability to safely evacuate a burning structure is the most important factor in its safety. An essential prerequisite is that the building's fire safety features permit independent and adequate fire reaction actions from its occupants. The laws as they are now don't always seem to provide the assistance that those trapped in burning buildings need. In order to align fire safety measures with the demands of inhabitants during an incident, it is crucial to understand how people behave in the event of a fire and during a fire evacuation. The literature on human behavior in a fire as it relates to building safety is reviewed in this essay. The results are summarised as an overview of the crucial elements—fire characteristics, human traits, and building characteristics—that affect how well people respond to fire. The study emphasises how certain presumptions regarding the current paradigm of fire safety in buildings are inconsistent with the information provided by the literature. The most important finding is that occupants' fire response abilities appear to be significantly influenced by psychonomics. As a result, scientific information from this subject will need to be added to the conventional approach to fire safety. As a result, the new approach to fire safety design in buildings that is presented here is necessary.

PAPER 2:

Title: Fire safety behavior model for residential

Author: V.M. Cvetkovic, Predrag Milosevic

Year: 2021

Description:

This study offers the findings of quantitative research on a fire safety behavior model for residential buildings in Serbia, starting from the undiscovered level of fire safety of citizens in Serbia. In order to perform the study, 540 respondents were given a questionnaire, which was afterwards gathered online. The goal of the study was to ascertain the extent to which gender and education level affect Serbian residential buildings' ability to anticipate behavior related to individual readiness, personal security, fire risk, and knowledge of fire protection. The results of the multivariate regression analysis indicated that gender, followed by age, was the most significant predictor of individual readiness, personal security, and fire risk perception. In contrast, the understanding of fire danger, personal security, and prevention did not significantly differ according to education level, ownership position, or monthly income. Additionally, the results demonstrated that the main barriers to taking preventive measures include the high cost of the necessary equipment, a lack of knowledge about the precise steps to take, the misconception that the emergency services would offer them the assistance they require, a lack of time, etc. The results can be utilised to increase citizen readiness to respond to fires in residential buildings in a timely and suitable manner as well as to develop campaigns and programmes to raise public awareness.

PAPER 3:

Title: Fire evacuation in high-rise buildings

Author: E Ronchi, D Nilsson

Publication year: 2013

Description:

With the following goals in mind, a review of the literature on fire evacuation in high-rise buildings was conducted: (1) to identify the key behavioural factors influencing people's performance during a high-rise building fire, the unique characteristics of these types of buildings, and potential areas for future research; (2) to review the procedures and strategies currently used in high-rise buildings; (3) to review and analyse the capabilities of evacuation models. The examination covered modelling methods and tools as well as research on how people behave in tall structures. Office buildings, residential structures, and healthcare facilities are some of the several types of building uses that were considered. Analysis was done on the utilisation of various egress components alone or in combination. The utilisation of stairs, elevators, and other alternative routes of escape are all part of the egress process (e.g., sky-bridges, helicopters, etc.). The population and use of the building have a significant impact on the efficiency of the egress components. The evaluation demonstrates that evacuation models can be successfully used to research relocation tactics and security concerns related to high-rise structures. The adaptability of egress models to reflect many egress components and intricate behavioural processes is correlated with their applicability for high-rise building evacuations.

PAPER 4:

Title: Fire Safety and Management Analysis in India

Author: Chirag, Ankit Kumar, Garvit Jain, Anubha Mandal

Year: 2021

Description:

The purpose of this study is to look at fire safety regulations and how they are put into place in buildings, as well as what regulations are necessary in light of current technology. High rise structures, hospital fires in COVID-19, and management comparisons with other affluent nations are highlighted as examples of recent catastrophic fire cases. Unfavorable weather situations are taken into consideration, nevertheless, and a number of safeguards and mitigation strategies are being examined. Design of the relevant buildings and safety precautions to take in a fire-risk environment Information was gathered from journals and relevant works, and it is anticipated that applying these recommendations will be a useful addition to earlier studies. Additionally, it's critical to inform the building's residents of the safety precautions to be followed should a fire break out nearby as well as other fire prevention strategies to adopt for their protection. The study examined how businesses are structured, how quickly they respond, and what management practices in urban and rural India need to be improved.

PAPER 5:

Title: Fire Alarm and Mass Notification Systems

Author: James Sinopoli

Publication year: 2017

Description:

The deployment of fire alarm systems in buildings is the topic of this chapter. The main life safety system in every building is a fire alarm system. When installed properly, a fire alarm system lowers the risk of injury or death and limits damage from fire, smoke, heat, and other elements. The norms, regulations, and standards governing the design and installation of fire alarm systems are extensive and in-depth due to their importance. The impact of the fire is reduced significantly by the integration with other systems. To simplify egress from the building and fire containment, a fire alarm system will start communications with other building automation and security systems.

PAPER 6:

Title: Fire safety

Author: Gary A.ruff, David L.Urbanph, Michael D Pedleyph, .Paul T.Johnson

Year: 2021

Description:

The use of a certified smoke detector with enough airflow to convey fire byproducts is the preferred method for fire detection in spacecraft. On the International Space Station, a different form of fire detection was developed for use with certain gear and equipment because not all of it has active airflow or a sufficient way for smoke to reach a certified fire detector. Specific hardware metrics are watched for deviations that would indicate the existence of a fire event in order to detect a fire in such equipment. Data parameter monitoring is the term used to describe this procedure, which is outlined in the Safety Policy and Requirements for Payloads Using the International Space Station (NASA 1995).