

## The Connection between Required Safe Egress Time and Occupant Fire Safety Training

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**Abstract :** Analysis of the evacuation of occupants of a building plays a significant role in Fire Safety Engineering. One of the tools used for the analysis is the concept of the Required Safe Egress Time (RSET). It is generally accepted that RSET is measured from the time the fire ignites until the time that all occupants have evacuated to a safe location. Instructions on how RSET is determined can be found in both the International Fire Engineering Guidelines and, more recently, in the Australian Fire Engineering Guidelines. The guidelines also specify measures that could be applied to reduce the RSET and hence improve the performance of fire-safety measures of a building. Further, it is suggested that the delay period can be reduced through "training programs." This study examined the overall level of fire-safety awareness among occupants of residential apartment buildings in Australia and investigated the possible effects of fire-safety training on the delay period and, hence, the RSET. A questionnaire, interviews, and an experiment were conducted to collect data about people's fire-safety knowledge, people's behaviour and nature, and the duration of activities people are likely to undertake in the event of a fire. The study led to an investigation into the delay and response time approximations and the development of a new equation to incorporate the impact of training into the RSET calculations for the general use of the fire engineering community. Regardless of the RSET, it can be concluded that fire-safety education and training for residents of apartment buildings have a direct impact on improving their behaviour and firefighting equipment usage in a fire incident.

**Keywords :** fire safety engineering, fire safety training, occupant evacuation behaviour, required safe egress time

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