




UK / English

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## Why Safescape® ?

Accidents requiring emergency escape will always happen no matter how much we try to prevent them. We may not be able to stop accidents from happening, but we can try to reduce the effects.

In many emergency situations, a speedy exit can make the difference between life and death. Experts believe that if there is a fire, chances of survival decrease after 2 minutes. In this situation, every second counts.



Safescape® was developed to provide a quick and efficient emergency exit through toughened glass windows at the push of a button.

Windows are a good means of escape in an emergency since they are highly visible and usually in abundance. Using Safescape® to break the glass does not rely on the structure of the exit to be intact, as is the case with doors that can jam.

### Survival Rates Decrease

According to tests carried out by the Fire Brigade, survival rates decrease after two and half minutes once a fire has caught hold. The danger is not from the fire but from smoke. If the end doors of the carriage are blocked or damaged then the next option for escape is the windows. Safescape® is designed to provide fast emergency escape from a window.

The government initiated inquiry into the [Paddington Rail Crash](#) of October 1999 highlighted the urgent need to consider better emergency evacuation procedures.

- Paragraphs 4.60 - 4.85 of the document reports difficulties faced by passengers when escaping from the burning carriages. Many doors jammed leaving the windows as the only escape route.
- The hammers were reported to be missing, broken or ineffective. This was exaggerated in cases where the carriage was lying on its side meaning the window was above passengers.
- Furthermore, passengers did not know how to use the hammers properly, as highlighted in Section 14 of the Report.
- It is recommended that the need to break windows as a means of escape needed to be reviewed as it places 'excessive reliance on untrained individuals'. This is Recommendation Number 81 in the Report.

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### Cullen Report Recommendation 81 – Review of Hammers

The recommended review took place and [the results are published by the Rail Safety and Standards Board](#). Below is a summary of some of the findings.

The report concludes that hammers **are not** a good means of escape and that a hammer-less system (Safescape® is a hammer-less system) should be considered further.

"Windows can provide an alternative route out of the vehicle when it is not possible to egress through the body side or gangway doors, but the hammers provided to smash the windows can be difficult to find and use in low light or smoky conditions."

"The easiest way to break a window with an emergency hammer is to strike it in the corner. Passengers who do not know this and try to break the window in the centre will find it more difficult and may take longer to break through. ***This could reduce their chances of escape.***"

"The use of windows as an egress route from the vehicle is hindered through the problems with finding, accessing and using hammers."

## Railway (Safety Case) Regulations 2000 & 2001 Amendments

Equipment needs to be:

- Sufficient, so that it is available to staff and passengers when needed
- Suitable, so that it performs its intended function satisfactorily in the conditions in which it will be foreseeably used.
- Easy to use

### Hammer-less systems

"Hammer-less systems can significantly reduce the time to break and remove the glass."

Key points:

- Located on the breakable windows
- System is intuitive (press button)
- Located at optimum position on glass so it breaks first time (ie, corner)
- Breaks both panes at once
- Where there is film, the glass can be pushed out in one.
- Carriage orientation is not an issue.

▾ [Download the Emergency Hammer Report here \[1MB PDF\]](#)

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### Testimony given by survivors of the Paddington Crash

*"The gentleman who did grab the hammer, after hitting the window about 4 times the hammer broke anyway, so it was really of little or no use to us."*

*"Well, it took two people kicking with all their might to break the glass. The hammer itself just broke in half."*

*"We could not go to the south side because of the flames."*

*"A number of us, well, we were trying to kick out the side windows,*



*which was a totally futile effort. I mean, you just bounce off them."*

*"I saw one guy hanging from the luggage rack bashing his feet against the window... ...black-grey smoke had started to seep into our carriage from D."*

*"Windows that could be pushed through in an emergency would have been fantastic and certainly would have helped us breathe more easily in the carriage, because of the smoke."*



*"I felt confident we would survive the collision but, frankly, equally confident we were not going to survive the fire".*

*"People tried to climb the seats to smash the windows which were now on the roof, but could not break them. They also tried to open the train doors but could not."*

*"The door would not open. There was a certain amount of panic in Adrian's voice because there was a fire."*

#### **Train Accidents involving Fire or Smoke:**

##### **Train Accidents where some fatalities were caused by smoke inhalation or fire:**

*Daegu, South Korea, subway fire caused by arson attack. 18/2/03. 198 people died from smoke inhalation.*

*Egypt, fire caused by passengers using a stove. 20/2/02. Many trapped by bars on the windows. 361 people died.*

*Nancy, France, fire caused by faulty heater. 6/11/02. 12 died of smoke inhalation.*

*Austria, Funicular, fire caused by faulty heater. 11/11/00. Many people trapped. 155 people died.*

*Northern India, fire, 15/5/03. 39 died.*

##### **Accidents Involving Fire:**

*Asta, Norway*, collision caused by Signal Passed At Danger. 4/1/00. 19 killed.

*Savda, Western Indian state of Maharashtra*, 18/2/04. 18 people died.

*Salerno, Italy*, train burst into flames. 24/5/99. 4 people died.

*Goghra, India*, terrorist attack. 58 people died.

**Accidents Where Injuries Were Caused By Smoke Inhalation But No Fatalities Occurred:**

*Berlin*, U-bahn fire, 8/7/00. 11 people treated.

*Hong Kong*, arson attack, 5/1/04. 14 people treated.

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