



RESPONSE IN SCOTLAND TO THE GRENFELL TOWER FIRE



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RESPONSE TO SERIOUS FIRES

“A ratchet which serves to increase fire safety provisions rather than otherwise is the rare but significant occurrence of major fires. Public attention is attracted quite rightly to any kind of tragedy which causes multiple deaths. Public tolerance of such incidents is low even where on a statistical basis the risk to any individual of becoming involved in such an event may be extremely small. As a result, major fires are the subject of intensive investigation and analysis.”



RESPONSE TO SERIOUS FIRES

“The outcome of such studies is generally to identify the major contributory factors which led to the incident becoming as serious as it did. The investigation is likely to be conducted on several levels concerned with details of the initiation of and communication about the event, the behaviour of survivors, victims and firefighters, and theoretical and possibly experimental studies of fire and smoke behaviour. The results of all of these studies are likely to emerge as a set of recommendations for improvements in an attempt to ensure that such an incident could not be repeated.”



RESPONSE TO SERIOUS FIRES

“The problem is that the results are unlikely to be formulated as a series of alternatives, the implementation of any one of which would have avoided the tragedy, but rather as a set of measures which must be adopted as a whole. This approach, whilst very well intentioned, leads to new sets of golden rules because of a failure of rational analysis.”



WAS THIS COMMENTARY ON THE POST-GRENFELL RESPONSE?

NO!

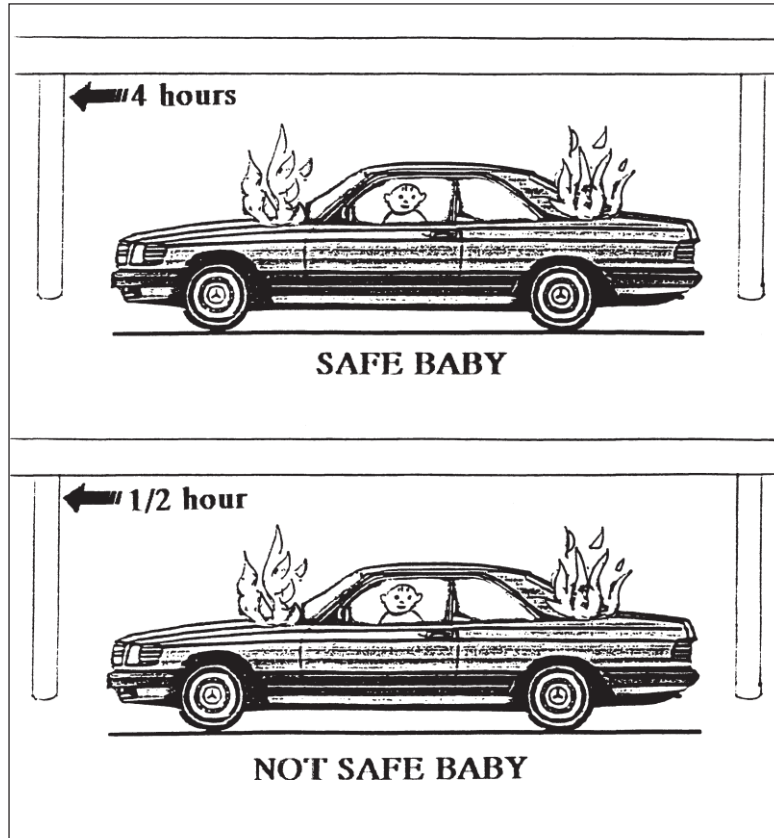
Paper by Margaret Law and Paula Beever

Proceedings of Fourth International Symposium
on Fire Safety Science, Ottawa, Canada,
13 - 17 June 1994

MAGIC NUMBERS AND GOLDEN RULES

“This paper was presented to an audience that was predominantly made up of researchers, who generally feel that they ought to be interested in the work of practitioners, but in reality are not.”

'BABY IN THE BUICK'



**'Baby n the Buick', reproduced from
the original conference slides.
Drawn by Margaret Law.**

MINISTERIAL WORKING GROUP

Edinburgh Schools Report - Feb 2017



Grenfell Tower Fire - June 2017

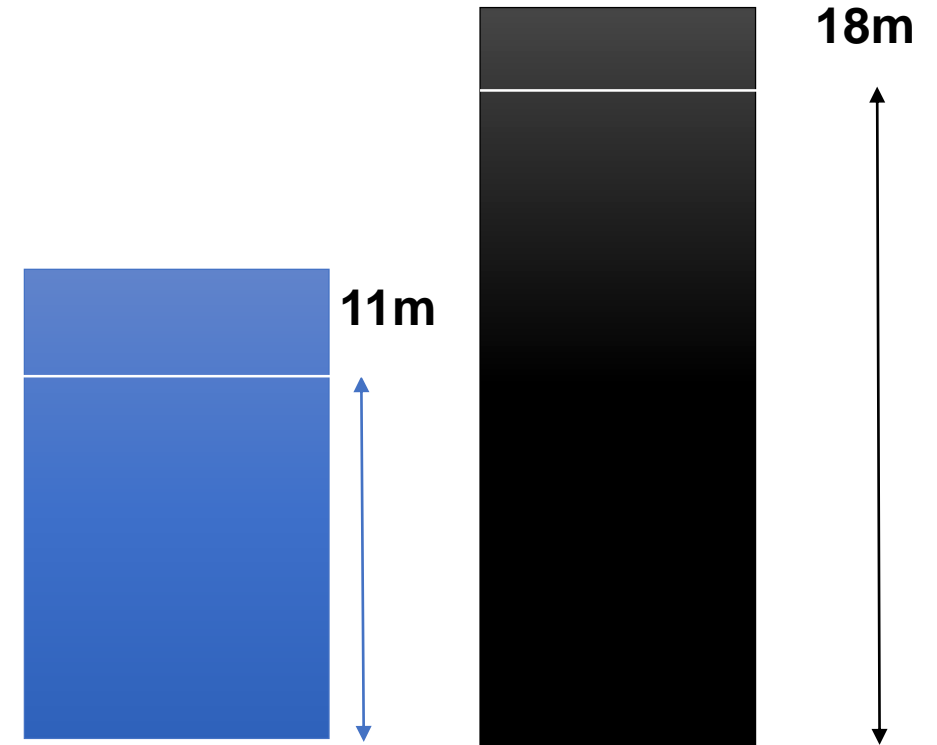


MINISTERIAL WORKING GROUP IN SCOTLAND



FIRE SAFETY STANDARDS (SECTION 2 - FIRE)

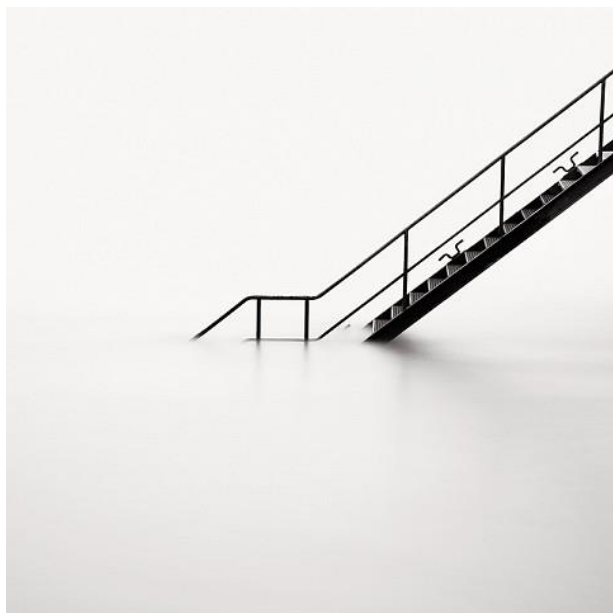
- Coming into force 1 October 2019
- Standard 2.4 Cavities
- Removal of BS for reaction to fire
- Euro Class A1 / A2 cladding and cavity insulation reduced from 18m to 11m height
- A1/A2 – Hospitals, Entertainment / Assembly buildings and Residential care buildings (any height)



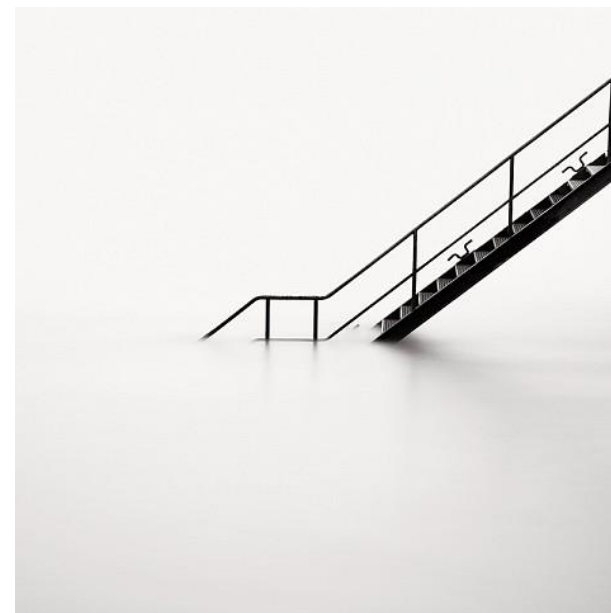
BS 8414 / BR 135 AND BS 9414



MEANS OF ESCAPE AND FRS



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Escape stair provision

MEANS OF ESCAPE AND FRS

Evacuation sounders in flats for SFRS



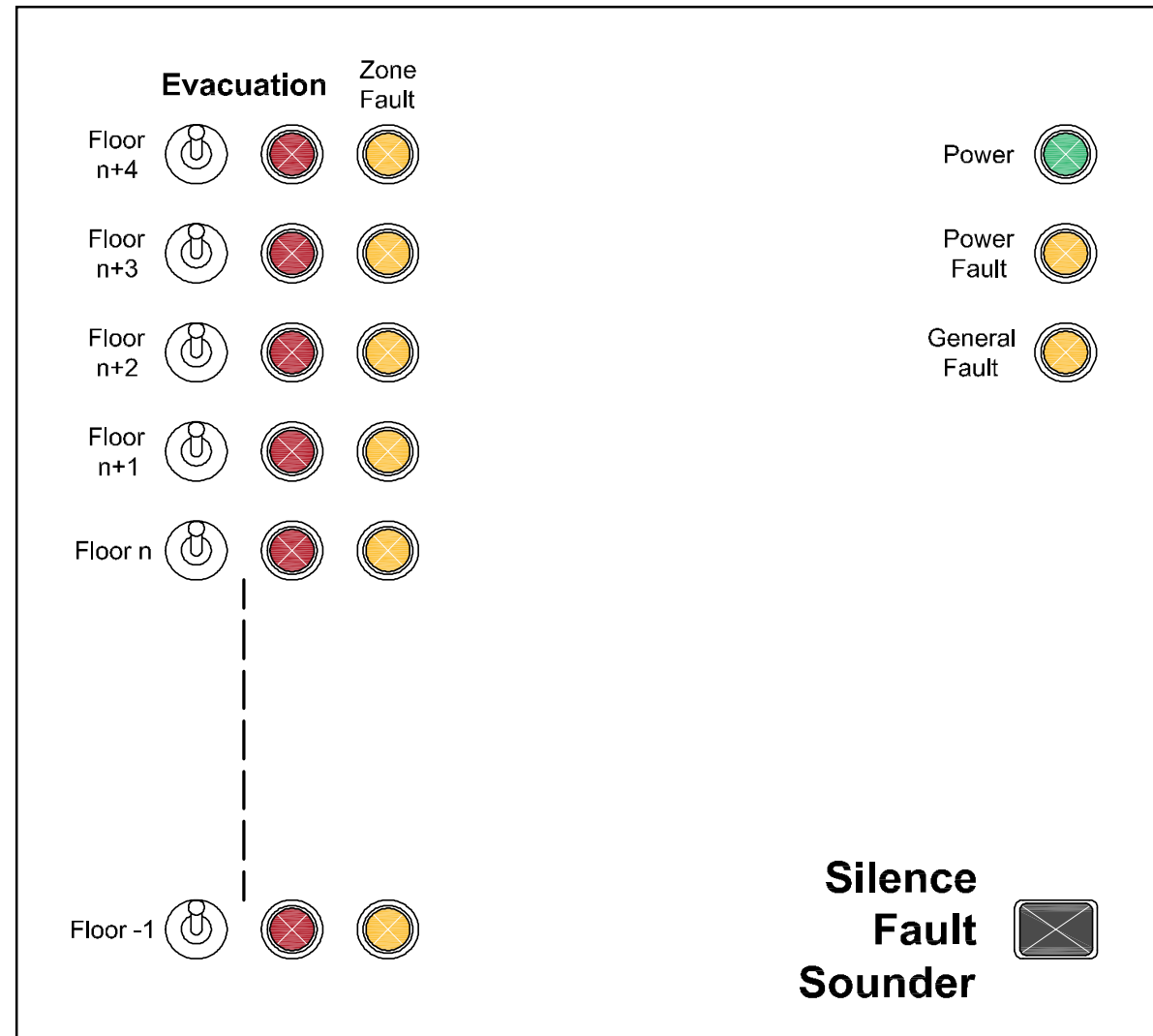
EVACUATION SYSTEMS

BS 8629

- Required by Scottish Govt for building regs changes post Grenfell (high-rise)
- Is NOT a fire alarm system
- Is part of FRS equipment (cf a DRM)
- Supports (but does NOT change) Stay Put
- Brings Stay Put into 21st century
- Acknowledges that use will be rare
- Total evacuation extremely rare

BS 8629

- No integration with fire detection and alarm systems (or any other systems)
- If communal fire alarm system is present, separate evac system not normally necessary
- Evacuation system cannot be used as compensating measure or mitigating measure for reduction or defects in other measures
- Use of systems by FRS outside scope of BS
- Voice evacuation not used




BS 8629:

DESIGN RECOMMENDATIONS: CONTROL PANEL


- Modified BS EN 54-2 fire alarm panel/power supply
- Consistency of panel design
- High security enclosure
- Monitoring of external circuits (cf fire alarm system)
- Maintenance facilities (not accessible/visible to FRS)
- No master evacuate control
- Sign on cabinet




BS 8629: SECURITY AGAINST TAMPERING IN FLATS

- Short circuit isolators
 - Can only remove evacuation device with special tool
 - Sounders no more than 150mm below ceiling
 - Physical protection of surface-run cables below 2m (other than MI)
 - Joints avoided
 - In new build, preference for burying of cables
- 

BS 8629: EVACUATION SOUNDERS

- BS EN 3 fire alarm sounders
 - Frequency 500Hz – 1,000Hz
 - SPL at each open bedroom doorway 85 dB(A)
 - SPL in other habitable rooms 60 dB(A)
 - Distinguishable from other alarm sounds
 - Facility in every flat to connect devices for deaf people
 - Min. provision is sounder in hallway
- 

BS 8629: INSTALLATION

- Standby battery capacity:
72 hours standby + 30 min evac
 - 24 hour manned buildings with auto generator:
24 hours + 30 min
 - Cables of enhanced FR (standard FR for power supply cables)
 - Can use radio instead of wiring
- 

TESTING AND MAINTENANCE

- No routine testing!
- Annual maintenance
- At maintenance, operate each sounder separately (max 10 secs)

MEANS OF ESCAPE AND FRS



Storey identification signs and dwelling indicator signs

OTHER WORK - HOUSING (SCOTLAND) ACT 1987

Consultation on Fire and Smoke Alarms:

Undertaken September – December 2017

Introduction of new Tolerable Standard in February 2021 - all dwellings to be fitted with:

- Smoke and heat alarms
- Carbon monoxide detectors

Further details at: <https://consult.gov.scot/housing-regeneration-and-welfare/fire-and-smoke-alarms-in-scottish-homes/>

AUTOMATIC FIRE SUPPRESSION SYSTEMS (AFSS)

- All new social housing
- All new flats
- Certain new HMOs
- Coming into force in 2021

