

BRE: Stay-put or Evacuate?

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22nd July 2016



Part of the BRE Trust

Introduction

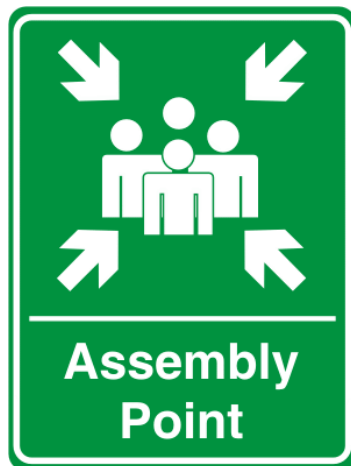
- New buildings: Building Regulations 2010
 - Existing buildings: Regulatory Reform (Fire Safety) Order 2005

 - Fire strategy report
 - Emergency plan
- } Evacuation approach

Types of evacuation

Simultaneous evacuation (movement to a place of final safety)

- What the majority of buildings adopt
- Most people are familiar with
- Intuitive
- Learnt from an early age



Stay-put policies

Movement to a place of relative safety (within the building).

Relatively recent concept (1960s)

Role of passive (and sometimes also active) fire suppression.

Many types...

Phased Evacuation

Progressive Horizontal Evacuation (PHE)

Zoned Evacuation

Defend in Place

- Progressive Horizontal Evacuation (PHE)

Often used in hospitals (Firecode)

Vertical evacuation a last resort

Needs large floor plans (sub compartments and compartments)

Compartments align with functional areas (wards)

Minimum staffing levels

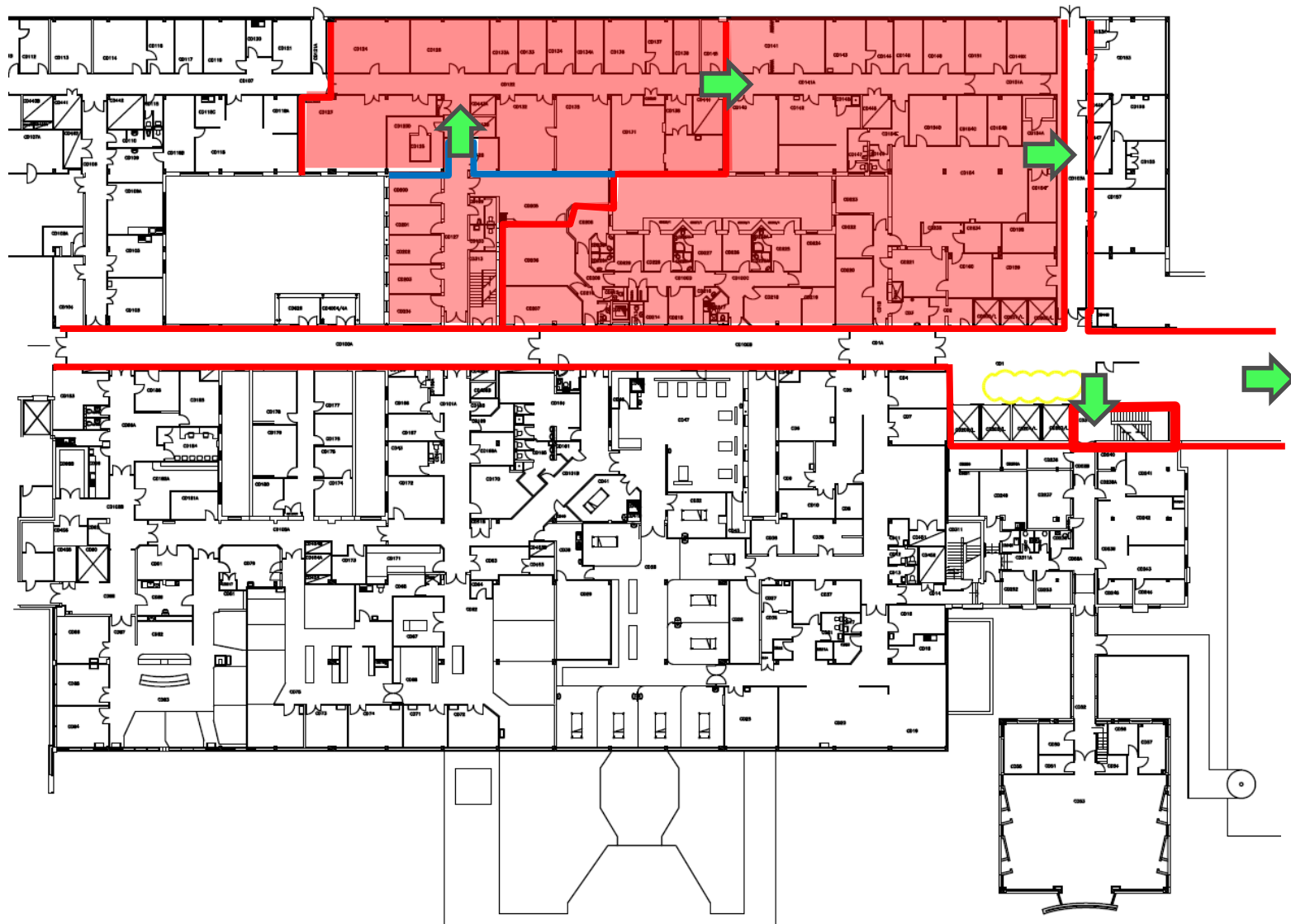
A compartment must accommodate both occupancies

Dampers activated by smoke detection required.

Firecode – fire safety in the NHS
Health Technical Memorandum
05-02: Guidance in support of
functional provisions for
healthcare premises

Fire evacuation strategy

- 3.6 The basic strategy for fire evacuation of dependent or very high dependency patients should be to move them on their bed or in a wheelchair, to a safer area on the same floor.
- 3.7 There are three main stages of evacuation:
- a. Stage 1 – horizontal evacuation from the subcompartment where the fire originates to an adjoining subcompartment or compartment;
 - b. Stage 2 – horizontal evacuation from the entire compartment where the fire originates to an adjoining compartment on the same floor;
 - c. Stage 3 – vertical evacuation to a lower floor substantially remote from the floor of origin of the fire (at least two floors below), or to the outside.



- Zoned Evacuation

Zones align with compartments

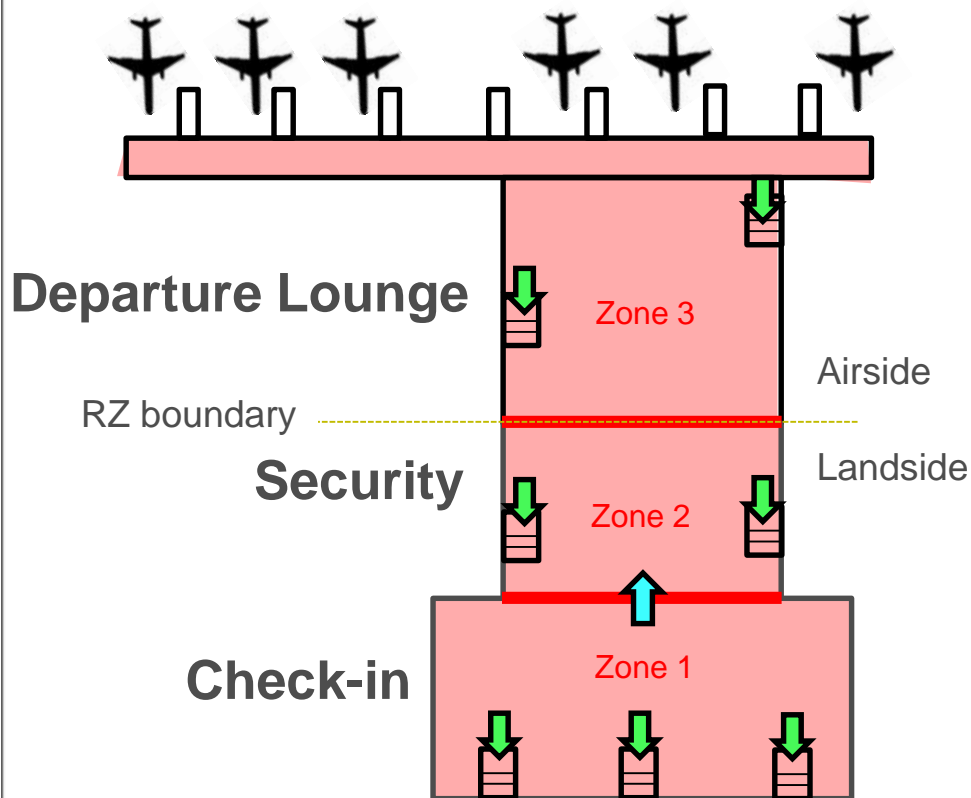
Area by area evacuation

Can include progressive elements

People management

Flow teams

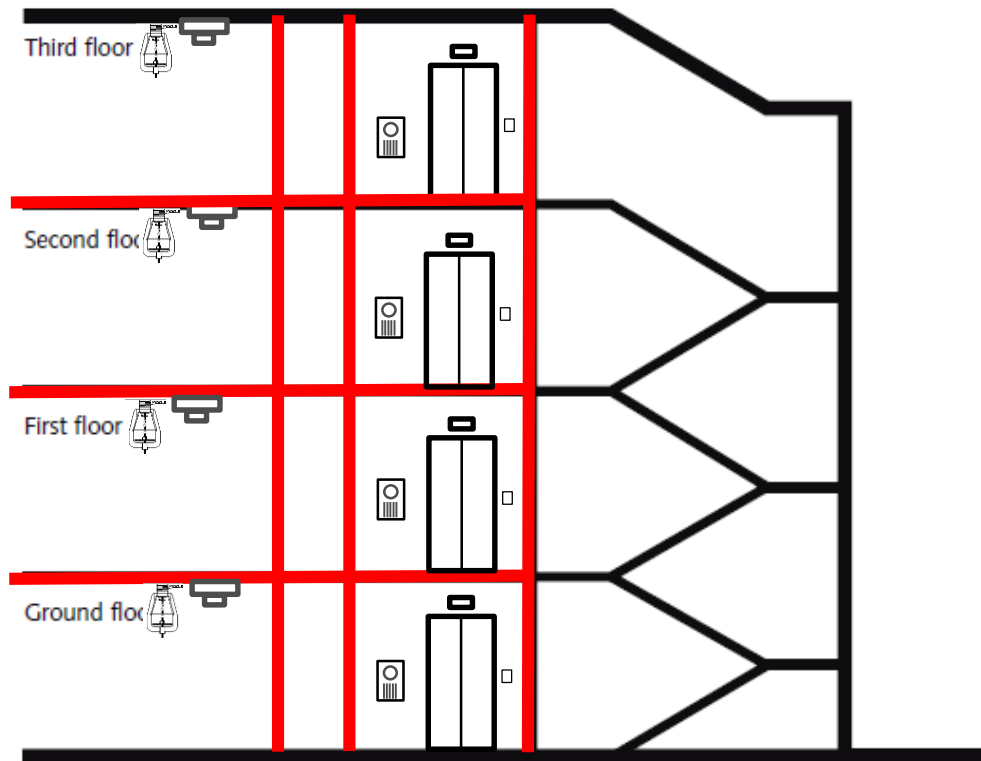
Central control centre



• Phased Evacuation

Tall buildings

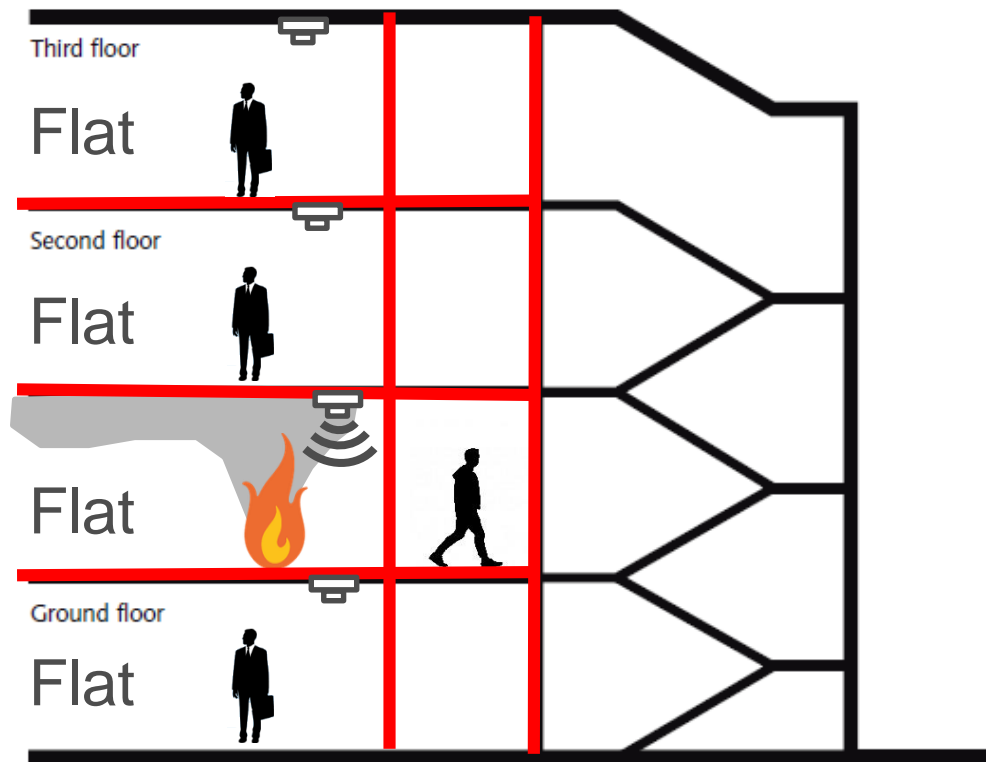
Two floor evacuated at a time



BS9999

- Each floor compartmented
- Stairs must be lobbied
- Lifts lobbied
- >30m building must be sprinklered
- Min L3 detection
- EVC with master control room
- Smoke and fire damper actuated by AFD (cii and ciii, PHE, public areas of entertainment premises)

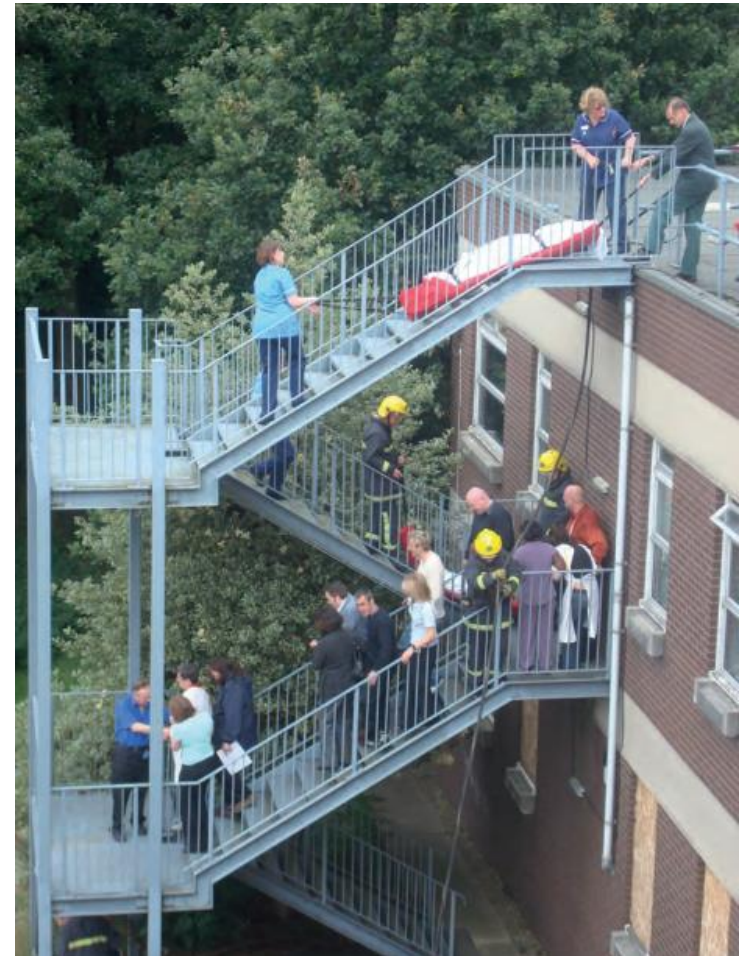
- Defend in place



Each flat unit is a compartment
Alarms (hopefully!) in each flat

Why keep people in the building?

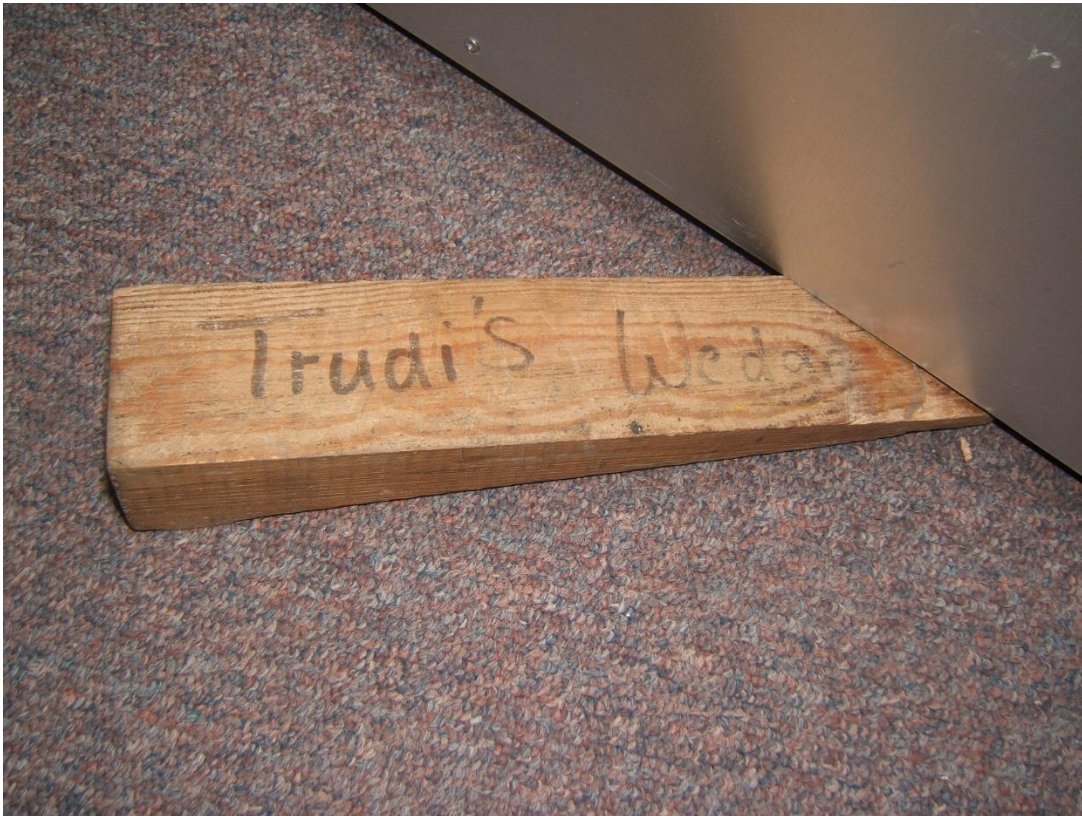
- Type of occupancy (e.g. healthcare)
- Hazards associated with escape (airports)
- Security (prisons)
- Business disruption
- Limitations on vertical escape capacity (tall buildings, old buildings)
- HMO's, flats.
- Findings of FRA (shortfall in exit capacity, FSE solutions)



Challenges of staying put

- Relies upon information and/or management (people need instructions)
- Human behaviour (post 9-11, Lakanal)
- Liabilities? Simultaneous evacuation is seen as the 'safe option'.
- Who will make the decision?
- Training is key
- Information to the fire service (11D inspections)
- Relies upon effective passive and active fire systems

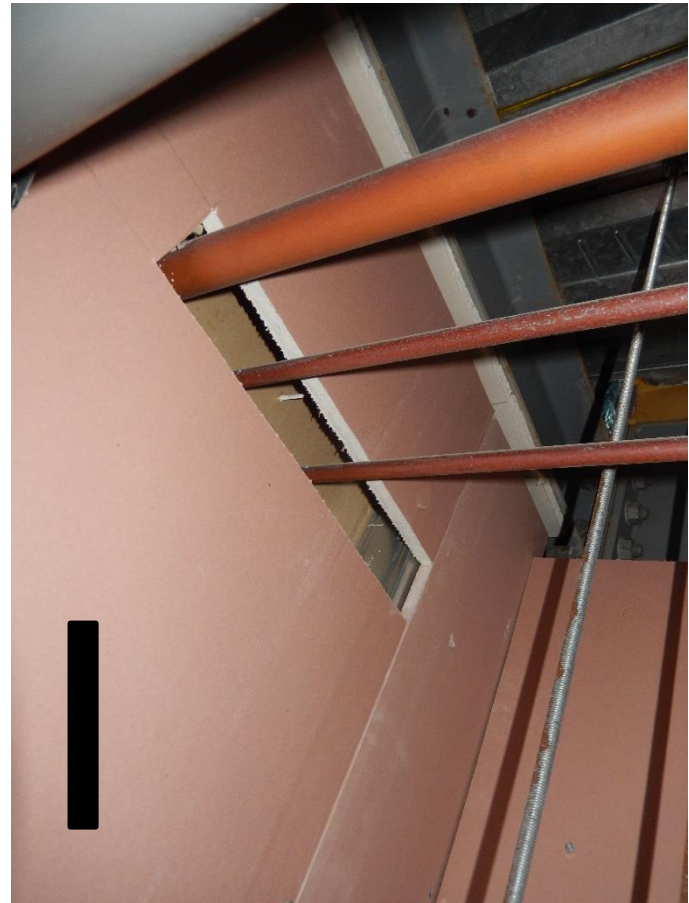
Issues



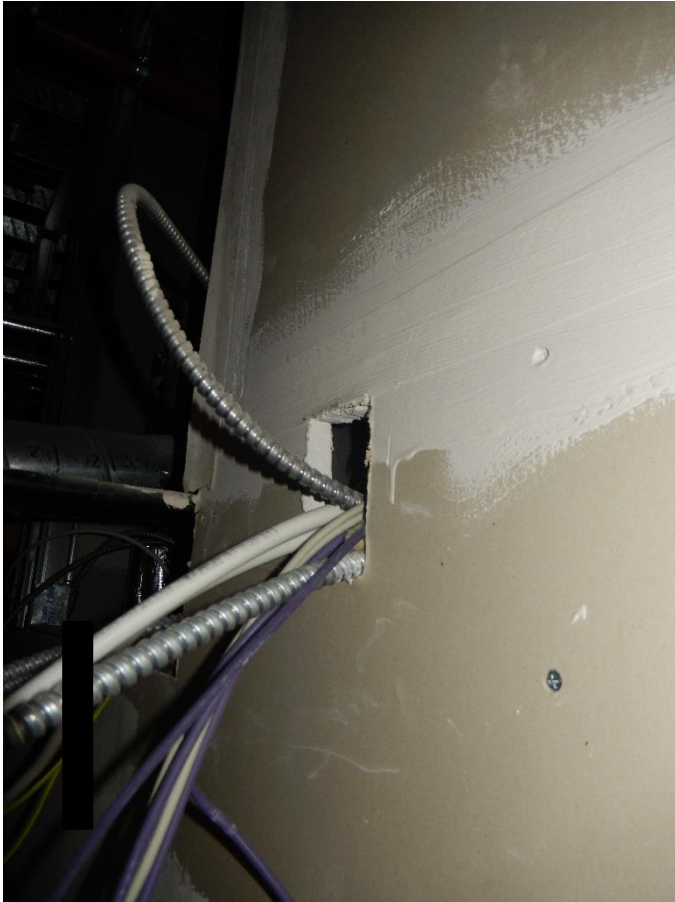
Defects



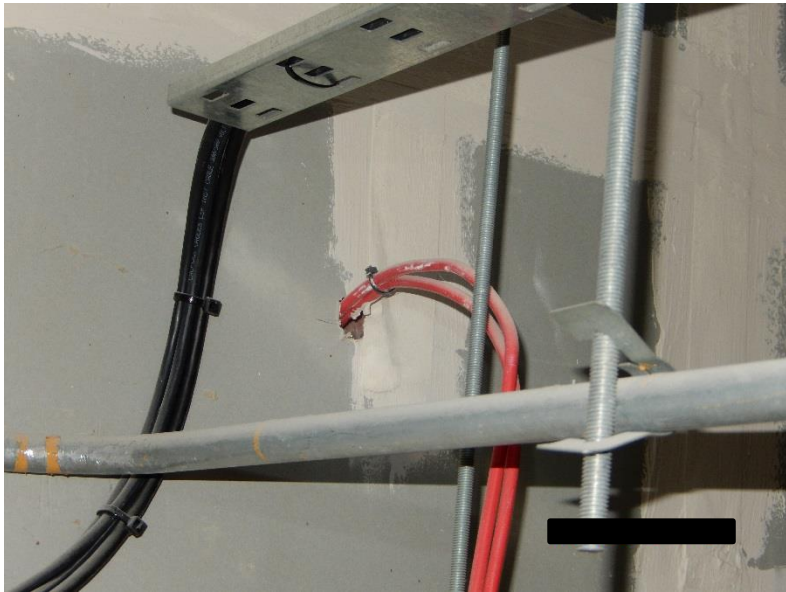
Pipes...



Cables...



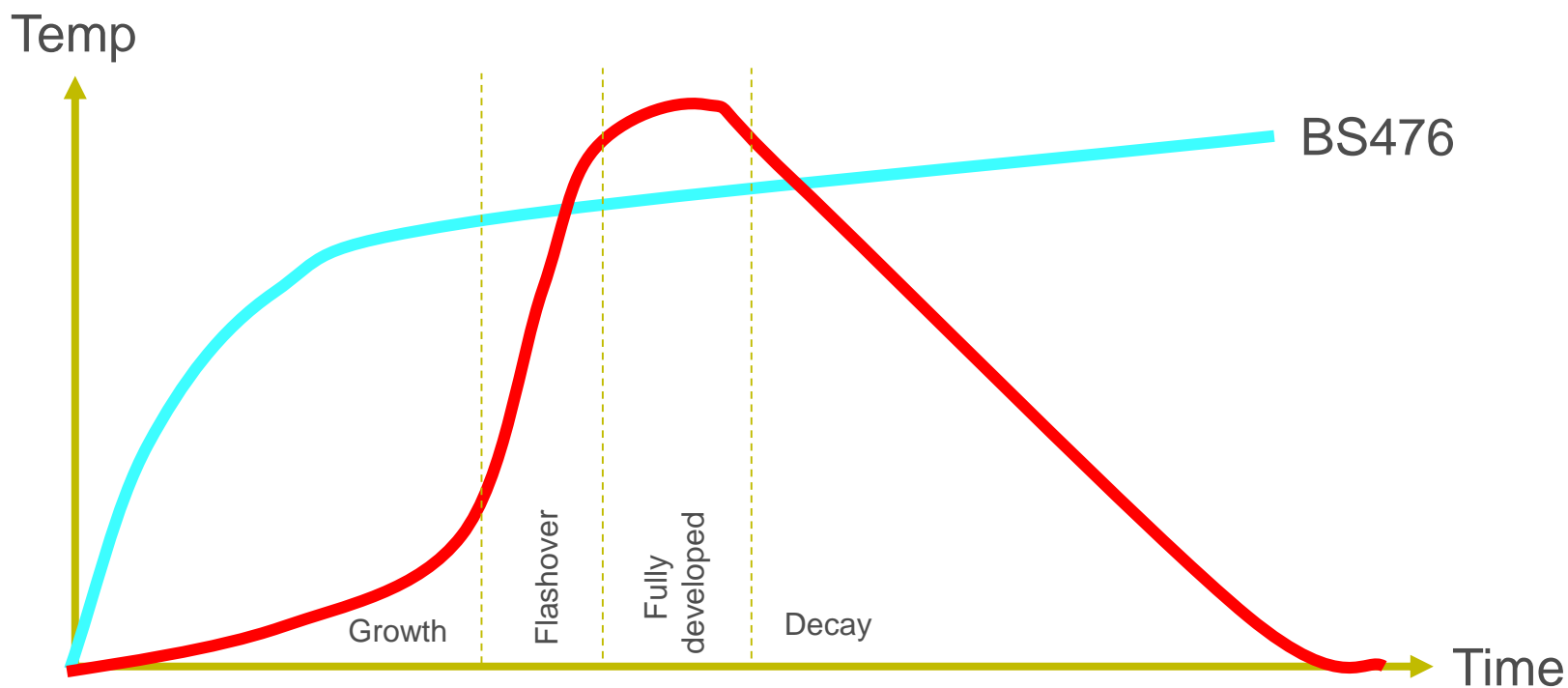
Fire alarm cables!



Fire compartmentation

Creates areas of relative safety in the building

Fire resistance ratings: 30 minutes, 60 minutes...



News reports of fires in flat buildings

News article: *The victims had been instructed by firefighters to stay put in their flats but it was later believed that there might have been a better chance of survival if they'd moved as had other tenants.*

Headline: *The people who died in the tower block fire should have been told to get out of the building, an inquest has heard.*

Following the fires

Focus of fire risk assessments for flats and tower blocks across the UK

“know the plan” campaign launched by LFB

YouGov poll:

2,899 adult Londoners:

- **60%** No fire escape plan
- **50%** would get out of their flat even if the fire was somewhere else in the block.

So is defend in place for flats a bad idea?



In 2009-2010, 8,000 fires, only 22 fires necessitated evacuation of more than five people

“People in flats unaffected by fire and smoke were perfectly safe inside their flats and there were no injuries”

What is my building fire strategy/evacuation plan?

New buildings – look for the fire strategy (Regulation 38)

Older buildings – Need to check guidance, seek advice

Do not assume simultaneous evacuation is the safest by default

- Stair overloading
- Hamper firefighting operations and access
- Learned irrelevance

So should I employ stay put or evacuate?

Know the buildings' fire strategy

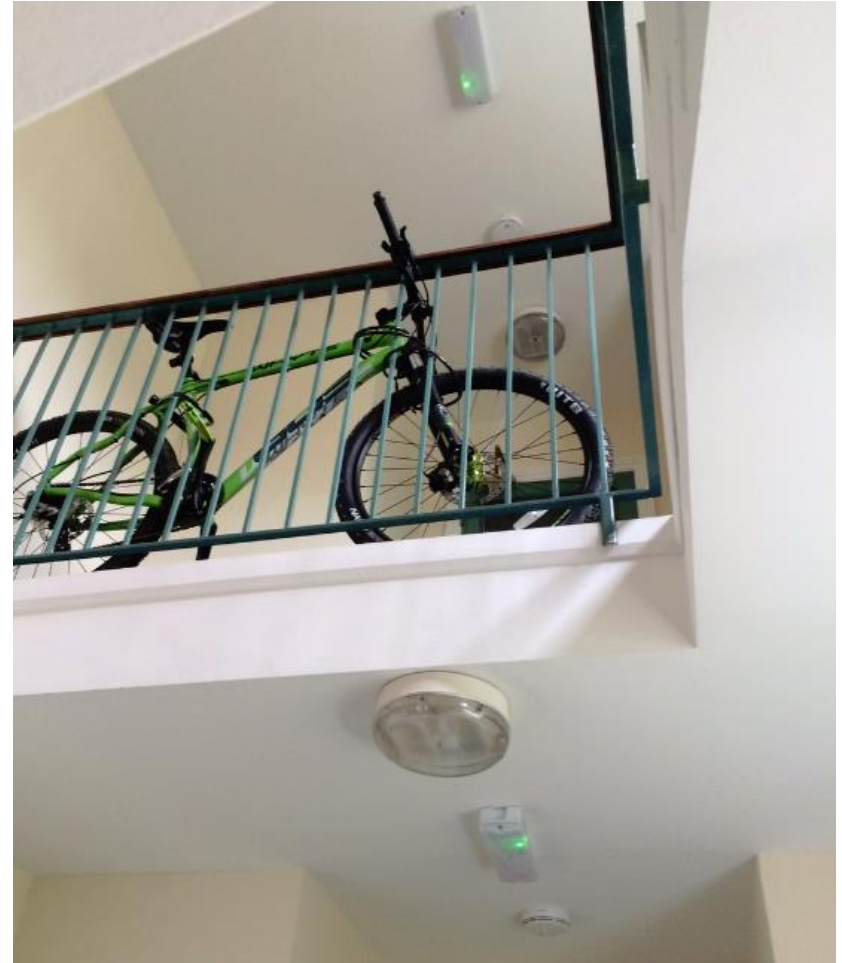
- Regulation 38
- As-built fire strategy
- Seek advice

Review the fire risk assessment

- Ensure it does undertaken by a competent person
- Is a non-intrusive visual survey enough?
- Are the protective fire safety systems in place?
- What is the mitigation?

My communal staircase in the flat building ...

- Purpose built flat constructed 1995 (traditional construction)
- My front door was a fire door
- 'General needs'
- Sterile stair policy



Raised questions...

In conclusion...

Misunderstanding the fire strategy – stay-put vs evacuation could put persons at risk.

Ensure the building's fire strategy is understood and the fire risk assessment is undertaken and acted upon.



Thankyou

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