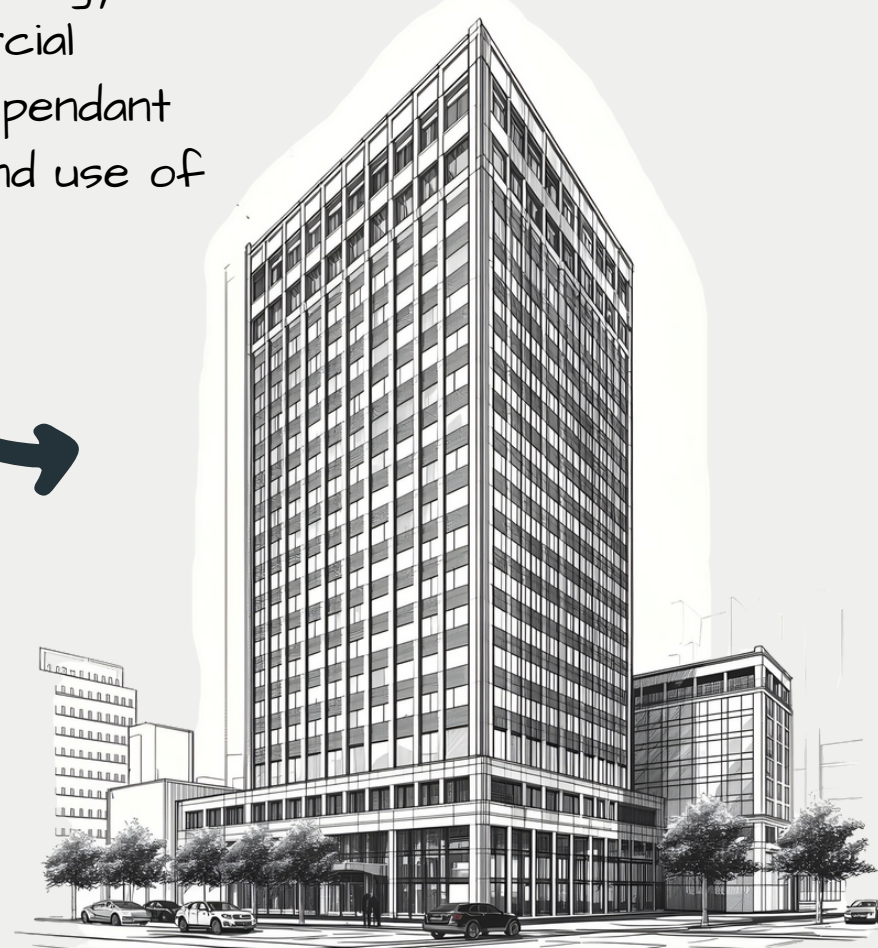


EVACUATION STRATEGIES EXPLAINED

The two most commonly used strategies are simultaneous evacuation and phased evacuation, which is the topic for this edition of Explained.

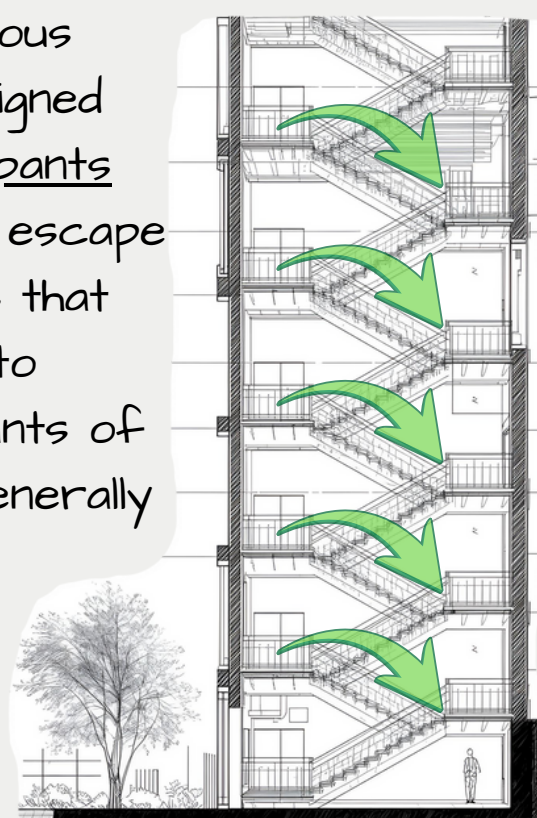


The evacuation strategy adopted in commercial buildings is highly dependant on the size, type and use of the building.



Simultaneous evacuation

Buildings adopting a simultaneous evacuation strategy are designed on the premise that all occupants within the building begin their escape at the same time. This means that the stair(s) need to be able to accommodate all the occupants of the building at once, which generally results in a lower maximum occupancy per floor level.



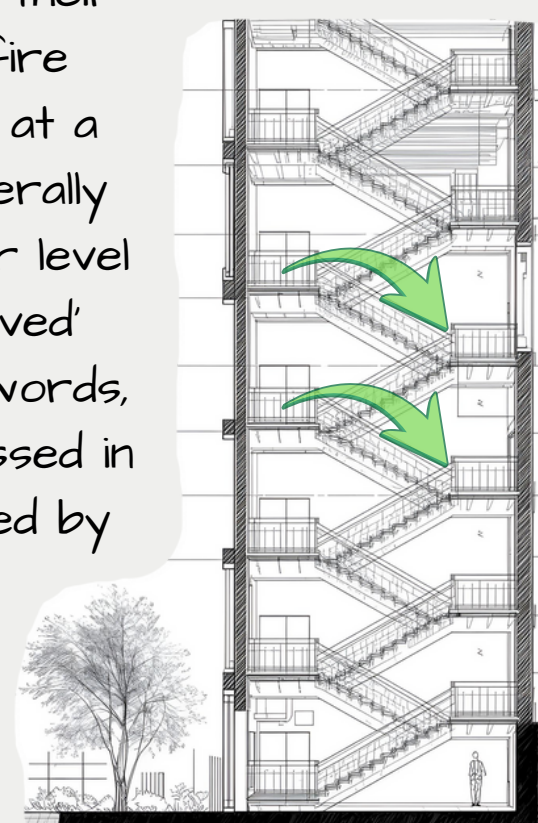
- Easy to manage
- Less onerous design (e.g. compartmentation)
- Full building evacuation typically quicker



- Floor of fire origin can take longer to evacuate
- Lower occupancy / wider stairs
- Higher risk of false alarm business disruptions

Phased evacuation

Buildings adopting a phased evacuation strategy are usually designed on the premise that only the occupants of two floor levels begin their escape at the same time. The floor of fire origin first followed by two floor levels at a time in a pre-determined order. This generally allows for a higher occupancy per floor level as the stairs' flow capacities are 'reserved' for only two floors at a time. In other words, the flow capacity of the stair, as discussed in the last edition of Explained, can be utilised by two floor levels rather than being split between all floor levels.



- Allows for increased occupancy
- Occupants most at risk evacuate first
- Reduced risk of false alarm business disruptions



- Greater reliance on management and systems
- More onerous design requirements (see below)
- Full building evacuation typically takes longer

What about a mix?

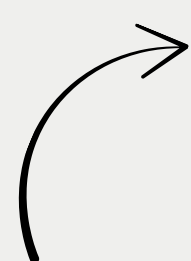
It is possible to adopt a mix between the two main evacuation procedures in a hybrid approach. This could for example be that the floor of fire origin evacuates first, followed by the rest of the building at once. In certain situations, this could enable a faster evacuation of the floor of fire origin compared to a simultaneous approach and a faster full building evacuation compared to a phased approach. However, this would be considered a fire engineered solution as it is not covered in guidance.

Design implications for phased

Where a phased evacuation regime is adopted, certain design requirements need to be met in order to safely keep people within the building for a longer period of time during a fire event.



Minimum Category L3 fire detection and alarm system with a voice alarm



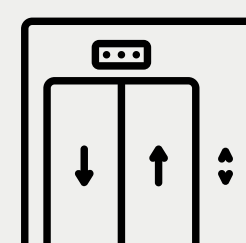
In order to more efficiently control the evacuation procedure and give real time instructions to occupants within the building



Every floor should be a compartment floor



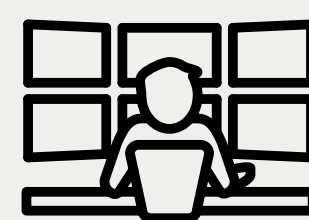
In order to better contain the fire and thereby allow a longer evacuation time for non-fire affected floors



Lifts should be approached via a protected lobby on all floor levels



In order to minimise the risk of smoke spread via lift shafts



A fire control centre should be provided and accessible via a protected route



In order to enable fire and rescue services to control an incident more efficiently



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