



Fire Safety

What is Compartmentation?

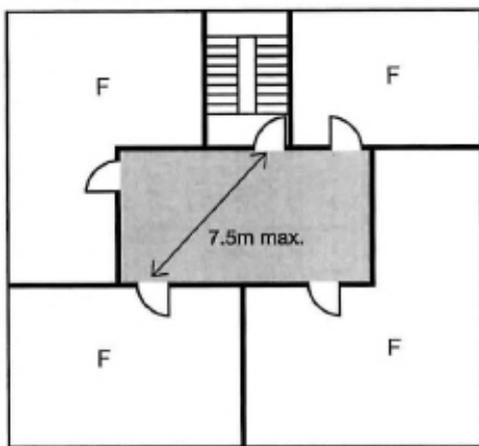
The word compartmentation is used to define the fire separation between escape routes and between flats. A compartment is simply a part of a building bounded by walls and floors that will resist the passage of fire for a specified period of time. All penetrations through walls and floors including doors, windows, ducts, pipe penetrations, must be suitably fire sealed so as not to compromise compartmentation. Compartmentation minimises the likelihood of fire spreading:

- from a flat to the escape routes (common parts),
- from flat to flat,
- beyond communal rooms and facilities, such as plant rooms and bin stores,
- via concealed voids, including external wall cavities,
- via common service risers and ducts,
- via rubbish chutes,
- via lifts,
- from any car-parking areas below,
- from other occupancies where the block is part of a mixed use development eg above shops or a hotel.

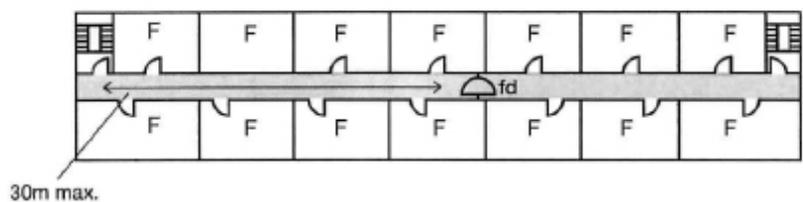
When do I need a Compartment? Consider: Travel Distances

The distance to a place of safety in a building is referred to as a travel distance. Maximum travel distances are defined based on several factors, e.g. numbers of escape stairs, ventilation of common parts,

B. Lobby access flats

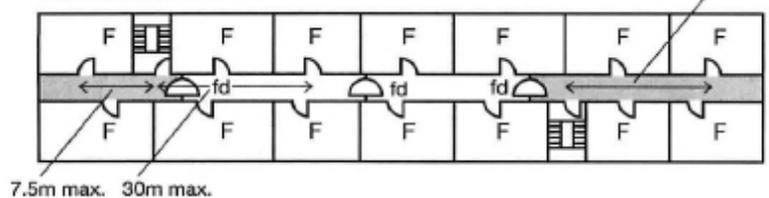


A. Corridor access without dead ends



B. Corridor access with dead ends

The central door may be omitted if maximum travel distance is not more than 15m



How do you protect a Compartment? Fire Doors

Fire doors form part of the protected route and prevent fires from spreading into escape routes. In high risk (buildings with 4 or more floors or with no smoke lobby to staircases or where travel distances are not satisfactory), all rooms opening on to the protected route must be fitted with a fire door.

Fire doors should meet the requirements listed below:

1. Provide half-hour fire resistance (BS 476),
2. Locks (if provided) on the inside must be capable of unlocking the door without the use of a key, i.e. thumb turn lock.
3. Fire doors should be fitted with an overhead self-closing device so that they are fully self-closing and self-latching. Chain closers are acceptable but rising butt hinges should be upgraded.
4. Fire doors must: close squarely and lie flush against rebates of the frame.



Rising Butt Hinges



Overhead door closer

5. Fitted with a minimum of 3 hinges with melting point in excess of 800oC.
6. Fitted with an intumescent strip and smoke seal to the top and side edges of the door.
7. Gaps between the door and frame must be no larger than 3mm (sides and top) and no more than 8mm beneath the door.

Fire doors in use

- Should be regularly inspected visually, recorded and defects to result in remedial action.
- Fire doors **MUST** never be kept opened. Tenants should be informed of the importance of fire doors to ensure that these are not wedged open. Copies of notices/letters requesting tenants' co-operation to keep fire doors shut should be kept on record.



Door edge with intumescent strip

In high risk properties of 5 or 6 storeys where fire doors do not meet the above, fire doors **SHOULD** be upgraded and retro fitted with the necessary items to allow them to conform to the above.

In properties over 6 storeys, new doors should be fitted.

In low risk properties (properties that have smoke lobbies to staircases and have acceptable travel distances) close-fitting and self-closing doors of sound solid construction will be considered acceptable. Non fire-resisting glazed doors, doors of flimsy construction or hollow infill-type doors (commonly known as "egg box") will not be accepted.

When do I need to install Emergency Lighting?

There **SHOULD** be an emergency lighting system with battery back up in the escape route designed to operate if the mains electrical supply fails. There **SHOULD** be sufficient light for occupiers to find their way out of the building especially on changes in level. If there is sufficient ambient light from other sources at night such as street lighting, there may be no need to add emergency lighting.



Emergency light

If your building is up to 2 storeys in height, the emergency lighting upgrade should be considered low priority when considered against other upgrades such as upgrading fire doors. If your property is over 2 storeys, the emergency lighting upgrade should be considered medium priority.

When installed, there is a responsibility under The Management of Houses in Multiple Occupation (England) Regulations 2006 (as amended)/ The licensing and Management of Houses in Multiple Occupation (Additional Provisions) (England) Regulations 2007 (as amended) to ensure emergency lighting is maintained in good working order in accordance with the British Standard 5266 that it has been installed to.

You need to keep a logbook to record the regular inspection of the system and to set down test procedures, which **MUST** be adhered to. It is **strongly recommended** that you take out a maintenance contract with a suitably qualified person to undertake maintenance of the system on your behalf. The following tests also need be carried out:

- Monthly - each light unit must be activated from its battery by simulating a failure in the normal supply and an inspection made of each luminaire to ensure it is functioning correctly.
- Six-monthly - each light unit must be activated as in the monthly check but left on for a prolonged period. In the case of lights with batteries rated at 3 hours, the light must be left on for one hour and in the case of lights with batteries rated at one hour, these must be left on for fifteen minutes. An inspection must be made of each unit to ensure it is functioning correctly. Clean covers and check that units are not obstructed.
- Annually - if system is over 3 years old, as for the 6 monthly test but the batteries must be tested to their full duration.



Test Switch

Fire Alarm Safety

Fire alarm systems should be installed within the circulation space of **ALL** flats in accordance with BS 5839-6. The minimum requirement

would be for one mains wired smoke alarm to be in each level of the circulation space of the flat, therefore 2 storey flats should have more than one alarm.

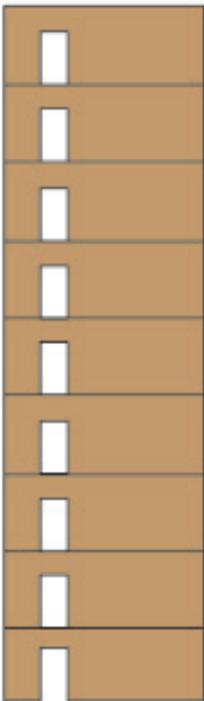
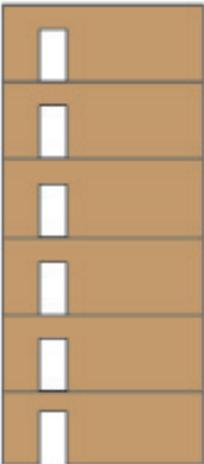
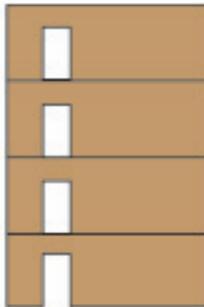
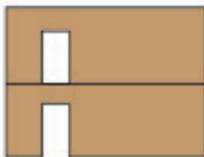
Where compartmentation is not sufficient in a building, a “stay put” policy is not appropriate and a communal fire alarm system may be considered in exceptional circumstances. Other upgrade options should be considered first i.e. smoke ventilation control, upgrading or replacing fire doors etc should be considered first before installing a communal fire alarm system.

In any block of flats where a communal fire alarm system is installed, the system should be of the type to which BS 5839-1 applies.

Cabling in Common Parts

Where cabling has been retro-fitted in common parts of a building, it may have been installed in plastic or metal trunking, or simply held in place by metal clips. During the Shirley Towers fire in April 2010, clasps holding domestic wiring in place in ceiling voids melted and the wires fell inside the flat, making escape difficult. The Fire Authority has made a recommendation to the Communities and Local Government department to demand that all cabling is fitted in either fire resistant metal trunking or fixed with fire rated clips. Although this is not yet demanded by law, it would be best practice to upgrade plastic trunking to make it fire resisting. Also, redundant cabling should be removed as this will also become an escape hazard during a fire.

Ringley Limited Chartered Surveyors have specialists who can advise on upgrading elements of your building to make it more compliant in terms of fire safety. If you would like more information, please call **0207 428 1970** or email survey@ringley.co.uk

Storeys	6+ Storeys	5/6 Storeys	3/4 Storeys	1/2 Storeys
Risk	High Risk	Medium Risk	Low Risk	
Buildings				
Non Conforming Fire Doors	REPLACED	UPGRADE	UPGRADE	UPGRADE
Emergency Lighting if not present	HIGH PRIORITY	MEDIUM PRIORITY		LOW PRIORITY