

Health and Safety Executive	Operational Circular
Field Operations Directorate	OC 404/23
Review Date	26/03/2003
Open Government Status	Fully Open
Author Unit	
Version No & Date	2: 19/05/1999

To
 Factory Inspectors
 FCG Specialist Inspectors (Process Safety)
 Fire Surveyors
 Railway Inspectors

GENERAL FIRE PRECAUTIONS AT TEMPORARY ACCOMMODATION UNITS ON CONSTRUCTION SITES

The attached **information document (ID)** gives details of the standards of general fire precautions (GFPs) which should be adopted at certain temporary accommodation units (TAUs) located on construction sites. The ID may be copied and given to interested persons outside HSE.

BACKGROUND

1 The ID was prepared to give detailed guidance on the standards of GFPs (see **para 2 of the ID**) which are required at certain TAUs on construction sites. The document draws heavily on existing guidance produced by the Home Office and on information contained within various British Standards.

LEGAL POSITION

2 A fire certificate is required for TAUs on construction sites unless all of the conditions listed in Part II of Schedule 1 to the Fire Certificates (Special Premises) Regulations (FC (SP) Regulations) 1976 are satisfied. HSE is the enforcing authority for these Regulations. However, the FC(SP) Regulations do not apply to the buildings under construction or refurbishment, but only to the temporary office, workshop units etc.

3 Where a fire certificate is not required, then it will normally fall to HSE to ensure that satisfactory standards of GFPs are provided at the TAUs under the general requirements of HSW Act (see **OC 401/4**). However, where the TAUs are sited within a designatable building (see **OC 217/2 (Rev)**) during refurbishment work or where TAUs are provided as sleeping accommodation, then the Fire Precautions Act 1971 may apply.

ACTION BY INSPECTORS

4 The advice in the ID only applies to certain TAUs which may be found on construction sites (see **para 3 of the ID**). In these cases inspectors should provide copies of the ID to those responsible for the GFPs within the TAUs and should use the ID as the basis for any enforcement action under either the FC(SP) Regulations or HSW Act, as appropriate. Where a fire certificate is required under the FC(SP) Regulations, then the issue of such a

certificate for the TAUs should be accorded a low priority.

5 Where the ID does not apply and there is uncertainty about the required standards of GFPs **within** the TAUs or where enforcement action is being considered, then inspectors should seek advice from the local FCG (or HQ RI 3 for railway inspectors).

FURTHER ADVICE

6 Further information will be circulated to inspectors on GFPs at construction sites when discussions have been concluded between HSE and the Home Office regarding the implementing arrangements for the fire provisions listed in Annex IV of the Temporary or Mobile Construction Sites Directive. In the meantime any difficulties should be referred to FOD C1 (Fire and Explosion) (HQ RI 3 for railway inspectors).

ANNOTATION AND CANCELLATION OF INSTRUCTIONS

7 FOD Code IN Fa 28 - **note**: "See OC 404/23".

8 NIGM 06/1992/12 - **cancel** and **destroy**.

26 March 1993
(FOD/382/1993)
Disc No:FODA1.EDT/j127/19.02.93/DM/DH

ASI headings

Construction: Fire Certificates (Special Premises) Regulations 1976.

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Health and Safety Executive

Information Document
HSE 404/23

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INTRODUCTION

1 This document contains internal guidance which has been made available to the public. The information may not be applicable in all circumstances and any queries should be directed to the appropriate enforcing authority.

2 This document gives advice on the standard of general fire precautions (GFPs) required at transportable temporary accommodation units (TAUs) on construction sites, though such units are more commonly referred to as "construction site huts". The purpose of GFPs is to enable persons to safely evacuate the accommodation by their own unaided efforts in the event of fire. GFPs cover measures such as:

- (1) the means of escape in case of fire;
- (2) the means of securing the means of escape, including fire-fighting arrangements;
- (3) the means for giving warning in case of fire; and
- (4) the management of measures (1)-(3) above, including staff training, fire drills and testing/maintenance of fire-fighting equipment and fire alarms.

3 TAUs can be sited as single units or be linked and/or stacked in a large variety of configurations, as well as being located within the structure under construction or refurbishment. The GFPs required will clearly be dictated by the specific assembly and location of the TAUs. The advice in this document only applies to the following assemblies of TAUs **located outside the structure under construction or refurbishment**:

- (1) up to 3 TAUs stacked vertically; and
- (2) up to 4 TAUs linked horizontally.

For other TAU assemblies, where a fire certificate under the Fire Certificates (Special Premises) Regulations 1976 is required ([see para 6](#)) then further advice may be obtained from the local office of the Health and Safety Executive (HSE). Otherwise, further advice may be sought from the local fire authority.

4 It is not the intention of this document to preclude the use of any other guidance which details equivalent, or perhaps higher standards of GFPs, for example British Standard (BS)

5588: Part 3. In addition, it does not consider the specific precautions required for disabled persons; guidance on this subject is contained in BS 5588: Part 8.

5 Use is made of relevant British Standards to indicate compliance with particular requirements for the building structure or furniture and fittings. These British Standards essentially comprise a detailed technical specification of test methods and it is not expected that these documents will need to be consulted.

LEGAL REQUIREMENTS

6 A fire certificate is required for certain TAUs where the Fire Certificates (Special Premises) Regulations 1976 apply. Application for such a certificate should be made to the local area office of HSE giving the details specified in Schedule 2 of the Regulations. Fire certificates are not required in the circumstances described in Part II of Schedule 1 of the Regulations provided that **each condition in Part II is satisfied**. However, even though these premises are exempt from the requirement to have a fire certificate, the provision and maintenance of adequate GFPs will still be required. The enforcing authority for all such matters is normally HSE.

MEANS OF ESCAPE

7 Means of escape are structural means whereby safe route(s) are provided for persons to travel from any point in a TAU to a place of safety. Their adequacy depends on 2 interrelated elements:

- (1) the travel distance (which determines the position and number of exits and stairs); and
- (2) the occupancy level (which determines the width of escape routes, including doors and doorways).

8 The basic principle is that escape routes should be so planned that any person confronted by an outbreak of fire can turn away from it and proceed in the opposite direction to a place of safety. Wherever possible, alternative means of escape should be provided to enable escape in significantly different directions. Where dead-end situations cannot be avoided, (ie escape is possible in one direction only), the travel distance is necessarily more restricted than when alternative escape routes are available.

Escape route dimensions

9 The unitary construction of the TAU should ensure that corridors, doors etc are of adequate dimensions for the expected limited occupancy of the TAUs covered by this document. The following dimensions are acceptable for up to 10 persons:

Clear width of door:	750mm
Height of door:	1.960m
Width of corridor:	1.100m
Height of corridor:	2.000m
Width of stair:	1.100m
Clear height vertically above stair:	2.000m
plus horizontal clearance from stair:	1.500m

Doors

10 Doors should be hung to open in the direction of escape. However, this is not required for doors on individual offices or where the door is the final exit from the TAU and the number of occupants expected to use this door does not exceed 10.

11 Final exit doors which open outwards should open over a level landing which extends 1.1m from the door's threshold.

12 All doors used as means of escape from a TAU should always be kept unlocked when the building is occupied. Where security is required, eg for a final exit door, the door should be provided with a single fastening that allows it to be opened from the escape side without the use of a key. Panic bolts and panic latches complying with BS 5725: Part 1 are an acceptable form of fastening.

13 Half-hour fire-resisting doors should be fitted with self-closing devices to ensure the positive latching of the door. Rising butt hinges are not acceptable. The doors must not be fitted with any device to hold them open, eg hook etc, unless it is an electro-magnetic automatic release mechanism complying with BS 5839: Part 3.

Horizontal escape

14 Ideally, alternative escape routes should be provided from any storey. They should be of such a number and so situated that the travel distance from any point on any storey of the TAU to the **nearest** storey exit (which might also be the final exit) does not exceed 45m. However, the distance to the other exits can exceed 45m.

15 Different exits are considered to provide acceptable alternative escape routes if the angle formed by lines joining the exits to the furthest point on the floor exceeds 45° . To ensure that the escape routes continue to diverge to their respective exits, or until they become separated by a fire-resisting partition, the angles between them should increase by at least 2.5° for each metre travelled towards the exits from the furthest point. For example, on travelling 10m the angle should not be less than 70° (ie $45^{\circ}+25^{\circ}$). [Diagrams 1 and 2](#) respectively show acceptable and unacceptable alternative exits.

16 Where there is only one exit, or the exits are unacceptable as alternatives, the maximum travel distance to the exit should be 18m ([see Diagram 3](#)).

17 If part of the escape route is initially in one direction only, then the means of escape will be acceptable if:

- (1) the point at which alternative routes to different exits is reached is within 18m;
- (2) at this point the angle between the 2 exits is not less than 45° plus 2.5° for each metre of the distance travelled to reach that point; and
- (3) the **total** travel distance to the nearest exit does not exceed 45m.

For example, in [Diagram 4](#) for adequate means of escape from position A, the angle BCD needs to be at least 75° (ie $45^{\circ}+30^{\circ}$); thus the means of escape with B at position 1 is acceptable, but at position 2 it is not.

18 Where an inner room is located in a larger room (access room) and the only way out is through the access room ([see Diagram 5](#)), the means of escape from the inner room should not be jeopardised by an outbreak of fire in the access room. Consequently:

(1) the partition between these 2 rooms should either be incomplete (ie not carried up to ceiling height) or a vision panel (at least 0.1m²) should be inserted in the door or partition;

(2) the access room should be an area of similar or lower fire risk to that of the inner room (ie it is not acceptable for the inner room to be an office and the access room to be a store for combustible or flammable materials);

(3) both rooms should be under the control of the same occupier; and

(4) where the route is the sole means of escape, it should not pass through more than one other room before reaching a final exit, storey exit or corridor; ie escape from an inner-inner room through an inner room and then an access room is not acceptable.

19 Larger TAU complexes may typically be subdivided into rooms with corridor access. Where a corridor provides alternative means of escape routes from a storey, then both routes should not immediately become impassable in the event of fire. Therefore, any corridor which is more than 45m long, and which connects to alternative storey exits, should be subdivided (typically midway along its length) by a fire door so that no length of undivided corridor is common to the alternative exits. Any doors to a room which would allow smoke to bypass the corridor division should be provided with self-closing devices complying with BS 6459 ([see Diagram 6](#)). The corridor should also be substantially enclosed, ie it should not open into a large space where there is no door or completing partition ([see Diagram 7](#)).

20 Dead-end corridors ([see Diagram 8](#)) should be of fire-resisting construction, including the doors to the individual rooms. (However, the exit door from the storey need not be a fire door unless it is required to protect a vertical escape route - see para 24.) Where the dead-end corridor discharges into a corridor which permits escape in alternative directions, then fire doors should be fitted across this corridor.

21 Recesses on corridors, with rooms leading from these, are not considered to be dead-end corridors provided they are not more than 2m deep.

22 Where corridors are part of the means of escape, they should not be used for the storage or location of equipment or articles etc, which may cause obstruction, or in themselves constitute a fire hazard. Such equipment (eg a photocopier) or articles should be located in room(s) separate from the corridor.

Vertical escape

23 Alternative escape stairways should be provided where reasonably practicable. The use of manipulative devices, such as portable and throw-out ladders as an alternative means of escape, is not acceptable. However, in certain circumstances a single escape stairway can be considered to be sufficient.

24 A single internal stairway is acceptable if the travel distance does not exceed 18m to the final exit and the stairway is separated from the lower floor area(s) by a partition of fire-resisting construction ([see Diagram 9](#)); or the travel distance does not exceed 18m to the

storey exit provided this gives direct access to a protected route via a fire door ([see Diagram 10](#)).

25 A single external stairway is acceptable provided that the travel distance does not exceed 18m to the storey exit and that part of the TAU adjacent to the stairway is of fire-resisting construction. This protection should extend 1.8m horizontally from the stairway and vertically to ground level ([see Diagram 11](#)). Any storey exit door below the top floor within this defined area should be a fire door. Also, any windows within this area should be fitted with half-hour fire-resisting glazing in frames which cannot be opened.

26 However, for 2-storey TAUs the wall adjacent to the external stairway need not be of fire-resisting construction provided that:

- (1) the travel distance does not exceed 18m from any part of the top storey to the bottom of the stairway;
- (2) the stairway discharges at ground level in the open air in a place of safety;
- (3) the bottom storey is only used as an office;
- (4) the stairway does not serve more than one 2-storey TAU configuration; and
- (5) where practicable, the bottom TAU is so orientated that a blank wall, containing no window or door, is adjacent to the stairway.

27 Where the escape route is via a dead-end corridor it should discharge to a protected route or external stairway. Up to 2 dead-end corridors can discharge to a single stairway if each corridor is fitted with a fire door to form a lobby at the top of the stairway.

28 Where 2 or more stairways are required, these permit an increase in the travel distance to 45m to either:

- (1) a final exit ([see Diagram 12](#)), provided that the stairways are separated from the lower floor areas by partitions of fire-resisting construction; or
- (2) a storey exit giving direct access to a protected route ([see Diagram 13](#)); or
- (3) a storey exit giving access to an external stairway as described in para 25 above.

29 If the stairway has to be vertically separated from the remainder of the TAU complex by fire-resisting construction, then the individual storeys of the TAU should also be horizontally segregated from one another by fire-resisting construction. However, this requirement is waived where the travel distance to a final exit does not exceed 18m.

30 Each stairway should be provided with at least one handrail and, as necessary, a balustrade.

31 To minimise the risk from the fire load, flammable and combustible materials - such as compressed gas cylinders, paints, thinners, fuels and polymeric foam blocks - should not be stored or used in workshops within multi-storey TAU configurations.

Surface linings

32 All wall and ceiling linings used within protected routes, dead-end corridors and stairways enclosed by a partition of fire-resisting construction, should have a surface spread of flame classification to at least Class "1", in accordance with BS 476.

33 A wide range of proprietary panels is available and although panels can have apparently similar decorative finishes, their flame spread classifications may be different. Apart from common panelling materials such as plasterboard (which has an acceptable flame spread rating), visual assessment alone is insufficient to determine the surface spread of flame classification. Therefore, where compartmentation is installed on site, details of the panel's flame spread classification should be obtained from the manufacturer/supplier. Where compartmentation has been installed by the TAU supplier, it should be verified that the panelling meets, as a minimum, the required Class 1 standard.

FIRE SAFETY SIGNS

34 Any exit forming part of the means of escape which is not a normal route of travel from a TAU should be indicated by a notice bearing the words "FIRE EXIT" or "EMERGENCY EXIT", which should be displayed immediately above the exit opening.

35 Where an exit cannot be seen or where a person might be in doubt as to its location, "FIRE EXIT" notices with a directional arrow should be provided at suitable locations along an escape route.

36 All fire safety signs should conform to BS 5499: Part 1.

37 All fire doors fitted with an emergency fastening should be provided with a notice indicating the method of operating the emergency fastening, eg "PUSH BAR TO OPEN".

38 Notices, with the words "FIRE DOOR - KEEP SHUT", should be permanently displayed at nominal eye level on both faces of all fire doors. However, doors provided with an automatic release facility ([see para 13](#)), should be provided with a notice "AUTOMATIC FIRE DOOR - KEEP CLEAR".

39 Any final exit door which could be obstructed should be provided with a permanent notice "FIRE ESCAPE - KEEP CLEAR" at nominal eye level on the external face of the door.

ESCAPE LIGHTING

40 Escape lighting should be installed in TAUs used outside normal daylight hours (typically 0800-1800 hrs) where there is no adventitious (spill) illumination from lighting on a separate power source, eg street lighting, or where the TAU contains corridors and stairways which are windowless.

41 The escape lighting and its installation should conform to BS 5266: Part 1 and should be arranged to automatically illuminate stairways, all exits and direction exit signs in the event of failure of the normal lighting.

MEANS FOR GIVING WARNING IN CASE OF FIRE

42 Adequate means should be provided to give warning in the case of fire. For TAU configurations in which:

- (1) more than 20 persons are present at any one time; or
- (2) more than 10 persons are present at any one time elsewhere than on the ground floor; or
- (3) the TAU complex comprises 3 storeys or more than 5 rooms

then an electrical break-glass fire alarm system should be installed.

The alarm system should, as a minimum, satisfy the requirement for a Type M System (BS 5839) and it should be installed in accordance with this standard. Break-glass call points should be sited on the major escape routes from each storey, eg storey exits and final exits. Sufficient fire alarm sounders, which should be audible throughout the TAU complex, should be installed.

43 Where the occupancy level and TAU configuration are below the criteria required for an electrical fire alarm system, a manually-operated device with a distinctive sound, (eg a hand-operated gong or bell), may be acceptable provided it is audible throughout the complex. However, an electrically-operated self-contained fire alarm unit, which incorporates both the actuation switch and sounder, is to be preferred.

44 For individual and pairs of non-compartmented TAUs, whether horizontally linked or vertically stacked, then it will be sufficient for "word of mouth" to give warning in case of fire, provided that it is audible above the ambient noise levels.

FIRE-FIGHTING EQUIPMENT

45 All TAUs should be provided with means of fighting fire for use by occupants of the TAU.

46 Types of fire are classified in accordance with BS 4547 as follows:

- Class A fires - fires involving ordinary combustible materials such as wood, cloth, p
- Class B fires - fires involving flammable liquids (petrol, paraffin,oils) or flammable liquefiable solids (paints, greases and fats);
- Class C fires - fires involving gases; and
- Class D fires - fires involving burning metals.

Fire extinguishers are available for tackling each of these fire types.

47 The most typical fire risk in TAUs used for office accommodation is that of a Class A fire. The appropriate extinguisher for this is water, or water-based, ie foam, which can be fluoroprotein foam (FP), aqueous film forming foam (AFFF) or film forming fluoroprotein foam (FFFP). For TAUs used as offices a minimum of one 9-litre extinguisher should be provided for every 200m of floor area, with not less than 2, conspicuously located, extinguishers per storey. Alternatively, the fire extinguishers can be provided in accordance with BS 5306: Part 3.

48 Where large pieces of electrical equipment, eg computers, photocopiers etc are in use within the TAUs, a carbon dioxide extinguisher (of at least 1.5kg capacity) should be provided. For small non-compartmented TAUs, a carbon dioxide extinguisher may be used in place of one of the water type extinguishers referred to in para 47.

49 TAUs used as workshops or as stores for flammable liquids and polymeric materials should be separate from any office accommodation and be provided with at least 2, conspicuously located, 10kg dry powder fire extinguishers per room. Alternatively, extinguishers can be provided in accordance with BS 5306: Part 3.

50 Within kitchens and canteen areas where cooking oil is used, fire blankets to BS 6575 should be installed and should be a minimum size of 0.9m by 0.9m.

51 All extinguishers should conform to BS 5423: Portable fire extinguishers or be BAFA approved (British Approvals for Fire Equipment).

GENERAL CONDITIONS

Fire instruction notices

52 Printed notices should be displayed at conspicuous positions throughout the TAU and adjacent to fire alarm call points (if provided) stating, in concise terms, the essentials of the action to be taken upon discovering a fire and (if fitted) on hearing the alarm.

53 The notice should be permanently fixed in position and suitably protected to prevent loss or defacement.

Example Fire Instruction Notice

If you discover a fire	
(a)	Operate the fire alarm immediately
(b)	Attack the fire if possible with the equipment provided, but do not take any personal risks. Leave immediately if the fire cannot be brought quickly under control.
On hearing the alarm	
	Leave the building and proceed to the assembly point at:
USE THE NEAREST AVAILABLE EXIT	
DO NOT STOP TO COLLECT PERSONAL BELONGINGS	
DO NOT RE-ENTER THE BUILDING	

54 An assembly area, in a place of safety at ground level, should be specified, at which persons can be accounted for by the nominated responsible person.

Staff training and fire drills

55 A senior staff member, who has been adequately trained, should be nominated as the fire safety officer and should be responsible for staff training and evacuation procedures.

56 All staff occupying the TAUs should understand the fire precautions and the action to be taken in the event of a fire as detailed in the "Fire Instruction Notice". Instruction and, where relevant, practice on these matters should be given by the fire safety officer (or his/her trained deputy) as soon as possible after the construction project commences, when new staff join, or following alteration to the TAU configuration. This should be repeated thereafter at least annually. Additionally, the date of the instruction, what it involved, to

whom given and by whom, should be recorded.

Testing and maintenance of fire equipment

57 A record should be kept of the testing and maintenance of fire equipment. All equipment should be tested at the commencement of the construction project. Thereafter the maintenance check or test should be carried out at the following intervals:

Fire extinguishers -	at least annually, but preferably every 3 months;
Fire alarm -	preferably weekly, but at least once in 3 months;
Emergency lighting -	at least once in every 3 months (unless a maintained system is in use).

FURTHER INFORMATION

58 Additional advice may be obtained from either HSE or the local fire authority ([see para 3](#)). Further information on some of the legal requirements is found in the leaflet entitled *The Fire Certificates (Special Premises) Regulations: 20 Questions* and in the booklet entitled *Guidance on general fire precautions at premises subject to the Fire Certificates (Special Premises) Regulations 1976*. Both of these documents are available from local offices of the HSE, which are listed in the telephone directory.

GLOSSARY

ACCESS ROOM	means a room forming the only escape route from an INNER ROOM.
ESCAPE LIGHTING	means lighting provided for use when the supply to the normal lighting fails to ensure that the means of escape can be safely and effectively used at all material times.
FINAL EXIT	means the termination of an escape route from a building giving either direct access, or via an external stairway, to a place of safety in the open air at ground level, from which persons can freely disperse from any fire.
FIRE DOOR	means a door assembly, including its frame, which has a fire-resisting construction of at least 30 minutes and when used for the termination or division of a corridor includes the completing partition, which is to be carried through any suspended ceiling to the outer skin of the TAU and also has a fire-resisting construction of 30 minutes.
FIRE RESISTING	means the ability of an element of construction of a TAU construction (ie wall, ceiling/floor or door) to resist fire for not less than 30 minutes, if tested in accordance with the relevant part of BS 476.
INNER ROOM	means a room from which escape is possible only by passing through an ACCESS ROOM.
PROTECTED ROUTE	means a route leading to a FINAL EXIT which is separated from the remainder of the TAU by walls and, as appropriate, intermediate floor/roof of fire-resisting construction. Any door in these partition walls requires to be a fire door. No storage or

accommodation is permitted in the protected route other than sanitary accommodation or washrooms, provided they are not used as cloakrooms and contain no gas-fired appliances, other than the room-sealed type, water heater or sanitary incinerator. Any cupboards in a protected route should be enclosed by fire-resisting construction.

TRAVEL DISTANCE

means the actual distance that a person must travel from any point in a TAU to a PROTECTED ROUTE or FINAL EXIT.

Diagrams 1, 2, 3

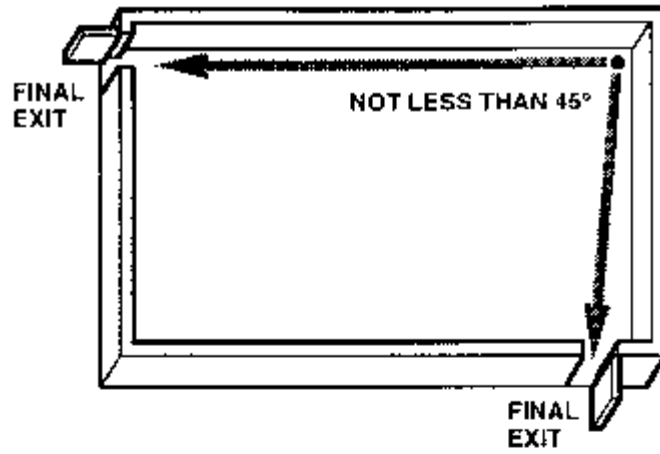


Diagram 1 - Acceptable alternative exits

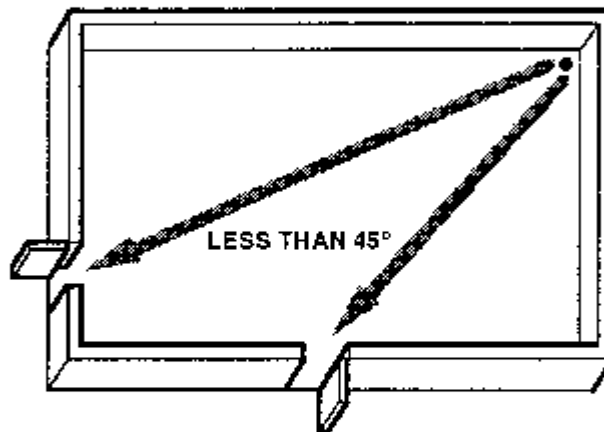


Diagram 2 - Unacceptable alternative exits

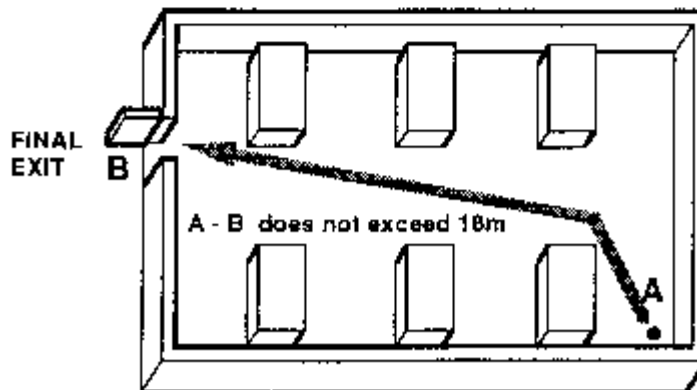


Diagram 3 - Maximum travel distance

Diagrams 4, 5, 6, 7, 8, 9

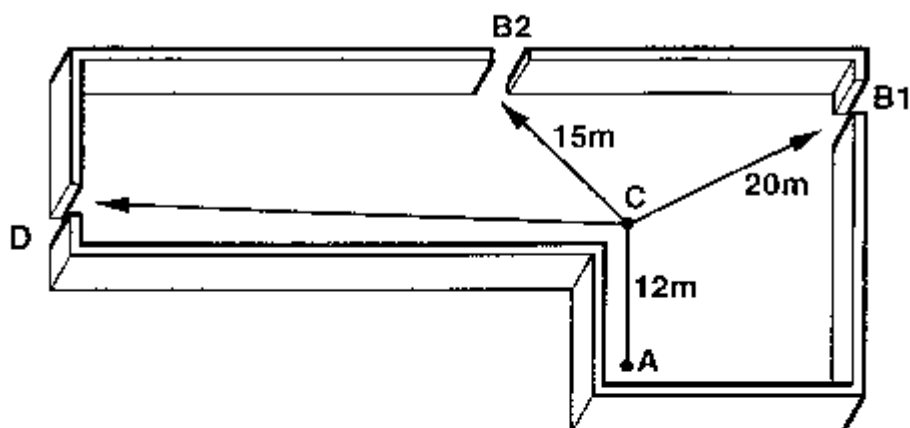


Diagram 4 - Escape from initial dead end position

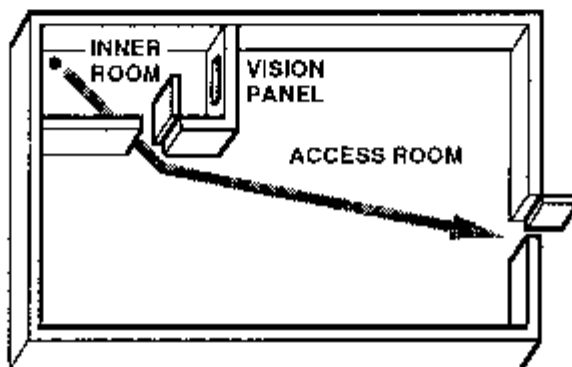


Diagram 5 - Inner Room and Access Room

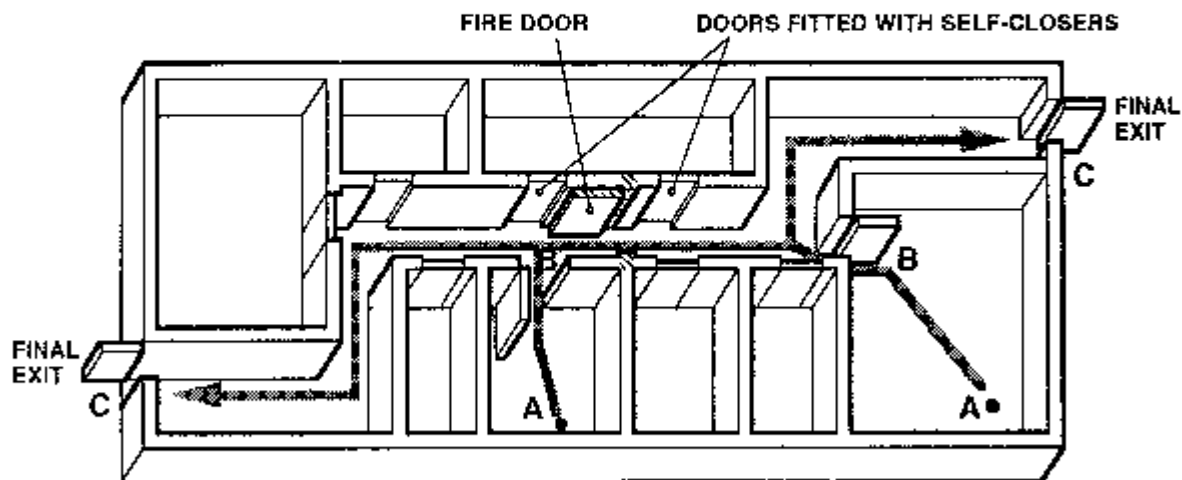


Diagram 6 - Maximum distance of travel in rooms and corridors and a sub-division of corridor with fire door

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Diagrams 10, 11

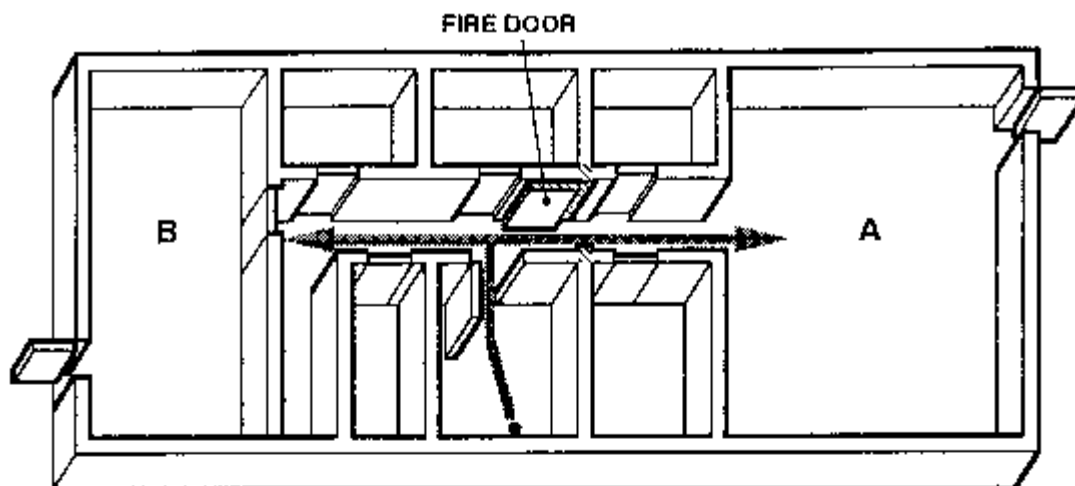


Diagram 7 - Corridor / Room separation
(a) Corridor to Room A is unacceptable
(b) Corridor to Room B is acceptable

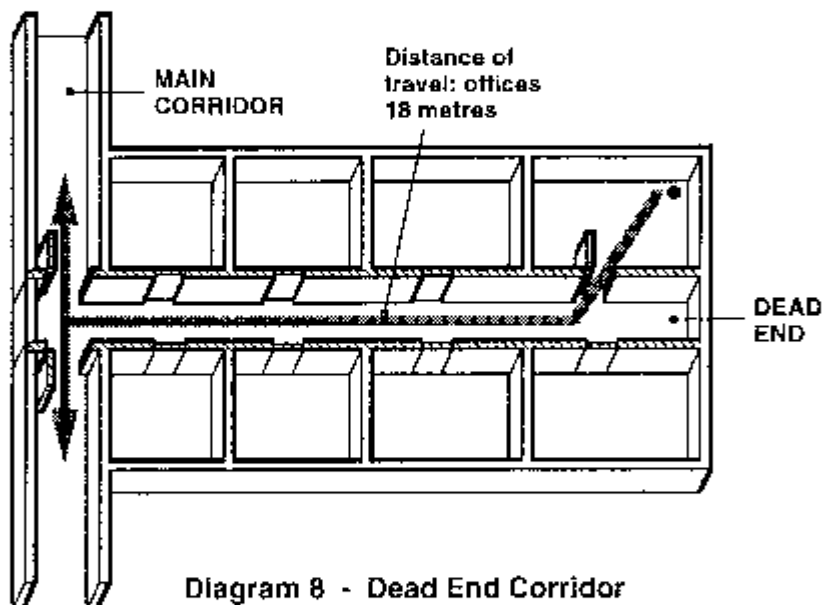


Diagram 8 - Dead End Corridor

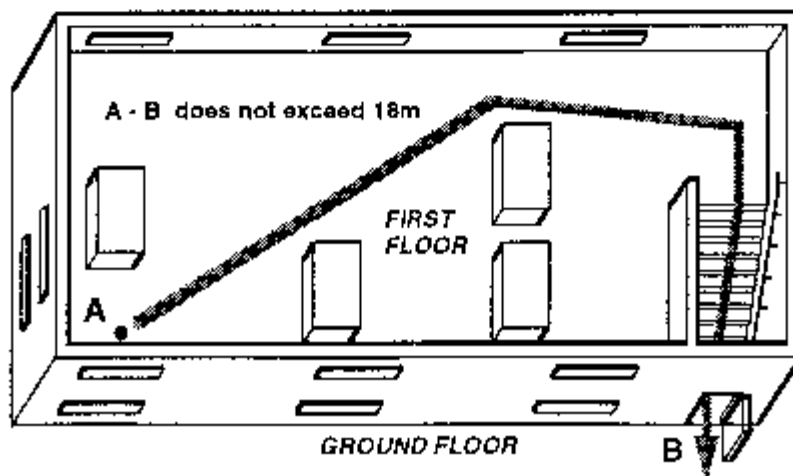


Diagram 9 - Maximum distance of travel - single stairway

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Diagram 10,11

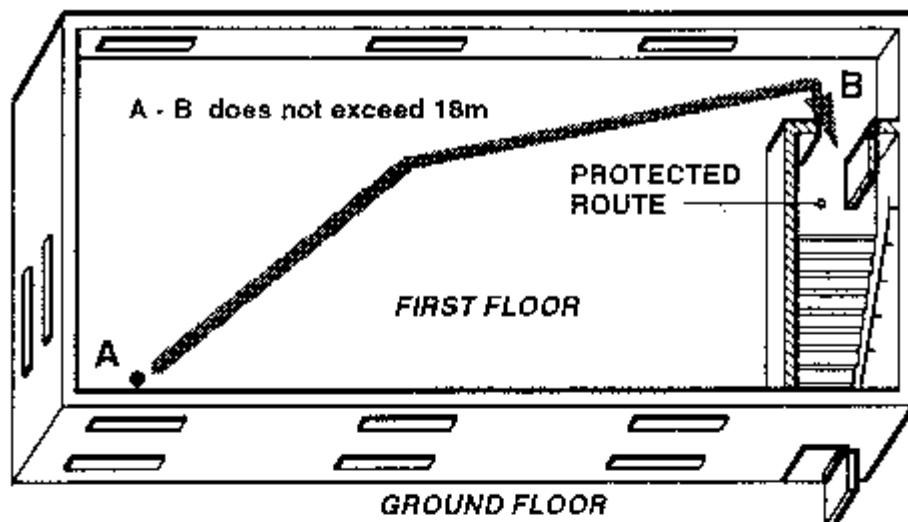


Diagram 10 - Maximum distance of travel to protected route

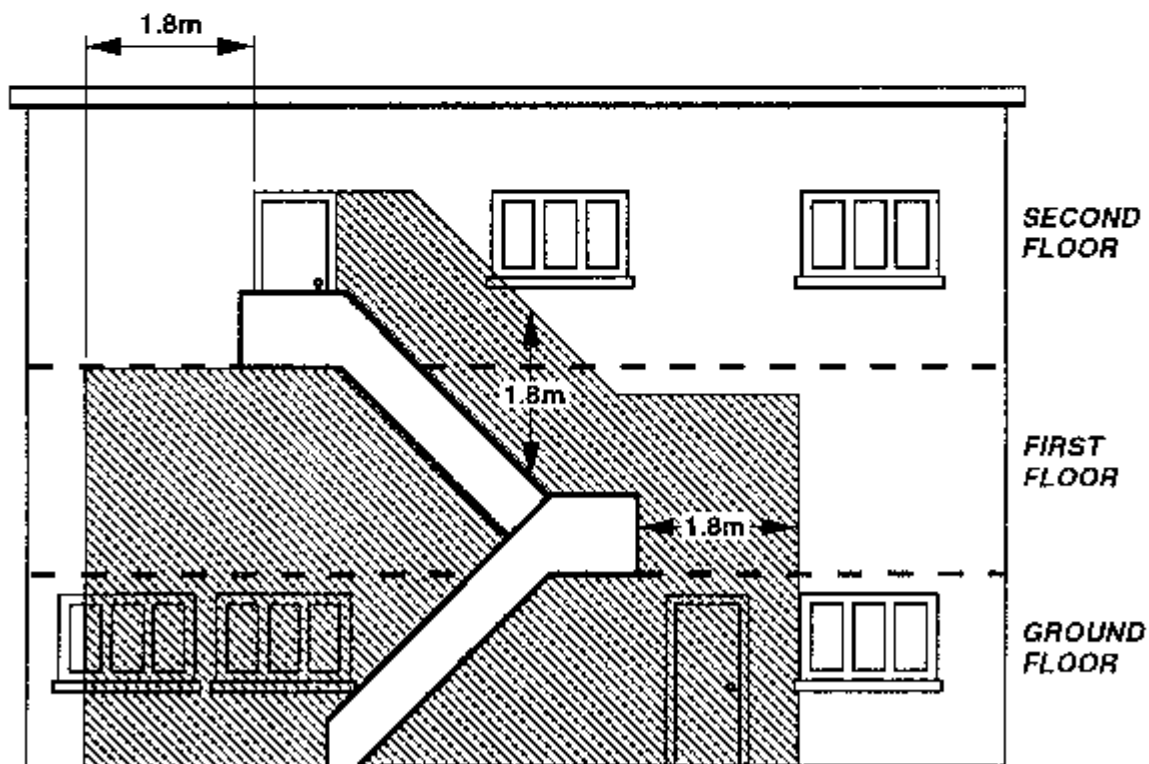


Diagram 11 - Defined zone for fire resisting construction, including doors and windows

Diagram 12, 13

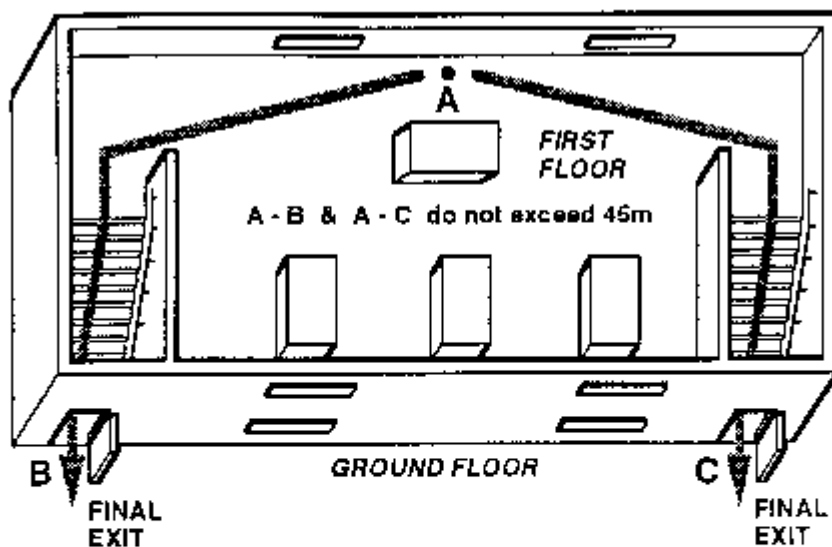


Diagram 12 - Maximum distance of travel - more than one stairway

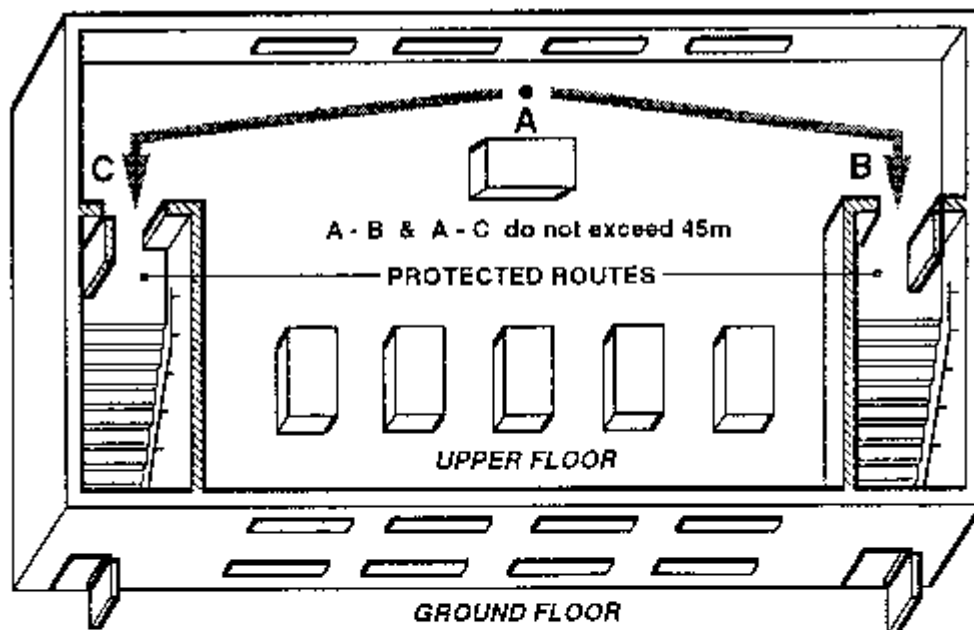


Diagram 13 - Maximum distance of travel to stairways that are protected routes



Indicates fire resisting structure, fire doors and fire resisting glazed windows

