

Building Control Guidance Note	Subject	APPROVED DOCUMENT B (FIRE SAFETY) – VOLUME 1 Dwelling houses (2006 Edition) – MAIN CHANGES.						14A
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A new updated version of Approved Document B comes into force from the 6th April 2007 - this revised guidance is split into two separate documents:-

Volume 1 – Dwelling Houses and Volume 2 – Buildings other than Dwelling Houses

Transitional Provisions.

Applications for any new building work that are made on or after 6th April 2007 will be required to follow the new guidance.

This Guidance Note covers the main changes to Volume 1 – Dwelling Houses, which also covers loft conversions, extensions and Changes of Use to dwellings.

Very large dwellings (over 18 m in height) or unusual dwelling houses may have to refer to guidance in Volume 2 – Buildings other than Dwelling Houses.

Rather than go through every provision of the new guidance, the main changes will be identified and guidance provided.

Reference should be made to the full versions of the documents, which can be downloaded from Tameside Web Page - <http://www.tameside.gov.uk/tmbc8/guidancenotes.htm>

Flats are not included in this guide – these are covered in Volume 2.

Houses in Multiple Occupation.

This guidance may be applicable to the design and construction of dwellings considered to be ‘Houses in Multiple Occupation (HMO’s)’ as defined in the Housing Act 2004, providing there are not more than six residents in any self-contained dwelling.

For further advice regarding the licensing provisions for HMO’s contact Tameside MBC Housing Standards.

Be aware HMO’s Standards could require additional precautions over and beyond this guidance.

Technical guidance on the assessment of hazards from fire and preventative measures for HMO’s is contained in Housing Health and Safety Rating System Operating Guidance.

Residential Sprinklers.

Residential sprinkler systems are now more readily available on the market and where correctly installed and fitted throughout the dwelling can significantly reduce the degree of damage caused by fire.

Sprinkler protection can also sometimes be used as a compensatory feature where the provisions of this Approved Document are varied in some way.

Sprinklers should be designed and installed in accordance with BS9251:2005 ‘Sprinklers for Residential and Domestic Occupancies’.

Sheltered Housing.

Where a Sheltered Housing Scheme consists of individual houses, then each unit may be designed accordance with Volume 1. Any communal facilities that are provided in the scheme should be designed accordance with Approved Document Volume 2 (Buildings other than Dwelling Houses).

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Registered Group Homes.

Depending on the nature of the occupants and their management needs, it may be acceptable to treat an 'Unsupervised' group home with up to six residents as an ordinary dwelling house. However, because such places have to be registered, the registration authority should be consulted to establish whether there are any additional fire safety measures that the authority will require.

Where an existing house of one or two storey is to be put to be used as an unsupervised group house for not more than six Mental Health Service Users it should be registered as Purpose Group 1 (c) 'Other Residential Building' and should be designed in accordance with HTM 88: Guide to Fire Precautions in NHS Housing in the Community for Mentally Handicapped (or Mentally ill) People. Where it is a new build it should be regarded as being in Purpose Group 2 (b) Institutional.

Adult Placements.

Where a dwelling house is to be used for purposes of an Adult Placement Scheme and fulfils the criteria of the Adult Placement Schemes Regulations and no building work is proposed, the guidance in the Joint Code of Practice published by the National Association of Adult Placement Services (www.naaps.co.uk) should be sufficient to satisfy Part B of a Material Change of Use has taken place.

B1 – Means of Warning and Escape.

Security.

The need for easy and rapid evacuation of a building in case of fire may conflict with the control of entry and exit in the intervention of security. Measures intended to prevent unauthorised access can also hinder entry of the fire and rescue services to rescue trapped people.

This guidance does not intend for the type of locks used on windows and entrance doors to dwelling houses to be controlled under the Building Regulations.

GENERAL PROVISIONS.

FIRE DETECTION AND FIRE ALARM SYSTEMS *(Minor changes highlighted in red)*

In most cases the installation of smoke detectors in dwellings can significantly increase the occupants safety by giving early warning of a fire outbreak.

Building Regulations require the installation of automatic smoke detectors to new dwellings, *dwellings created by 'Material Alterations' where habitable rooms are provided* and loft conversions.

Requirements:

- All dwellings to be fitted with a fire detection and fire alarm system in accordance with BS5839-6: 2004 – Grade D - category LD3 standard.*
- System to be mains operated in accordance with BS EN 14604: 2005 or BS5446-2: 2003
AND must be battery backed up (either rechargeable or non-rechargeable).*
- Where there is more than one smoke detector required (see positioning requirements below), they should be interlinked together, so that all sound the warning should one of the detectors operate.

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Types of detectors.

1. Ionization chamber detectors
2. Optical detectors – less affected by low levels of invisible particles, such as kitchen fumes and are not as prone to false alarming where adjacent to such areas.

Installation and power supplies.

- *Smoke detectors to be mains powered to a single independent circuit on the dwellings mains consumer unit or a single regularly used local lighting circuit.*
- *Provide a means of isolating power to the smoke alarms without isolating the lighting.*
- Electrical installations should comply with Approved Document P (Electrical Safety).
- *There is no need for special fireproof wiring – traditional power cabling can be used for powering and interlinking the alarm units (except to large houses where BS5839-6: 2004 specifies fire resisting cabling should be used for Grade A and B systems).*
- *Any conductors used for interconnecting alarms (signalling) should be readily distinguishable from the supplying mains power, e.g. colour coding.*
- *Mains powered detectors may be interconnected using radio links provided they do not reduce the lifetime or standby power duration below 72 hours. In this case, the smoke alarms may be connected to separate power circuits.*

Positioning of smoke and heat detectors / alarms.

Detailed guidance is given in BS5839-6: 2004, but typical positions should follow the guidance below:

- Position in circulation areas on every floor of the dwelling - positioned between the sleeping spaces and places where a fire is likely to start e.g. living room / kitchen and yet be close enough to the bedroom doors to effectively wake sleeping occupants.
- Smoke detectors should be positioned so that there is one within 7.5m of every habitable room door and a minimum of 1 smoke detector in every storey of the dwelling.
- If your kitchen is not separated from the stairways or circulation routes by a suitable door, then you must also install a compatible heat detector in the kitchen, interlinked with the other smoke detectors positioned as above in the circulation routes.
- All heat and smoke detectors are to be interlinked so all operate an alarm if one is triggered.
- Smoke detectors should preferably be fitted to the ceiling in a central position and at least 300mm from any wall or light fitting. Check the manufacturers instructions carefully when deciding where to position them – particularly if you are going to mount them on the wall. Wall mounted detectors should generally be fixed between 150mm and 300mm below the ceiling.
- Smoke detectors should not be fixed directly above heaters, air conditioning units, ducted heat outlets, or in bathrooms, showers, cooking areas or garages, where steam, condensation or fumes could cause false alarms to occur.
- Do not fit very hot or very cold areas e.g. boiler rooms or unheated porches, where air currents may move smoke away from the detector before it activates.
- Always position your detectors so that they can easily be maintained, cleaned and tested – so don't position them over stairs etc.

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Maintenance.

Always maintain, clean and test your smoke detectors regularly as directed by the manufacturers instructions.

LARGE HOUSES (i.e. more than 1 storey and any storey exceeds 200m²)

- a) *Large dwellings of 2 storeys (excluding basements) to have fire detection / alarm system of Grade B - Category LD3 (BS 5839-6: 2004)*
- b) *Large dwellings of 3 or more storeys (excluding basements) to have fire detection / alarm system of Grade A - Category LD2 (BS 5839-6: 2004) with detectors sited in accordance with the recommendations of BS5839-1:2002 for Category L2 system.*

MATERIAL ALTERATIONS.

Where a material alteration provides rooms above ground floor level or where they are provided to ground floor level and there is no final exit from the new room, a fire detection /fire alarm system should be installed.

Smoke detectors are required to be provided in circulation spaces as for new dwelling houses.

SHELTERED HOUSING

The detection equipment in sheltered housing schemes with a warden or supervisor are to be connected to a central monitoring point, so that persons in charge can identify the dwelling of concern where the alarm has operated.

Communal areas / common parts of such schemes refer to guidance in Volume 2 Approved Document B for the types of fire alarm and detection required.

GENERAL PROVISIONS

EMERGENCY EGRESS WINDOWS AND EXTERNAL DOORS.

Achieving the requirement.

The window should have an unobstructed clear openable area that is at least 0.33m² and have no clear dimension less than 450mm high and 450mm wide (the route through the window may be at an angle rather than straight through), appropriate escape catches and hinges must be fitted to ensure this clear opening is achieved.

Bottom of the openable area is to be a minimum of 800mm and not more than 1100mm above the finished floor level. *NOTE: for roof windows the minimum height to the openable area is 600mm.*

Locks (with or without removable keys) and stays may be fitted to egress windows, subject to the stay being fitted with a release catch, which may be child resistant.

Windows (particularly top opening casements and roof windows) must be designed to remain open without needing to be held by a person making their escape.

Windows should be accessible via a ladder and allow escape to a place of safety.

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REPLACEMENT WINDOWS.

Where windows are to be replaced the building shall not have a lesser level of means of escape compliance than it did before the windows were replaced e.g where a window is located such that a means of escape window is necessary and the window is of sufficient size that it could be used for the purposes of escape then:

The replacement window opening should be sized to provide at least the same potential for escape as the window it replaces.

Where the original window is larger than that required for means of escape, you could reduce the window opening size, but no less than the minimum provisions for escape windows.

Note: where windows are replaced you are required to provide suitable half hour cavity barriers (insulated is recommended) to the perimeter of the full opening if it is a cavity wall.

All habitable rooms to dwellings and extensions shall have first floor windows suitable for means of escape. This also applies to all ground storey habitable rooms, which do not connect to a hallway leading directly to an outside door.

INNER ROOMS.

Similar guidance though sleeping galleries has now been replaced with any form of gallery.

A room whose only escape route is through another room is at risk if a fire starts in that other room e.g. open plan layouts and galleries.

The only inner rooms permitted in dwellings escape windows cannot be used for floors over 4.5m above ground level to achieve means of escape compliance are:

- a. a kitchen;
- b. a laundry or utility room;
- c. a dressing room;
- d. a bathroom, wc, or shower room;
- e. any other room on a floor N.M.T 4.5m above ground level provided with compliant escape windows; or *e. galleries comply with the requirements below.*

For flats less than 4.5m above ground level – if a compliant escape window is provided to the inner room and is accessible via a ladder then this is acceptable.

Note: a room accessed only via an inner room (an inner inner room) may be acceptable if it complies with the above, not more than one door separates the room from an interlinked smoke alarm and none of the access rooms are a kitchen.

DWELLINGS WITH GALLERIES.

A gallery is defined as a raised area or platform around the sides or at the back of a room that provides extra space. You are required also to have at least 50% of the floor area in the lower room as an visible area.

The following applies to a gallery:

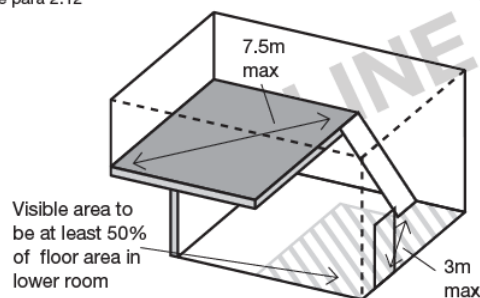
A gallery should be provided with an alternative means of escape or where the gallery floor is not more than 4.5m above ground level suitable compliant escape windows.

Alternatively comply with the following:

- a) Gallery must overlook at least 50% of the room below;
- b) The distance between the foot of the access stair to the gallery and either the flat entrance door or to the door to the room containing the gallery should not exceed 3 m;
- c) The distance from the head of the gallery access stair to any point on the gallery should not exceed 7.5m; and
- d) any cooking facilities within the room containing a gallery should either:
 - i) be enclosed with fire-resisting construction; or
 - ii) be remote from the stair to the gallery and positioned such that they do not prejudice the escape route from the gallery.

Diagram 5 Gallery floors with no alternative exit

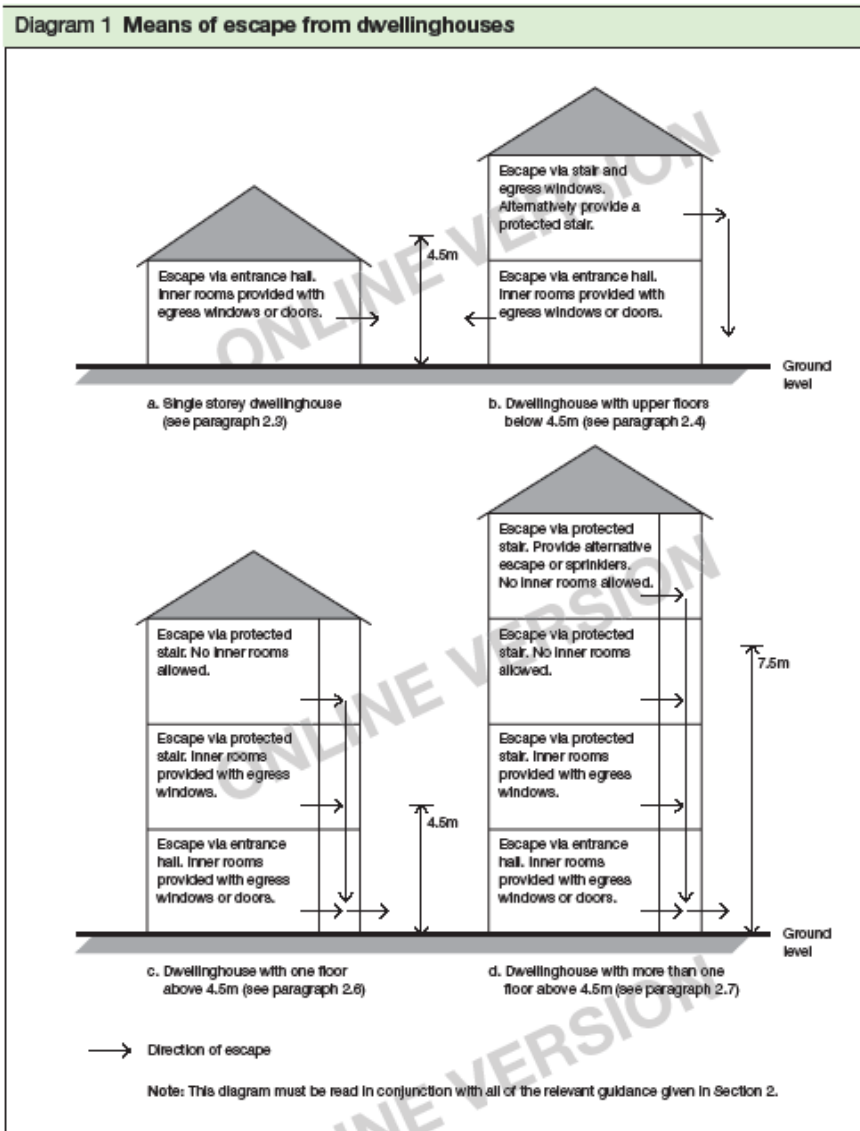
See para 2.12



Notes:

- 1 This diagram does not apply where the gallery is
 - i. provided with an alternative escape route; or
 - ii. provided with an emergency egress window (where the gallery floor is not more than 4.5m above ground level).
- 2 Any cooking facilities within a room containing a gallery should either:
 - i. be enclosed with fire-resisting construction; or
 - ii. be remote from the stair to the gallery and positioned such that they do not prejudice the escape from the gallery.

Means of Escape.



Means of Escape from Ground Storeys.

All habitable rooms in ground storey should either:-

- Open directly onto a hall leading to entrance or suitable exit or
- Be provided with a suitable escape window.

(See also *General Provisions*).

Means of Escape from Upper Storeys not more than 4.5 m above Ground Level.

Except for Kitchens, all habitable rooms to upper storey provided with only one stair are to be with:-

- A window (or external door complying with requirements below).
- Direct access to a ½ hour protected stair with self-closing fire doors protection.

Note: If you provide a by-pass door between rooms so you do not have to enter the stair enclosure. Only one means of escape needs to be provided to the interlinked rooms. (See also *General Provisions*)

Means of Escape from Upper Storeys not more than 4.5 m above Ground Level.

Except for Kitchens.

All habitable rooms to upper storey provided with only one stair are to be with:-

- c. A window (or external door complying with requirements below).
- d. Direct access to a ½ hour protected stair with self-closing fire doors protection.

Note: If you provide a by-pass door between rooms so you do not have to enter the stair enclosure. Only one means of escape needs to be provided to the interlinked rooms.

(See also General Provisions)

Means of Escape from Upper Floors more than 4.5 m above Ground Level.

Single stair buildings – if more than one stair is provided and both are effectively physically separated so both cannot be cut off in a fire.

Dwellings with One Floor more than 4.5 m above Ground Level.

Either:-

- a. Provide a protected stair:

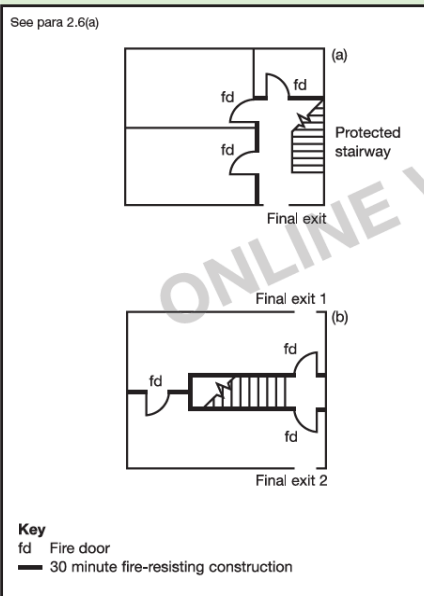
Upper storeys (those above ground storey) to have a protected stairway (protected at all levels, which should either:-

- i. External to a final exit (see Diagram. 2(a); or
- ii. Give access to at least two escape routes at ground level, each delivering to final exits and separated from each other by fire-resisting construction and fire doors (see Diagram. 2(b).

- b. Provide top floor to be fire separated from remaining floors and provided with its own alternative escape route (see Diagram. 3).

Note: See also General Provisions.

Diagram 2 Alternative arrangements for final exits



Dwellings with more than One Floor over 4.5 m Above Ground Level.

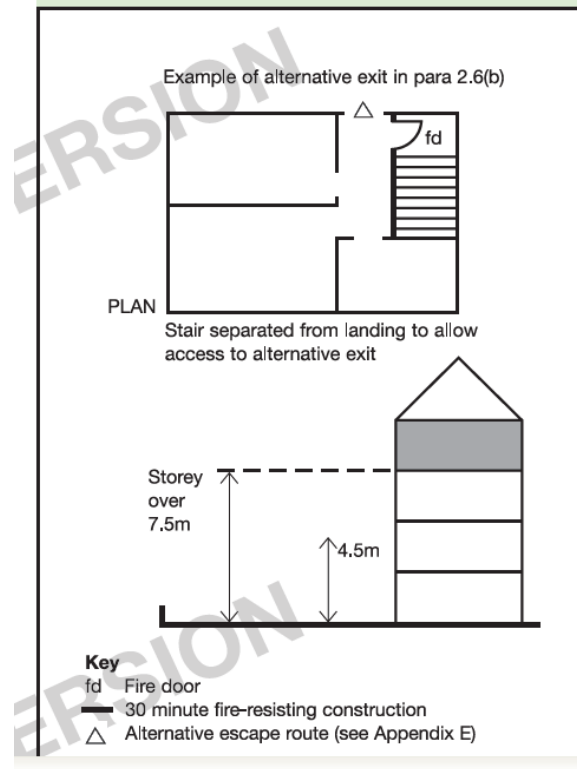
Where the dwelling has 2 or more storeys with floors more than 4.5 m above ground level (e.g. house of four or more storeys).

In addition to meeting the previous provisions for one floor more than 4.5 m above ground level, the following additional provisions must be followed -

- a. An alternative escape route is to be provided from each storey or level situated 7.5 m or more above ground level. Where the access to the alternative escape route is via:-
 - i. The protected stairway to an upper storey; or
 - ii. A landing with the protected stairway enclosure to an alternative escape route on the same storey; then
 - iii. The protected stairway at or about 7.5 m above ground level should be separated from the lower storeys or levels by fire-resisting construction (see Diagram. 3) or
- b. *The dwelling house should be fitted throughout with a sprinkler system designed and installed in accordance with BS 9251:2005.*

Note: See also General Procedures.

Diagram 3 Fire separation in houses with more than one floor over 4.5m above ground level



Note: Fire resistant glazing is unlimited in doors and above 1.1 m height above floor level or stair pitch in walls.

Loft Conversions.

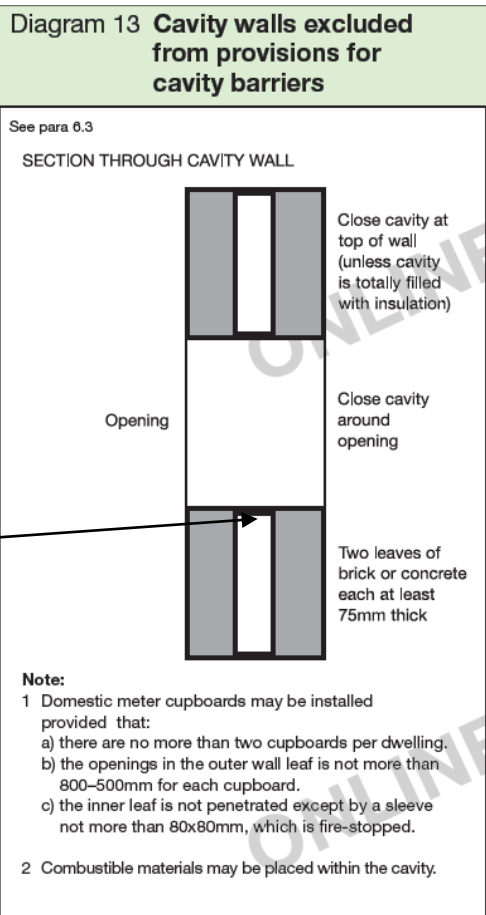
See revised guidance Note 3 on 'Loft Conversions'.

Replacement Windows.

See revised guidance Note 5 on 'Replacement Windows'.

B3 Concealed Spaces.

Cavity Barriers.



You now are required to close all cavities around opening, previously you did not have to do cills, this is now required to be closed.

Reminder: Proprietary insulated cavity closers must be 30 mins fire rated (not all achieve this standard).

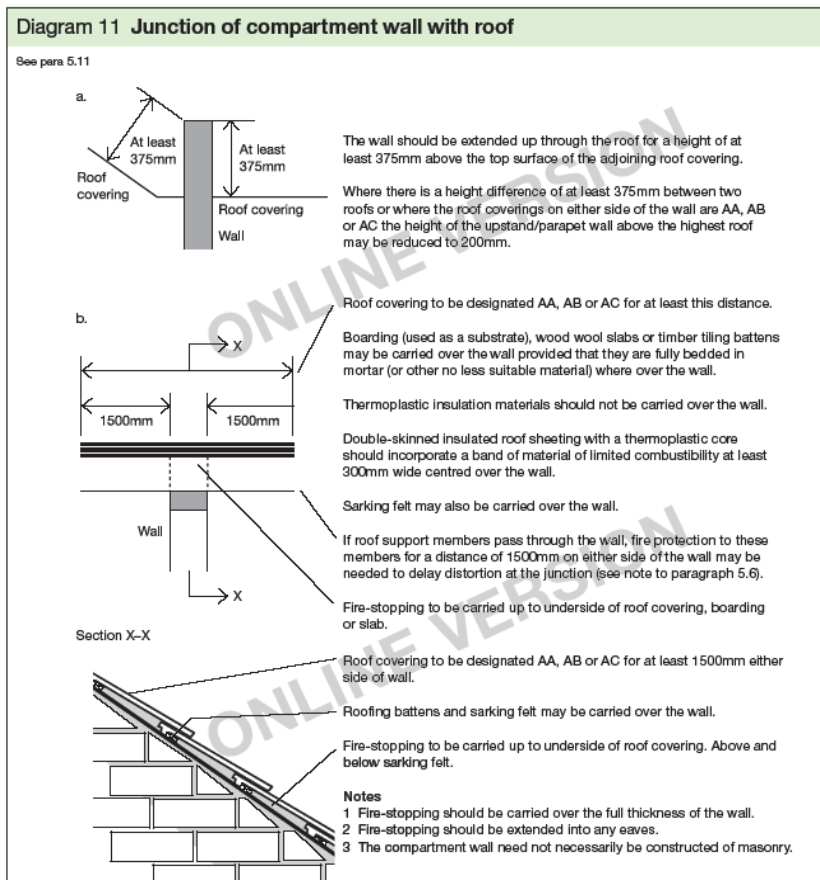
Note: Cavity barriers provided around openings may be formed by the window or door frame if the frame is constructed of steel or timber of:-

- Steel at least 0.5 mm thick or
- Timber at least 38 mm thick

UPVC are not adequate as a cavity closer and ½ hour rated closers must be provided.

Junctions of Compartment Walls with Roof.

A revised diagram has been added.

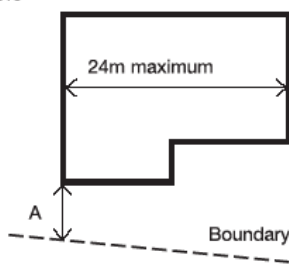


B4 External Fire Spread.

Guidance remains mostly the same. An additional note to Table 4 permitted unprotected areas for Method 2 for assessing if adequate space separation has been achieved between the boundary and the dwelling, now indicates how you should measure the enclosing rectangle.

Diagram 22 Permitted unprotected areas for Method 1

See para 9.16



Minimum distance (A) between side of building and relevant boundary (m)

Maximum total area of unprotected areas (m²)

1	5,6
2	12
3	18
4	24
5	30
6	No limit

Table 4 Permitted unprotected areas for Method 2

Minimum distance between side of building and relevant boundary (m)	Maximum total percentage of unprotected area %
1	8
2.5	20
5	40
7.5	60
10	80
12.5	100

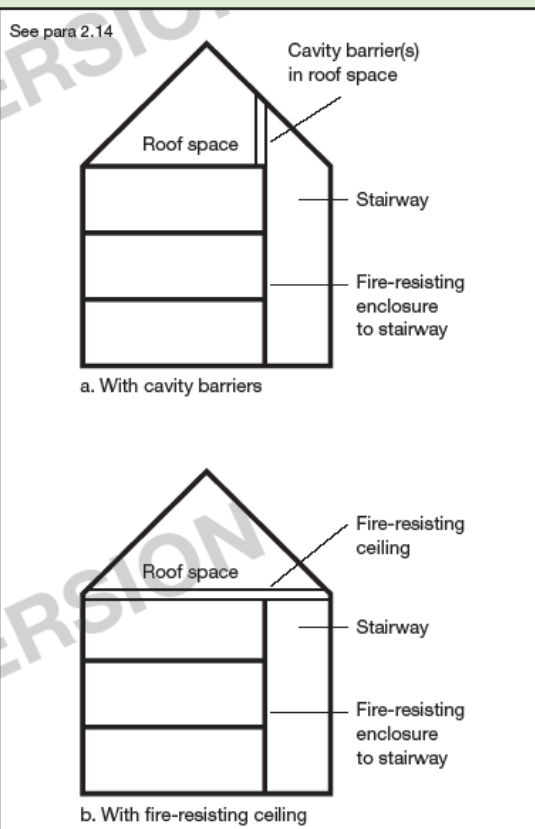
Notes:

- Intermediate values may be obtained by interpolation.
- For buildings which are fitted throughout with an automatic sprinkler system, see para 9.15.
- The total percentage of unprotected area is found by dividing the total unprotected area by the area of rectangle that encloses all the unprotected areas and multiplying the result by 100.

Cavity Barriers.

Cavity barriers should be provided above the protected stair enclosures in dwellings with a floor more than 4.5m above ground level. Alternatively take the fire walls upto the roof covering or provide a half hour fire resistant ceiling as Diagram 6 below.

Diagram 6 Alternative cavity barrier arrangements in roof space over protected stairway in a house with a floor more than 4.5m above ground level



B5 Access and Facilities for the Fire Service.

You now are required to provide fire fighting vehicle access for a pump appliance to within 45 m of all points within the dwelling.

Previously you were only required to provide this to a door to the dwelling, now all floor areas will require access.

Note: *For very large houses additional measures may be required. Refer to the guidance provided in Volume 2 (Buildings other than Dwelling Houses).*

The Design's requirements of the access routes and hardstandings remain unchanged.

European Codes.

There is a general updating and integration of the European Designations and Codes throughout the document.

Fire Doors.

Fire doors now do not require the provision of self-closers other than to doors between the dwelling and an attached or integral garage, which requires self-closing devices to shut the door properly.

Table B1 Provision for fire doors

Position of door	Minimum fire resistance of door in terms of integrity (minutes) when tested to BS 476-22:1987 ⁽¹⁾	Minimum fire resistance of door in terms of integrity (minutes) when tested to the relevant European standard ⁽²⁾
1. Any door:		
a. within a cavity barrier	FD 30	E30
b. between a dwellinghouse and a garage	FD 30s	E30Sa
c. forming part of the enclosures to a protected stairway in a single family dwellinghouse	FD 20	E20
d. within any other fire-resisting construction in a dwellinghouse not described elsewhere in this table	FD 20	E20

Notes:

- To BS 476-22:1987 (or BS 476-8:1972 subject to paragraph 5 in Appendix A).
- Unless pressurization techniques complying with BS EN 12101-6:2005 *Code of practice for smoke control using pressure differentials* are used, these doors should also either:
 - have a leakage rate not exceeding 3m³/m²/hour (head and jambs only) when tested at 25 Pa under BS 476 *Fire tests on building materials and structures*, Section 31.1 *Methods for measuring smoke penetration through doorsets and shutter assemblies, Method of measurement under ambient temperature conditions*; or
 - meet the additional classification requirement of Sa when tested to BS EN 1634-3:2001 *Fire resistance tests for door and shutter assemblies, Part 3 – Smoke control doors*.
- The National classifications do not automatically equate with the equivalent classifications in the European column, therefore products cannot typically assume a European class unless they have been tested accordingly.

Garages.

- Fire door to be a FD30S i.e. fire door with intumescent seals and smoke seals.*
- Door to have self-closers fitted.*
- Either a 100 mm non-combustible threshold between dwelling and garage doors – so petrol cannot spill back into the dwelling or the floor of the garage (smoke seals an addition) should be laid to fall to allow fuel spills to flow away from the door to the outside.*
- Existing windows between an attached/integral garage and the dwelling to be ½ hour fire resistant construction, though there are now restrictions on the amount of glazing that can be within the wall.*
- Walls and floors separating the dwelling from the garage to have a full ½ hour fire protection i.e. 30 min load bearing capacity/integrating and insulation from the garage site.*