

If you intend to convert an existing loft space into additional rooms you will need to apply for Building Regulation Approval. You may also need Planning Permission if you live in a Conservation Area or a Listed Building and/or are installing a dormer window. This guidance note deals with the points, which most often cause difficulties - ***if you cannot find ways of dealing with them, it may not be possible to convert your loft at all.***

From 6th April 2007 there have been significant changes to requirements for loft conversions. Most of the reduced standards that have existed for a number of years have now been removed and loft conversions are to be treated, as would a new 3-storey house.

As a result more onerous conditions apply requiring the formation of a fire resistant protected escape route out from the loft to the dwelling's final exit, in order to prevent occupants been trapped in a fire.

This guidance offers advice on loft conversions to existing bungalows and existing two dwellings - if you already have a 3-storey premise and wish to convert the loft, you are advised to speak to Building Control first.

1. Form a protected route out from the loft rooms to a final exit at the ground floor.

The upper storeys must be served by a fire protected stairway (protected at all levels) which either at ground floor level:

- discharges to a hall served by an external door, or
- there must be at least two separate escape routes available to an external door - separated by fire resistant construction and fire doors.

If you have an open plan staircase it will therefore need to be enclosed (see notes below).

The protected stair enclosure should be enclosed in a minimum 30-minute fire resisting construction to protect the escape route for the occupants to make a safe escape.

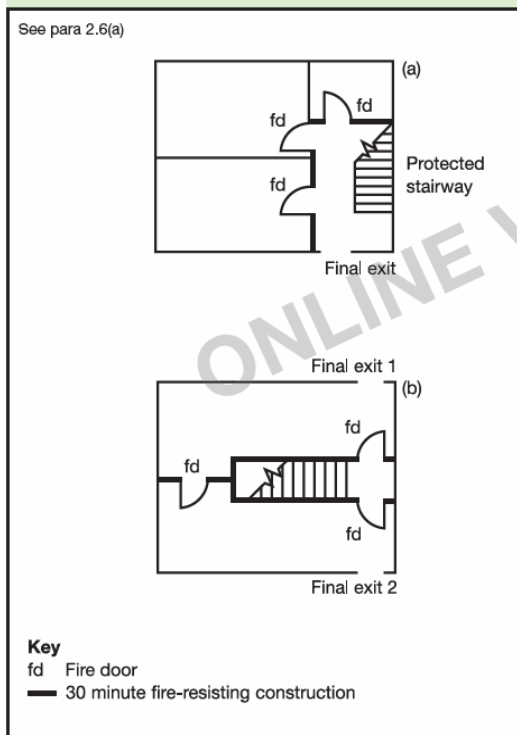
All doors opening onto the protected stair are to be FD20 or E20 fire resisting doors. One concession is that there is no need to fit self-closing devices to any fire doors indicated in Diagram 2.

You must ensure that the new loft access stair is an extension of the existing stair enclosure to avoid the creation of inner rooms i.e. where escape can only be made by passing through another room (this situation is not acceptable).

The new stair has to continue up in the existing stair enclosure (in which case the fire door and additional separating structure will be at the top floor level). Alternatively if there is only one room in the loft space, the loft stair can be contained within the room itself and a fire door provided at the base of stair landing position, where it exits onto the existing first floor landing.

NOTE: If you are converting a bungalow's roof space this protected enclosure may not be necessary see escape window notes below.

Diagram 2 **Alternative arrangements for final exits**



2. What if I have an open-plan arrangement in my house i.e. stairs are open to the main living areas and are not enclosed by a traditional hallway leading to a final exit?

Where the existing house is open-plan, it will be necessary to provide a new 30-minute fire resistant partition with fire doors to enclose and extend the escape route to a final exit as indicated above in Diagram 2.

Alternatively:

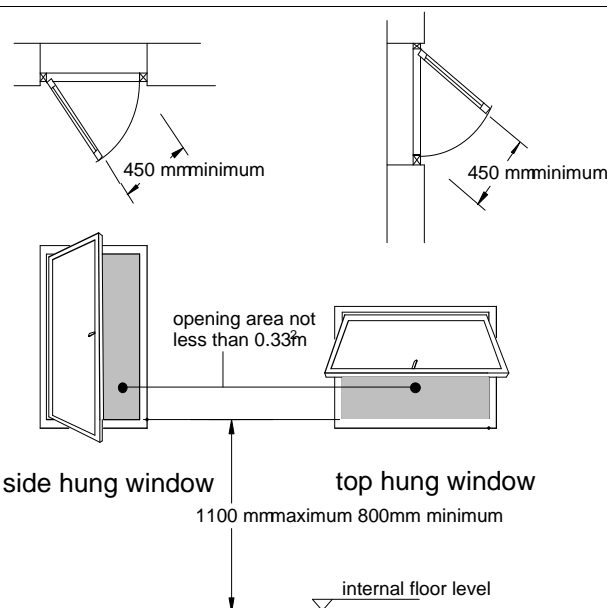
You can provide sprinkler protection to the open-plan area in accordance with BS9251: 2005, in conjunction with a fire resisting partition and door (FD20 / E20) positioned to separate the ground floor from the upper storeys. This door should be so arranged to allow the occupants of the loft room(s) to access an escape window at first floor level in event of a fire in the open-plan area. Cooking facilities must however in all cases be separated from the open-plan area with 30 minute fire – resisting construction.

3. Do I need to provide an escape window to the loft conversion rooms?

Leaving aside the requirements to adequately ventilate the rooms you form via opening lights to windows. Escape windows are only required to be installed to habitable rooms in loft conversion to bungalows i.e. floors less than 4.5m above ground level.

Provision of compliant escape windows removes the need to have a protected escape stair to loft conversions with floors less than 4.5m above ground level.

For loft conversions to existing 2 storey dwellings - you now cannot to rely on an escape windows to make safe escape, as it is considered that you will be able to reach the ground floor internally via the fire protected stairway.



Escape Windows Requirements:

(Refer to Tameside guidance leaflet 02 for more information).

Escape windows are to have an 0.33 m² unobstructed clear openable area 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.

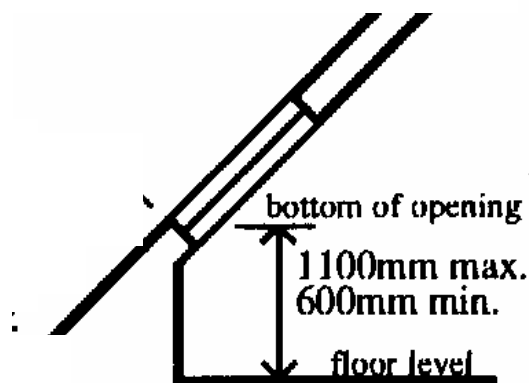
The bottom of the openable area must be a minimum of 800mm and not more than 1100mm above the finished floor level. **NOTE: for roof windows the minimum height to the openable area is 600mm.**

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.

Rooflight or Roof Window



4. There should be no inner rooms to the loft accommodation.

Rooms within the loft should be designed so that there are no inner rooms i.e. where escape can only be made by passing through another room.

Exceptions: a. dressing room; or b. bathroom, w.c, or shower room; or c. inner rooms with escape windows to floors not more than 4.5m above ground level (i.e. bungalow loft conversions).

5. Automatic smoke detection and alarms.

Mains powered and battery backed up (either rechargeable or rechargeable) smoke detectors must be installed on each storey in accordance with BS5839-6: 2004 – Grade D - category LD3 standard.

All detectors must be interlinked together so that all sound even if only one is triggered and must be placed in the circulation spaces / protected stairway within 7.5m of every habitable room door. If however due to the layout of the loft there is no circulation space, a smoke detector should be fitted in the loft room itself.

Smoke detectors should 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.

Detectors are to be positioned so that they can be reached for maintenance and testing i.e. not over stairs etc.

If floor area of the loft exceeds 200m², the building will be considered to be a 'large house' and the fire detection system will need to be improved as follows:

- 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).*

6. Provision of fire doors.

Any new door forming the protected escape route protection will have to be a FD20 / E20 fire-resistant door fitted in an appropriate frame as recommended by the fire door manufacturer. Intumescent seals may also have to be fitted to the frame or door edges as recommended by the door manufacturer to ensure it achieves the FD20 / E20 rating. You will need to check the installation recommendations on purchase of your fire doors, if in doubt - order the doors with the intumescent seals fitted.

All **existing** doors on the escape route, including bathroom doors need to be replaced with FD20 / E20 fire doors and this might involve the removal and replacement of door frames to accommodate the thicker fire doors and to achieve the appropriate fire rating standard. Similarly intumescent seals may also have to be fitted as previously mentioned above.

If you wish to consider upgrading the existing doors e.g. they may be of historically or architectural merit, you will be required to upgrade them to an approved method supported by appropriate manufacturers test data and confirmation that the doors meet their upgradeability standards. N.B. *(Not all doors can be upgraded e.g. they may be too thin / infill panels and fixings inadequate etc – so consider the implications carefully if you choose this option).*

There is no requirement for these fire doors to have self-closers fitted – but if you are a builder or architect you are advised to inform your client of the importance of managing these fire doors i.e. keeping them shut etc.

Door hinges may need changing to steel hinges – as all hinges on fire doors should have a minimum melting point of 800 degreesC (brass and aluminium hinges will fail prematurely).

Any door glazing needs to be 30 minute fire-resistant and of appropriate safety glazing – fixed in accordance with the glazing manufacturers requirements to ensure the fire-rating is achieved. (Particularly important if you intend to upgrade existing doors - as glazing rebates / beads will likely require improvement or/ replacement).

The amount of fire resisting glazing is unlimited in doors under the fire rules, but the larger the glazing panels the more difficult it is to meet safety glazing and fire resistance requirements.

7. Construction of the walls forming the protected escape routes.

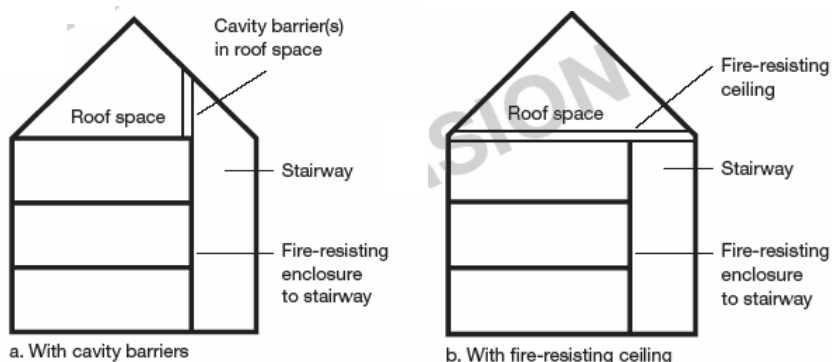
You need 30-minute fire protection to the escape routes and the walls forming the protected routes need to be carefully checked to see if they will achieve the required fire rating. Masonry walls will achieve the standard, but if they are of stud construction you will be expected to prove that they provide 30 minutes fire-resistance; for instance lath and plaster walls may achieve only approximately 20 minutes fire-resistance and will require upgrading. All new walls will have to be suitably constructed to a full 30-minute fire resistant standard.

Ensure all pathways that are likely to bridge the escape routes fire protection are suitably fire stopped or fire protected e.g. tops of walls / around services / drainage pipes /air vents etc

If fire doors are not to be fitted to the bathroom (due to low fire risk – unless boilers are fitted) - then the fire protection needs to be checked around the perimeter of the bathroom walls as an extension of the escape route fire-protection. Pay particular attention to the effects of the drainage pipes and vents that bridge the protection.

Any glazing that exists in the walls forming the escape route enclosure must be at least 1.1m above the floor level or stair pitch line and changed to 30-minute fire-resistant glass e.g. georgian wired safety glass (pyroshield safety). If there are existing glazing frames to be adapted – it is likely that they will need replacement to ensure the new fire resisting glass is properly installed in accordance with the manufacturers recommendations to achieve the 30-minute fire rating.

You must also ensure that any roof spaces that remain over the top of the fire resistant walls are extended up to the underside of the roof covering or a new half hour fire resistant ceiling is provided in accordance with Diagram 6 below.



8. Provision of fire resistant floors.

For loft conversions to existing 2 storey dwellings, the new floor must be of 30-minute fire-resistant construction i.e. 30 minutes load bearing capacity, 30 minutes integrity and 30 minutes insulation (30/30/30). If you are retaining your existing ceilings, which are usually suspended from the new floor construction, you will have to upgrade any sub-standard ceiling construction to ensure the new floor achieves this required rating.

The existing first floor construction would also normally have to be upgraded to a full 30-minute standard construction (which could mean under drawing the existing ceilings). However this can be avoided if the existing floor construction (separating rooms only) is of a 'modified 30-minute standard' i.e. reduced performance of 30/15/15 e.g. 12.5mm plasterboard with joints taped or 9.5mm plasterboard and skim or lath and plaster with 16mm plaster finish over laths;

AND the following conditions are satisfied:

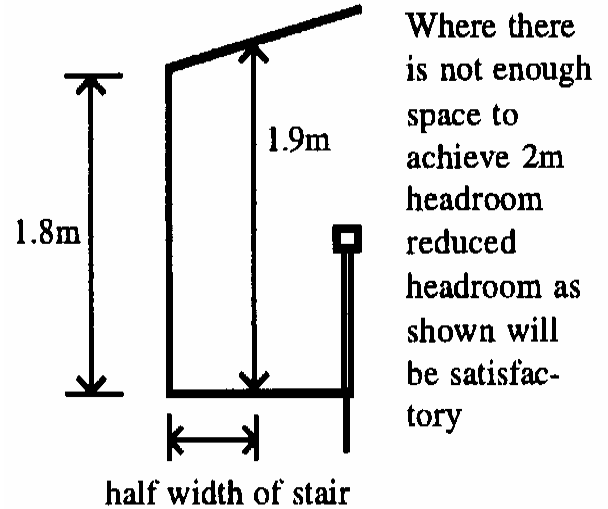
- Only 1 storey is to be added and the storey contains no more than 2 rooms; and*
- The total storey floor area is not more than 50m²; and*
- Floors which separate rooms from the protected escape route / circulation spaces are upgraded to or achieve a full 30-minute fire resistant standard.*

9. Can you achieve enough headroom over the new stairs and landings?

A fixed staircase (or alternating tread stair where there is inadequate space to fit a traditional stair) complying with Approved Document K must be installed to form permanent safe access into the converted space.

You must have a minimum of 2 metres headroom over the stairs and landings. Reduced headroom standards can be applied to the stairs where the flight is parallel to the roof slope (as diagram opposite).

Be aware that the space and headroom currently available in the roof space will be considerably reduced by the provision of a new structural floor / the fixed staircase / stair enclosures and guarding / providing insulation to walls and ceilings etc. Ensure that the finished space and headroom will make a loft conversion viable before continuing down the design process.



10. General considerations.

- Modern houses with trussed rafter roofs are usually unsuitable for loft conversions, as the inner members of the truss cannot normally be removed. You are advised to seek advice of a suitably qualified professional to establish whether or not the roof structure can be altered to accommodate the planned accommodation.
- The existing ceiling joists in the roof will almost certainly be inadequate for use as floor joists. In most cases it is possible to install new floor joists and support beams between the existing ceiling joists to maximise the headroom available. For further details of typical floor construction see *guidance leaflet 07*. You are advised to seek professional guidance and provide calculations for any support beams you intend to provide to support the floor.
- The new rooms will need to be fully insulated to prevent excessive heat loss and sound transmission. While there are many ways of achieving this, we would recommend that you check your chosen method with your Building Control Surveyor before any insulation is installed. Be advised that the provision of this insulation will often reduce the headroom to the existing loft space.
- There are many other areas where the Building Regulations impose requirements relating to loft conversions, but if you can deal with the points raised in this document, you will be well on your way to achieving compliance.
- You are however *STRONGLY* advised due to the complex nature of these types of application that you make a full plans application - where the majority of the problems can be resolved before you start the works.**