Easy Guide for Loft Conversions

CNC BUILDING CONTROL

CNC BUILDING CONTROL LABC

Easy Guide for Loft Conversions

This guidance / advice is aimed at Building Notice Applications for loft conversions on particular aspects of the Building Regulations. It is not a statement of law but is intended to help you understand the system.

Introduction

This guide only applies to the conversion of lofts within single occupancy bungalows and two storey houses. Additional and different criteria apply to other buildings.

It is generally necessary to obtain professional advice from an architect, surveyor or structural engineer due to the complexities of loft conversions and the necessary structural alterations.

An application must be submitted before commencing any work and advice on how to submit an application is available from CNC Building Control on our website.

Structural Implications

In most cases, it will be necessary to provide additional floor joists, remove some of the existing roof members and provide beams to support the new structure. Because of these facts, you are advised to speak to a suitable professional - such as a structural engineer – at an early stage to agree a solution.

Modern houses with trussed roof rafters are difficult to convert as the inner members of the truss cannot normally be removed. You are advised to seek the advice of a structural engineer to establish whether the roof structure can be altered to accommodate the planned accommodation.

Fire Safety

Where a new storey is added in the roof space of an existing dwelling, it is a requirement that adequate fire resistance is provided to the new floor and supporting structure and that adequate means of escape is provided. Mains interlinked, and battery backed up smoke detectors/alarms must be installed on each storey
in accordance with BS5839 Part 6 Grade D2 Category LD3 standard.

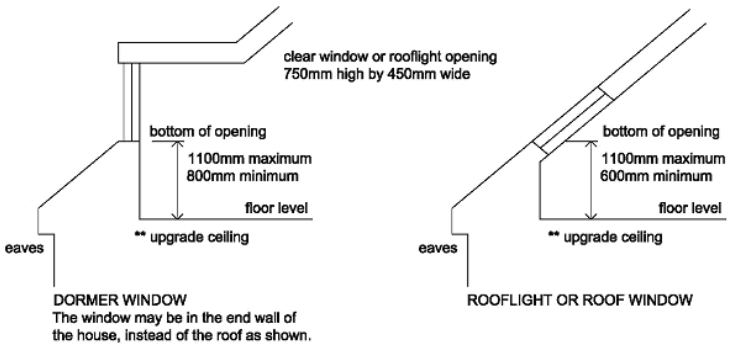
Single storey

For the conversion of the attic of a single storey dwelling (bungalow), it may only be necessary to provide escape windows to the new habitable rooms at first floor and mains interlinked smoke detectors/alarms in the circulation spaces on the ground and first floor.

- **Escape Windows**

Each habitable room at first floor should be provided with an escape window having a clear opening area of at least 0.33m^2 and a minimum dimension (height or width) of 450mm (e.g. 750mm x 450mm) and positioned as in diagram.

If a pass door is provided between the two rooms and both rooms open onto the new stairway, then only one escape window need be provided.



Normally the first floor will require upgrading to achieve a full 30 minutes fire resistance for example two layers of 12.5mm plasterboard with joints staggered.

However, where the floor only separates rooms (not stairs or stair landings) and means of escape is satisfactory, then the existing floor construction may be accepted providing:

a) The floor has at least a 'modified' 30 minutes fire resistance for example one layer of 12.5mm thick plasterboard with artex or plaster skim finish, and

b) only one storey is being added and this contains no more than two habitable rooms, and

c) the area of new storey does not exceed 50m^2.

Two Storey Dwellings

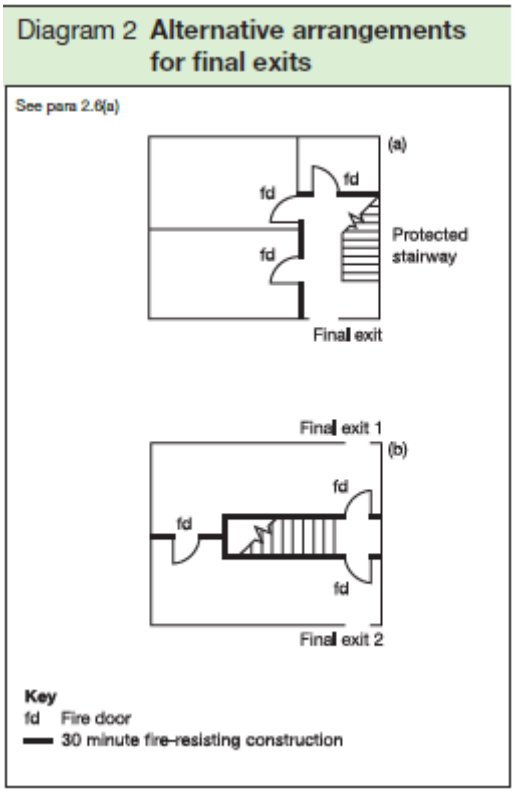
For the conversion of the roof space of an existing two storey house, the requirements are more stringent.

The new room/rooms must be accessed by a new stair that rises from the existing landing (not a room) and that is separated from the landing at either first or second floor level.

The new and existing stairway must be enclosed in a protected structure that achieves 30mins fire resistance; any new doors must be FD20 fire doors and any existing doors must be replaced or upgraded to an FD20 standard. Fire doors will be required to all habitable rooms and cupboards opening into the protected stairway.

Partitions may require upgrading if they do not already provide adequate fire resistance and any glazing in doors or partitions will require replacing with fire resisting glazing. This often means the existing frames need replacing so that the fire rated glazing can be properly installed in accordance with the manufacturer's requirements.

The existing stair must land at ground floor as indicated below.



- **Upgrading Existing Floors**

Normally the first and second floors will require upgrading to achieve a full 30 minutes fire resistance for example two layers of 12.5mm plasterboard with joints staggered.

However, where the floor only separates rooms (not stairs or stair landings) and means of escape is satisfactory, then the existing floor construction may be accepted providing:

a) The floor has at least a 'modified' 30 minutes fire resistance for example one layer of 12.5mm thick plasterboard with artex or plaster skim finish, and

b) only one storey is being added and this contains no more than two habitable rooms, and

c) the area of new storey does not exceed 50m^2.

Mains interlinked, and battery backed up smoke detectors/alarms must be installed within the protected stairway on each storey

If the new stairs rises over an existing room, the underside will require cladding to provide the required fire resistance.

Any door from a garage opening into the protected stairway must be a FD30S fire door fitted with a self-closing device.

Energy Conservation

Walls' roofs and glazing must be insulated to achieve the following U values:

- **Walls**

Any new walls/dormer cheeks must achieve a U value of 0.18W/m^2K.
An existing gable wall will also require upgrading to achieve this standard (see table 4.3).

- **Roofs**

Any new pitched roof must be insulated to achieve a U value of 0.15W/m^2K. Existing roofs must also be upgraded to this standard (see table 4.3).

Flat roofs must be insulated to achieve a U value of 0.15 W/m^2K. Existing roofs must also be upgraded to this standard (see table 4.3).

- **Glazing**

New windows and rooflights must achieve a U value of 1.4W/m^2K. or WER band C or better.

All new light fittings should be energy efficient.

Condensation Precautions

Where insulation is provided to new or existing walls and roofs, care must be taken to ensure that the risk of interstitial condensation is minimised. This can be through the provision of roof ventilation or warm roof construction, etc. It can often prove to be difficult to provide cross ventilation within loft conversions particularly with traditional roofs constructed with hipped ends.

Often the only way to ensure a satisfactory solution is to strip the existing roof and re felt using a breathable membrane. Special consideration is required where downlighters are installed in sloping ceilings.

Stairs

To gain access to the new room/rooms, you will need to consider the type of stair you would like. The preferred style of stair is a traditional straight flight with landings top and bottom. Space saver (alternating tread) stairs will only be permitted in exceptional circumstances.

Ensure a minimum 2m headroom is provided over the whole of the stair and landings. However, a reduced height of 1.9m may be allowed over part of the stair in certain circumstances.

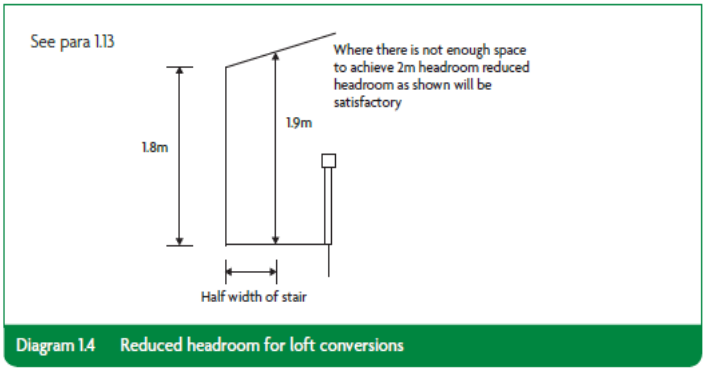


Diagram 1.4 Reduced headroom for loft conversions

The stair should have a maximum pitch of 42° with minimum goings of 220mm and maximum risers of 220mm. No more than 3 winders should be installed within the space of a quarter landing.

Handrails should be provided at 900mm above the pitch line of the stair and where winders are formed at the top of a stair, the handrail should be on the side of greatest going. Guarding to stairs should not be easily climbable and should have gaps less than 100mm.

Sound

Reasonable sound resistance should be included to the new floor which may include the provision of 100mm of insulation. Any existing party wall may also require upgrading to achieve adequate sound resistance in addition to any thermal insulation requirement.

Ventilation

New habitable rooms must be provided with openable windows that provide purge ventilation equal to 1/20th of the floor area of the room; background ventilation such as trickle vents are required equal to 8000mm^2.

Bathrooms and en suites should have openable windows of any size together with mechanical fans of 15 litres per second capacity. Background ventilation of 4000mm^2 is also required.

WCs should have a 6 litres per second extract fan and an openable window, of any size, with 4000mm^2 background ventilation. However, where security is not an issue (for example 1st floor), then an openable window equal to 1/20$^{th\ of}$ the floor area may be provided instead of the fan

Electrics

All electrical work should be carried out in accordance with Part P of the Building Regulations by a competent person. Prior to completion, we should be provided with a certificate issued under a self-certification scheme or an electrical design/installation certificate signed by a competent person.

General

Planning permission and Building Regulations approval are not the same. You should always check with our Development Team to find out if your proposal also requires Planning Permission.

Consideration should also be given with regard to other legislation not dealt with by Building Control including your duties and responsibilities under the Party Wall Act and neighbours should be contacted appropriately.

Whilst every care has been taken in compiling this information note and the statements contained herein, the publishers and promoters cannot accept responsibility for any inaccuracies

Table 4.3 Limiting U-values for existing elements in existing dwellings

Element	U-value[1] W/(m^2·K)	
	(a) Threshold	(b) Improved
Roof[2][3][4]	0.35	0.16
Wall – cavity insulation[2][5]	0.70	0.55
Wall – internal or external insulation[2][6]	0.70	0.30
Floor[7][8]	0.70	0.25

NOTES:

1. Area-weighted average values.
2. For dormer windows, 'roof' includes the roof parts of the windows and 'wall' includes the wall parts (cheeks).
3. If meeting such a standard would limit head room, a lesser standard may be appropriate. In such cases, both of the following should be achieved.
   a. The depth of the insulation plus any required air gap should be at least to the depth of the rafters.
   b. The insulant should be chosen to achieve the lowest practicable U-value.
4. If there are problems with the load-bearing capacity of the frame or height of the upstand, for a flat roof or roof with integral insulation, a lesser standard may be appropriate.
5. This applies only to a wall that is suitable for cavity insulation. Where this is not the case, it should be treated as 'wall – internal or external insulation'.
6. If meeting such a standard would reduce the internal floor area of the room bounded by the wall by more than 5%, a lesser standard may be appropriate.
7. The U-value of the floor of an extension may be calculated using the exposed perimeter and floor area of the whole enlarged dwelling.
8. If meeting such a standard would create significant problems in relation to adjoining floor levels, a lesser standard may be appropriate.