Building Control

Householder Guidance Leaflet

Loft Conversions

This leaflet is one of a series produced by the Hertfordshire Building Control Technical Forum

Introduction

The aim of this leaflet is to provide you with guidance as to when you should submit an application under the Building Regulations for proposed works involving the conversion of the roof space of a dwelling. It is not intended to provide comprehensive details of the associated regulations but highlights the most important matters that you need to consider. Such works can be more complex than other extensions and we recommend that you seek professional assistance before submitting a Building Regulation application for us to check.

Is An Application Required?

Building Regulations permission is required for conversions that create any type of room in the roof space even where this is only for storage use. An application is not required where a small proportion of the space is boarded for light storage or access to water tanks as long as this is only served by a portable or retractable loft ladder.

Structural Considerations

Most ceiling structures are not strong enough to serve as a floor. Upgrading the structure will involve the installation of new floor joists and in some cases steel or timber beams to carry the floor and roof loads.

- Existing walls, lintels and beams may need to be assessed for adequacy to carry additional loads. In some cases foundations may need to be exposed and checked.
- The involvement of a Structural Engineer is often needed to calculate the sizes of new structural members.

Fire Safety

The formation of a room in the roof of a two-storey house creates a potentially increased risk to occupants of the new floor in the event of a fire. As a result of this the regulations require that a protected escape route be formed from the new rooms at second floor level to a final exit at ground floor level such as the front door. The structure forming this enclosure must have 30 minute fire resistance and the doors must be fire doors. Existing floors separating rooms from landing areas may need to be upgraded to achieve a 30-minute fire rating.

Fire Safety - Smoke Detectors

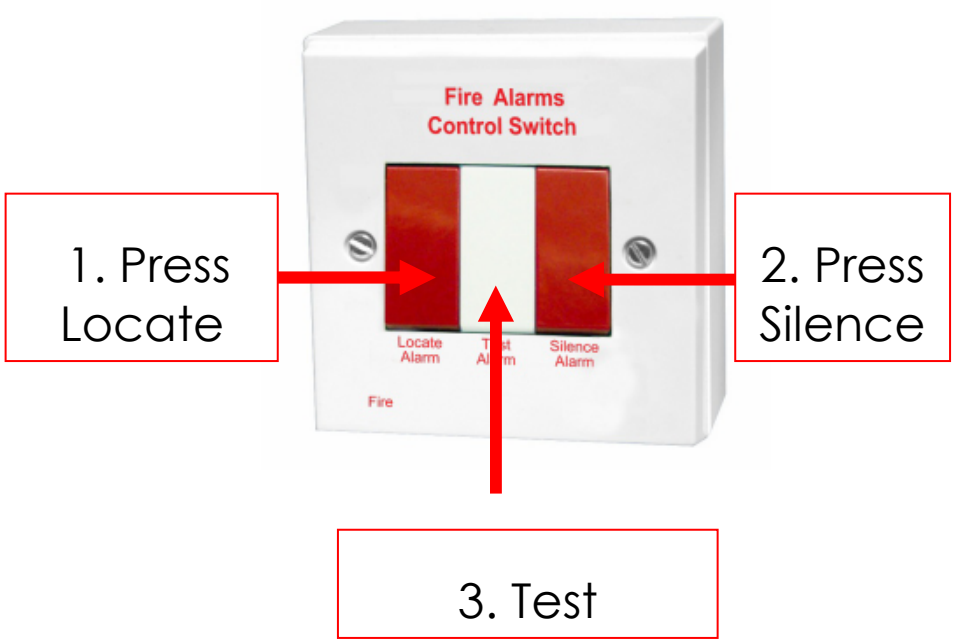
Smoke alarms should be fitted at every floor level. These should be mains powered with a battery back up supply and conform to BS EN 14604. Optical type detectors (rather than ionisation type) are less prone to false alarms. They should be fitted in hallways and landings ensuring that manufacturers' guidance on location and maintenance is followed. They should also be linked so that a single unit activating will set off all the sounders in the dwelling.

Fire Safety - Enhanced Fire Detection Option

In certain circumstances it may be appropriate to compensate for an escape route that does not meet the above standards of fire protection by including an enhanced automatic fire detection and alarm system. It may be that an owner would prefer not to change internal doors for fire doors. The designer should discuss and agree this in advance with their Local Authority Building Control service provider. This option is applicable in the case of typical loft conversions forming up to two new rooms at second floor level with a total floor area not exceeding 50 square metres and no one floor level in the property exceeding 200 square metres.

In such cases Building Control may accept the provision of a Grade D LD1 standard fire alarm system as described in BS 5839 Part 6 in lieu of fitting replacement fire doors to rooms off an enclosed stairway. Such a system will have smoke detectors sited in hallways and landings at all floor levels. They must also be sited in all habitable rooms and areas where a fire might start that communicate with the stair enclosure. Heat alarms should be used in place of smoke alarms in kitchens and other rooms with a use that may trigger false alarms. Any cupboards containing potential ignition sources that are off the stair should also be provided with a detector or should be fitted with a FD30 fire door.
Hard-wired or radio-linked systems are acceptable. All detectors link to central control and indicating equipment as below. Mains power should be sourced from a regularly used local lighting circuit with lithium type rechargeable batteries giving a 72 hour back up supply.

Control and indicating equipment should be easily accessible in the ground floor hallway adjacent to the final exit. A typical example is shown below.



In the alarm state, the Locate switch silences all the alarms except for the unit that has initiated the alarm. This allows the user to immediately identify where the problem is. The Silence switch is used to silence all alarms when the occupants have assured themselves that it is a false alarm. The system will reset to standby after approx 8 minutes.
The Test switch allows the user to easily test the system without having to reach up to the alarms.

Fig 1 Typical Central Control Unit

(image reproduced by permission of Aico Ltd)

In adopting this fire safety strategy it is essential that the owner and occupiers are made aware of the above information and of the need for regular testing and maintenance. They should also be informed about the importance of the equipment in providing essential early warning in fire and hence an adequate means of escape. Contact your local office for further information on this option.

Fire Safety – Escape Routes

It is usually necessary for the stair enclosure to lead directly to a final exit to external air (i.e. via a ground floor hallway) without passing through a room (as in fig 1). If this cannot be achieved then it is

permissible to form two alternative routes to exits that are separated from each other by fire resisting construction and fire doors. (as fig2).

Achieving the above requirements can be difficult and undesirable to clients in houses with open plan ground floor layouts. Recognising this, the regulations allow an alternative arrangement incorporating a sprinkler system. Using this option, the ground floor is separated from the upper floor by a fire resisting partition and fire door at either ground or first floor level. A residential sprinkler system to BS 9251:2005 is fitted to cover the ground floor only with any kitchen being separated from the space by fire resisting construction. This allows a viable alternative emergency escape route from the new loft rooms via suitable escape windows at first floor level.

Fig. 1

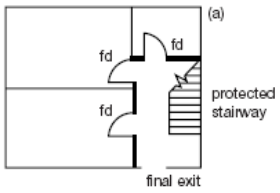
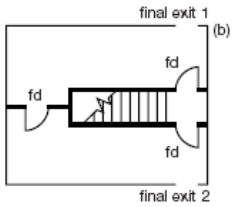


Fig 2



Key

▬ = 30 Minute fire resisting construction

fd = Fire door

Fig 3

Stairs

A retractable ladder is not a permitted means of access to a loft conversion. The four types that can be considered are;

- A standard staircase
- A spiral staircase
- An alternating tread ('space saver') staircase
- A fixed ladder

The last two types are only acceptable where serving a single room (and a bathroom) and where it is not possible to create sufficient space for a standard or spiral stair.
The pitch (steepness) of the stairs and the dimensions of steps and balustrades must comply with the appropriate Building Regulations contained in Approved Document K. A full 2.0metre headroom is normally required over new stairs although a reduced dimension is sometimes acceptable under sloping ceilings if this is not achievable. Most local authorities will accept a reduced stair width of 600mm where it only gives access to one or two new bedrooms.

In situations where it is impracticable to install a standard stair in a loft conversion, a designer may alternatively follow the guidance for 'limited access' stairs in British Standard 5395 part 4 2011. This permits steeper pitches of up to 50^{o} and smaller going (tread) dimensions although it includes the requirement to provide stair gates at the top and bottom in the interests of the safety of very young children.

Sound Insulation

With conversions in attached properties, the sound insulating properties of party walls within the loft space need to be considered. The Local Authority may require parts of walls to be upgraded where they are of a lesser standard than walls at habitable floor levels. Where no party wall exists in the loft, a new wall must be constructed up to the underside of the roof finish with appropriate fire-stopping measures. The specifications of this wall should comply with Approved Document E that deals with sound insulation.

Thermal Insulation

A loft conversion creates new ‘thermal elements’ i.e. walls and roofs that separate the heated space from an unheated space or outside air. The thermal insulating properties of such elements need to be upgraded to comply with Building Regulations. Our Technical Guidance Note 10 gives examples of common specifications that comply.

Electrical Installation

This must comply with Part P of the regulations. Design, installation, inspection and testing should be carried out by a contractor who is a member of a competent person’s scheme for electrical wiring approved by the Secretary of State. If this is not the case then you should check with your local Building Control department for advice on their procedure for checking this part of the work.

The Party Wall Act 1996

The Party Wall Act places a legal responsibility on building owners to give notice to adjoining owners when carrying out works affecting a wall separating dwellings.

This is often applicable for loft conversions in semi detached and terraced properties. The Act is civil legislation that is not enforced by your Local Authority and planning permission and Building Regulations approval does not remove the need to comply with it. Further information on the Act is available on the websites mentioned below

Planning Permission

Some loft conversions require planning permission and you are strongly advised to check with the Local Authority’s Development Control section before starting work.

Extra information may be found on the Communities and Local Government website www.communities.gov.uk or the Planning Portal at www.planningportal.gov.uk

Other Sources of Guidance

Useful detailed guidance can also be found in the Loft Conversion Project Guide published by the Construction Products Association and available at www.constructionproducts.org.uk