

## FIRE DETECTION AND ALARM SYSTEMS

All new dwelling houses must be provided with fire detection and alarm systems. When the roof space of an existing dwelling-house is converted to create an additional storey, a fire detection and alarm system must be provided in accordance with the requirements for a new dwelling house.

Where a loft / attic space has been converted, interconnected mains operated self-contained fire alarm units (preferably with battery back-up power supplies) must be provided within the stairs enclosure at ALL storey levels.

**It should be noted that smoke alarms powered only by batteries are *not* sufficient.**

## PROTECTION TO STRUCTURAL ELEMENTS

The building regulations impose requirements for fire resisting floor construction to restrict the spread of fire between storeys and to protect against premature collapse in the event of a fire.

A three-storey dwelling house has higher fire resistance requirements for floors than a two-storey dwelling house. A loft / attic conversion in a two-storey dwelling house adds an additional storey to the house and this has implications for the existing first floor and the new second floor construction.

The floor to the new storey will be required to provide the fire resistance requirements for a new three-storey dwelling house.

Special provisions apply to loft / attic conversions where not more than two additional habitable rooms are provided and additional floor area is less than 50m<sup>2</sup>. Where these apply, the existing first floor will normally provide the necessary fire resistance, subject to assessment of the fire performance of the actual construction.

Where the accommodation does not extend into the eaves of the roof, the fire resisting floor construction should be carried through to the external walls.

**Where a dwelling house is semi-detached or is part of a terrace of houses, it is essential to ensure that the party wall between adjoining houses continues to the roof level and the roof junction is adequately fire stopped.**

There should be no gaps or imperfections in the party wall construction, which would facilitate the spread of fire between houses.

Any new structural members such as floor beams or columns should be provided with the required level of fire resistance.

## ELECTRICAL INSTALLATIONS

It is very important that all electrical work is carried out by a qualified Electrician, as improperly designed / installed fittings and inadequate wiring can constitute a serious fire hazard.

**Particular care is required with the design and installation of recessed lighting systems.**

## OTHER ASPECTS

This leaflet is intended to draw attention to the importance of properly dealing with fire safety issues in attic / loft conversions, with the help of professional advice. There are 11 other Parts of the Building Regulations, which must be complied with, and which deal with issues other than fire safety including:

- Part A - Structures
- Part D - Materials and Workmanship
- Part E - Sound Insulation
- Part F - Ventilation
- Part L - Conservation of Fuel and Energy, including thermal insulation

The relevant Technical Guidance Document, on how to comply with Parts A - M inclusive, can be viewed on the Department's website: [www.environ.ie](http://www.environ.ie) "What we do" - "Building Standards" or purchased from the Government's Publications Sales Office, Sun Alliance House, Molesworth St., Dublin 2 [Tel: 01 6476000].

## HOUSES OF ARCHITECTURAL / HISTORIC IMPORTANCE

*In the case of older houses, particularly those of architectural / historic importance the application of the guidance set out in TGDB (Fire Safety) on Part B of the Building Regulations will not always be appropriate; and alternative approaches to meeting the fire safety requirements of the Building Regulations will need to be considered. If your house is a protected structure (or a proposed protected structure), under the Planning Act 2000, you may require planning permission for an attic / loft conversion. You, or your professional adviser, should contact the Conservation Officer in the local planning authority, well in advance of designing or carrying out the works.*



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## LOFT CONVERSION

# PROTECT YOUR FAMILY!





## INTRODUCTION

Converting the roof space may be a convenient way of obtaining additional living space in an existing dwelling house, without extending into the garden. However there are many issues to be resolved before any works are carried out. There is a legal requirement to comply with building regulations, including those related to fire safety. The purpose of these fire safety requirements is to safeguard you and your family, should a fire occur in your home. This leaflet highlights the principal fire safety issues that need to be considered when converting the roof space (loft / attic) in an existing dwelling house.

## PROFESSIONAL ADVICE

Before deciding to carry out any works, an assessment of the feasibility of achieving the required accommodation and complying with the statutory requirements (including fire safety requirements) should be made.

You are recommended to get advice from a building professional (e.g. Architect, Engineer) on the design of your attic / loft conversion, the selection of a competent contractor, the supervision of the conversion work, the certification of payment instalments to the builder, and the certification of the completed conversion as being in compliance with applicable planning / building regulations. Having compliance certification on file will be helpful if you should decide to sell your house, at some future date.

Professional advice should, for example, help to ensure that primary access to, and emergency exit from, the converted roof space is by means of a secure stairway (not just pull down steps); and to identify / resolve any important structural safety issues (e.g. structural strength of ceiling joists to support flooring, any proposed adjustment of timber trusses supporting roof). The extra cost of professional services should pay for itself by helping to ensure that the conversion is up to standard and is safe for you and your family.

## FIRE SAFETY: THE LEGAL REQUIREMENTS

Part B of the Building Regulations sets out mandatory fire safety requirements; and Technical Guidance Document B (TGD-B) shows how to comply with Part B. TGD B can be accessed on the web at:

[www.environ.ie](http://www.environ.ie)

under the headings "What We Do", "Building Standards". Alternatively, TGD B can be purchased from the Government Publications Sales Office, Molesworth Street, Dublin 2.

This leaflet is not intended as an alternative to the relevant provisions of Technical Guidance Document B.

An authorised officer of the local building control authority is entitled to inspect works in connection with the conversion of a roof space in a dwelling house, for the purpose of ensuring compliance with the regulations.

## ESCAPE PROVISIONS

When the roof space of a dwelling house is converted to living accommodation, an additional storey is in effect added to the house. This means that a bungalow becomes a two-storey house and a two-storey house becomes a three-storey house.

**Additional storey height increases the difficulty of escape should a fire occur and the provisions required under the building regulations are increased accordingly.**

This is particularly the case for a three-storey house, where the existing stairs and the new stairs should be enclosed in fire resisting construction. This applies to the wall construction and the doors into the habitable rooms.

The technical guidance to the building regulations makes special provisions for loft conversions in existing two-storey dwelling houses, where the conversion provides not more than two habitable rooms and the additional accommodation is less than 50m<sup>2</sup>. These relate to the means of enclosing the stairs to the new storey and upgrading of the protection to the existing stairway.

The habitable rooms in the new storey should each be provided with a window or roof light that is suitable for escape or rescue. Guidance is given on the dimensions for the size and position, relative to the eaves and new floor level, for these windows / roof lights (roof windows).

### CONVERTING EXISTING ROOF SPACE OF TWO STOREY HOUSE INTO HABITABLE ACCOMMODATION

#### IF YOUR CONVERSION

- Doesn't involve raising the roof-line above the existing ridge
- Is 50 square metres or less
- Has no more than two habitable rooms

#### THEN

- you may use these fire safety provisions.

- 1 Enclose the existing stairway with fire-resisting walls or partitions
- 2 Extend fire-resisting enclosure to a Final exit (such as the front door)
  - OR
  - Give access to two escape routes at ground level, separated by fire-resisting construction
- 3 New stairs to comply with Building Regulations guidance on stairways, including
  - Maximum 42 degree pitch
  - Minimum 220 mm going
  - Maximum 220 mm rise
  - Minimum 1900 mm headroom
  - Minimum 800 mm wide
  - Other guidance may be found in TGD to Part K
- 4 Separate the new accommodation from the existing stairway
  - EITHER**
  - 4a Extend the existing enclosure up into the roof space and separate the new rooms from the stairway in fire-resisting construction
  - OR**
  - 4b If the new stairway rises in an existing room, separate it from the room and from the rest of the house by fire-resisting construction and fire door at the top or bottom of the new stairs
- 5 All new doors to habitable rooms to be self-closing fire doors
- 6 All glazing in the existing stairway enclosure is to be fixed shut and to be fire-resisting
- 7a Separate the new storey from the rest of the house by "full 30 minute" fire-resisting construction
  - AND**
  - 7b Ensure the existing first floor is of "modified 30 minute fire resisting standard" or better
- 8 Each new attic room to have a window or rooflight for escape or rescue. This means:
  - 8a Unobstructed opening minimum 850 mm high and 500 mm wide
  - 8b Any fastenings to be readily openable from the inside
  - 8c Bottom of a window opening to be between 800 and 1100 mm above the floor
  - 8d Bottom of a rooflight opening to be minimum 600 mm above the floor
  - 8e From the eaves to the sill of a dormer window or rooflight the distance to be maximum 1700 mm
  - 8f ground under the window to be clear of any obstructions, to support a ladder safely, to be big enough to provide a place of safety
  - 8g Provide guarding around any balcony accessed by french window or patio door
- 9 Provide interconnected mains powered smoke alarms with battery back up at all storey levels within the stairs enclosure to give an LD3 system or better to BS5839: 1995.

