



Rialtas na hÉireann
Government of Ireland

Loft Conversion Guidelines

Protect Your Family - Fire Safety Guidance

Prepared by the Department of Housing, Local Government and Heritage
housing.gov.ie

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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.

Under the Building Control Act 1990 – 2020, there is a legal requirement placed on the owner / builder / designer to ensure that the finished works comply with the Building Regulations. This document highlights the principal issues (including fire safety) that need to be addressed when converting an attic / loft roof space in an existing dwelling house.

The purpose of these fire safety requirements is to safeguard you and your family, should a fire occur in your home.

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, etc.) on the design of your attic / loft conversion, the selection of a competent contractor, the supervision of the conversion work, 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 permanent stairway; and to identify / resolve any important structural safety issues (e.g. structural strength of ceiling joists to support flooring, any proposed adjustment of timbers supporting roof (including trusses), etc.). 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 2017) shows how to comply with Part B. Appendix D gives specific details for loft conversions. TGD B - Volume 2 Dwelling Houses can be accessed on the web at: **www.housing.gov.ie**.

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. Where a conversion occurs, the provisions outlined in TGD B for a two, or three-storey house (as appropriate) should be complied with.



All habitable rooms in the new storey should 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) in Diagram 1 (Point 8).

Where the attic is converted in an existing two storey dwelling, the provisions relating to a three storey dwelling should be adhered to. However, TGD B makes special provisions for loft conversions in an existing two-storey dwelling, where the conversion provides not more than two habitable rooms and the additional accommodation is less than 50m². The special provisions, outlined in the following paragraphs, relate to the means of enclosing the stairs to the new storey and upgrading of the protection to the existing stairway.

The existing stairs and the new stairs should be enclosed in 30 minute fire resisting wall construction. The doors to habitable rooms from the stairway should be fire resisting doors of not less than 20 minutes (E20 / FD 20). Information on fire doors in dwelling houses can be found in Appendix B to TGD B, 2017

Existing stud partitions with 12.5mm standard plasterboard will satisfy the 30 minute fire resisting construction requirement subject to penetrations (sockets, lights, etc.) being fire stopped and any glazing in the existing stairway enclosure, excluding glazing in the external wall, should be fixed shut and be fire-resisting (See Diagram 1, Point 6).

Where fire door leafs, rather than fire doorsets, are being fitted in existing construction, self-closers and intumescent strips should be fitted to the existing door frames.



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. Each floor in such a building should achieve 30 minutes fire resistance.

However, special provisions apply to loft / attic conversions where not more than two additional habitable rooms are provided and the additional floor area is less than 50m². Where these apply, a modified 30 minute fire resistance (R30, REI 15) (30/15/15) is acceptable. An existing floor build-up with 12.5mm standard plasterboard on 37mm (min) joists, and a minimum 18mm structural floor will satisfy the requirement of modified 30 minutes. Any other floor build up should be assessed to determine the fire performance of the actual construction.

To ensure that the new floor achieves the required fire resistance, the flooring on top of the existing joists should extend to the external walls irrespective of the extent of habitable area.

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.

Converting Existing Roof Space of Two Storey House into Habitable Accommodation

If your conversion:

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

Then you may use the following fire safety provisions:

1. Enclose the existing stairway with 30 minute 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 new habitable rooms should comply with Part K and Technical Guidance Document K, 2014. Special provisions for loft conversions, with one habitable room, are provided under Para 1.1.15 to TGD K.

In the conversion of a loft where headroom for the new stairs is limited, the headroom of the new stairs measured at the centre of the stairs should be not less than 1.9 m but may reduce to not less than 1.8 m at the side of the stairs if there is a minor projection.

The existing stairs rising from ground to first floor does not need to comply with current Building Regulations, Part K, unless it is being replaced. The new works to provide access to the loft should not compromise safe passage of the existing stairs.

4. Separate the new accommodation from the stairway

BY EITHER:

- a. Extending the existing enclosure up into the roof space and separating the new rooms from the stairway in fire-resisting construction (Diagram 1)

OR

- b. If the new stairway is constructed within an existing room, separating the room from the rest of the house by 30 minute fire-resisting construction and providing fire door(s) at the top (Diagram 2a) or bottom (Diagram 2b) of the new stairs.

Where the door is provided at the top of the stairs, the provisions of Diagram 1 should be followed. Where a door is provided at the bottom of the stairs, the stairs is part of the open loft, and guarding is required around the stairs only.

5. All doors to habitable rooms along the protected escape route must be 20 minute self-closing fire doors.
6. All glazing in the existing stairway enclosure, excluding glazing in the external wall, must be fixed shut and be fire-resisting.
7. a. The new floor in the attic must achieve modified 30 minute fire resistance (R30, REI 15) (30/15/15), or better
AND
b. Ensure the existing first floor achieves modified 30 minute fire resistance (R30, REI 15) (30/15/15) or better.

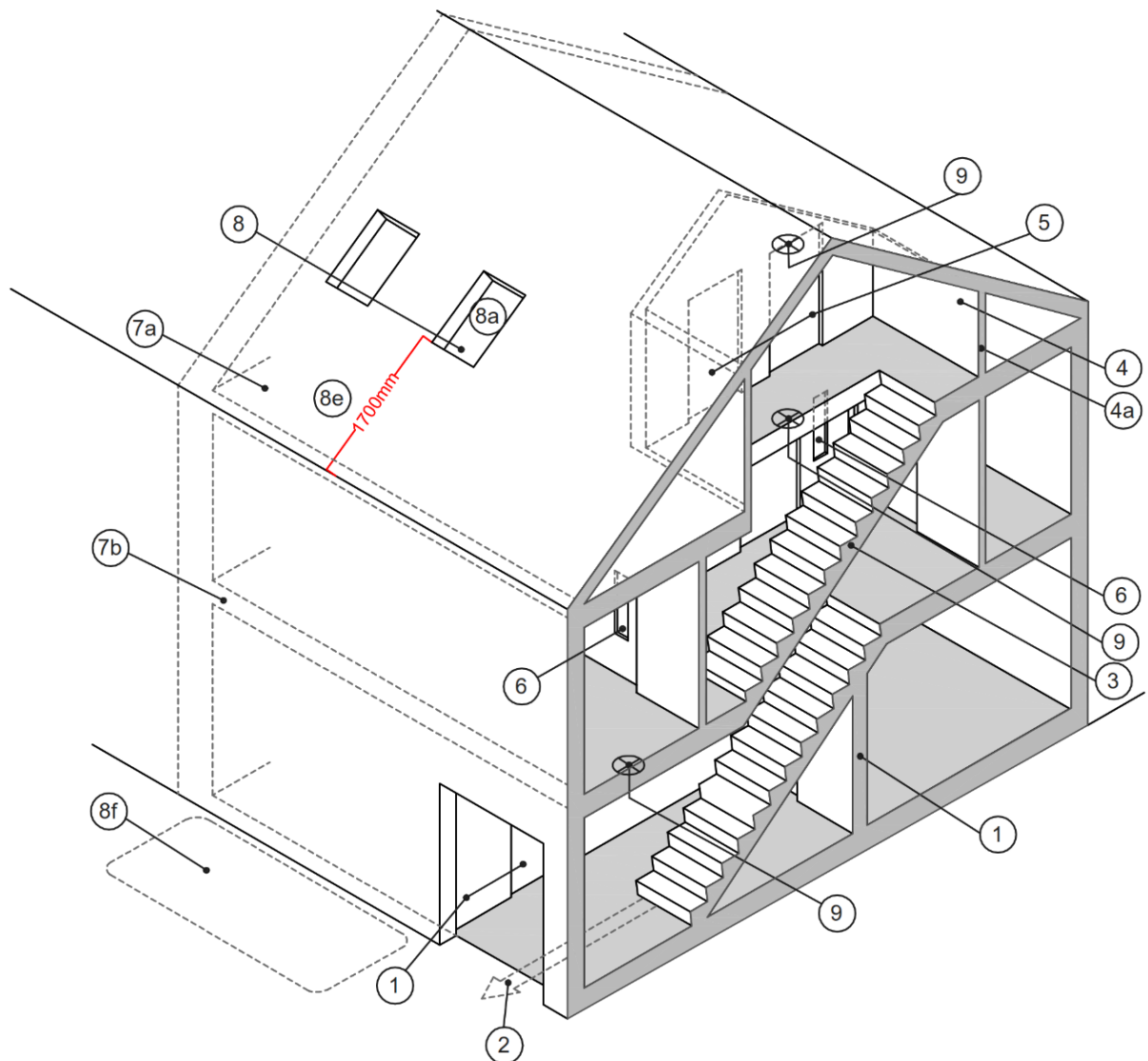


Diagram 1: New stair rising in existing stairway enclosure (4a)

8. Each new attic room to have a window or rooflight for escape or rescue. This means:
- Unobstructed opening minimum 450 mm in either direction and overall area not less than 0.33m²,
 - Any fastenings to be readily openable from the inside,
 - Bottom of a window opening to be between 800 mm and 1100 mm above the floor,
 - Bottom of a rooflight opening to be minimum 600 mm above the floor,
 - From the eaves to the cill of a dormer window or rooflight the distance to be maximum 1700 mm,
 - Ground under the window to be clear of any obstructions, to support a ladder safely,
 - Provide guarding around any balcony accessed by french window or patio door.

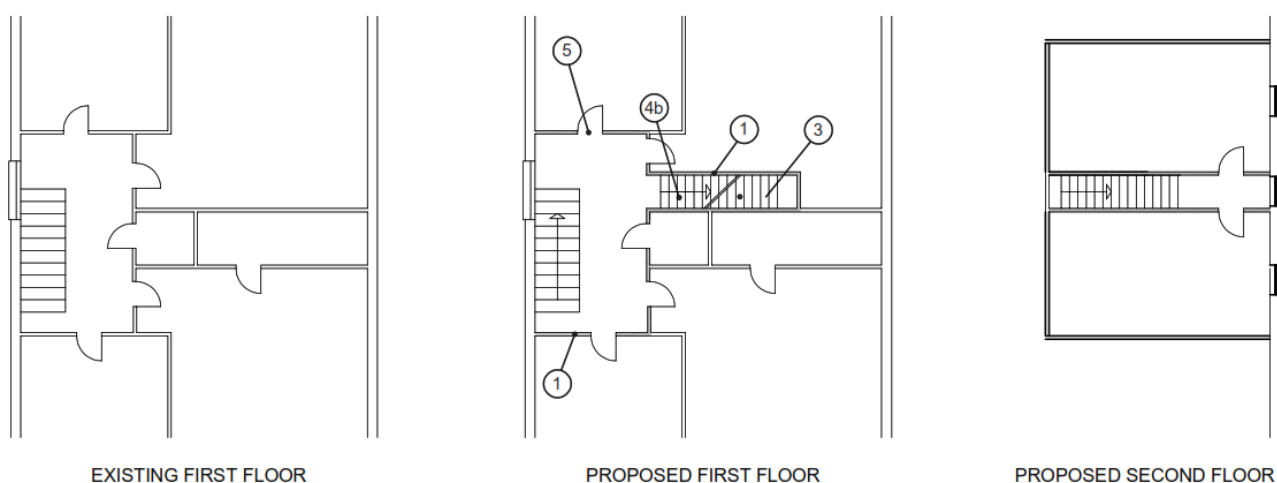


Diagram 2a: New stair constructed in an existing room – door(s) at top (4b)

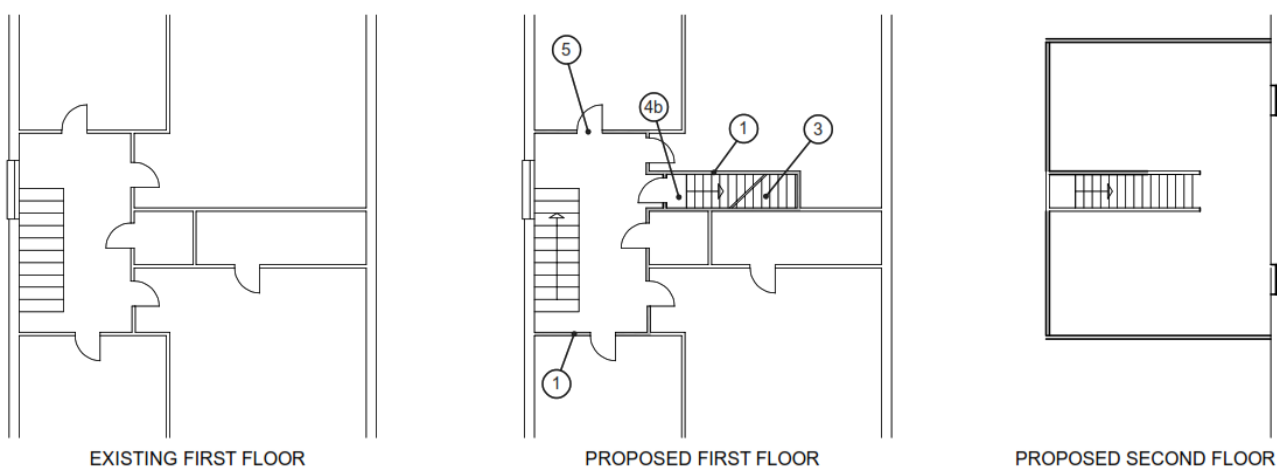


Diagram 2b: New stair constructed in an existing room – door at bottom (4b)

9. Provide interconnected mains powered smoke or heat alarms with battery back-up, or radio interconnected alarms with 10 year sealed battery.

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.

The alarm system should consist of interconnected fire alarms located throughout the existing dwelling house. This requirement may be satisfied either by hard-wired interconnected smoke / heat alarms with battery backup or radio interconnected alarms with 10 year sealed battery.

Smoke or heat alarms, as appropriate, should be provided within the dwelling in:

- a. circulation areas, at all levels, that form part of an escape route,
- b. all high fire risk areas/rooms e.g. kitchen, living rooms, garages, utility rooms and
- c. all bedrooms.

Electrical Installations

It is a legal requirement that all electrical work is carried out by a registered Electrician, as improperly designed / installed fittings and inadequate wiring can constitute a serious fire hazard (see <https://www.cru.ie/professional/safety>).

Particular care is required with the design and installation of electrical installations (recessed lights, sockets, switches, etc.) so as not to compromise any fire resistance required.

Other Aspects

This document 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 - Structure
- Part D - Materials and Workmanship
- Part E - Sound
- Part F - Ventilation
- Part L - Conservation of Fuel and Energy – Dwellings

The relevant Technical Guidance Documents, on how to comply with Parts A - M inclusive, can be viewed on the Department's website: <http://www.housing.gov.ie>

This document outlines specific provisions of TGD B 2017 related to fire safety for loft conversions in certain circumstances. Further guidance can be found in Technical Guidance Document B 2017 Volume 2 – Dwelling Houses.

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 building regulations.

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 TGD B (Fire Safety) on Part B of the Building Regulations may not always be appropriate; and alternative approaches to meeting the fire safety requirements of the Building Regulations may 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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