building control northern ireland

GUIDANCE NOTE

Topic: **ROOFSPACE CONVERSION GUIDANCE LEAFLET**

Ref No: **F/07/05**

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This leaflet provides guidance on how to attain compliance with the Building Regulations (Northern Ireland) 2000, and subsequent amendments, when carrying out a roof space conversion.

The regulations apply to any works carried out to convert your roof space into a useable space, (including storage), other than where it is intended to store general household items on loose boarding and access is via a ladder.

The following are the main areas, (including recent regulation changes), of consideration when converting a roof space of a single storey dwelling:

- The structural adequacy of the new floor, or where ties and struts of a truss roof are being removed to create the space, it must be designed and checked to ensure it can safely accommodate the new loads placed on it without suffering collapse or excessive deflection. Remember, ceiling joists are generally not intended to act as a floor and are not designed to support heavy loads.

- Modified ½ hour fire resistance floor is required to new storey; this will involve flooring the full area between the supports for the floor and may also require upgrading the ceiling where the plasterboard is less than 12.5mm thick.

- All new habitable rooms in the converted area will require an emergency egress window with the following dimensions:

    - A clear opening of 0.33m².

    - Have a minimum dimension that is either 450mm high or 450mm wide i.e. 450mm W x 733mm H, clear opening.

    - The lower edge of the window opening is between 800mm & 1100mm above floor level, except in the case of a roof light the bottom edge can be as low as 600mm above floor level and located 1700mm from the eaves.

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- Automatic detection and alarms are required incorporating interlinked mains powered alarms and battery backup. The smoke detection will be placed in the circulation routes on all levels and in the principal habitable room on the ground floor and a heat detector in the kitchen.

- The stairs from the first floor should discharge into a hall or into a habitable room provided there is a door within 3m of the foot of the stairs. The stairs should not discharge into the kitchen.

- There should be sufficient space to fit a complying flight of stairs. The main considerations are:

    - The pitch – not to exceed 42º e.g. minimum going of 220mm requires a rise of 198mm or a maximum rise of 220mm requires a going of 244mm.

    - Head height – minimum 2m required over the pitch line of the stairs and also to the landing at the top and bottom of the stairs.

- Consideration must also be given to ventilation requirements to prevent condensation within the roof space and structure.

- Insulation is required to the thermal elements, to comply with the regulations.

SOME EXAMPLES OF NEW INSULATION REQUIRED:

Note: The examples WILL NOT satisfy the regulations in all cases. Each application MUST be treated individually and achievement for each element, demonstrated to Building Control. The examples are for illustration purposes only in demonstration of how achievement MAY be met for the new U-values.

- Pitched Roof with Flat Ceiling (U-value 0.16)
  When using a Glass Mineral Fibre or other insulation with thermal conductivity of 0.040 W/mK, an example is 100mm of insulation between the joists AND 170mm over the joists, (laid at right angles).

- Sloping Ceilings with Insulation at Rafter Level (U-value 0.20)
  When using a Rigid Urethane or other insulation with thermal conductivity of 0.023 W/mK, an example is 120mm of insulation between the rafters AND 25mm across the face (above the plasterboard).

- Attic Room Stud Walls (U-value 0.30)
  When using a Rigid Urethane or other insulation with thermal conductivity of 0.023 W/mK, an example is 65mm of insulation between the rafters AND 25mm across the face (behind the plasterboard).

- Existing Gable Walls and Party Walls (U-value 0.55)
  When using a Rigid Urethane or other insulation with thermal conductivity of 0.023 W/mK, an example is 55mm of insulation between battens at 600mm centres (behind the plasterboard).

- Windows (U-value 1.8)
  When fitting new windows, ask the supplier to provide proof that the windows meet a U-value of 1.8.

  NOTES: **1)** Headroom could be affected because of battening out additional insulation requirements.
  2) Remember to maintain at least 50mm air gap between rafters on cold roofs.

In addition to the previous matter, when you are converting a roof space of a two storey dwelling, the following fire safety measures are applicable if the converted area does not exceed 50m² and does not contain more than two habitable rooms.

- The stair shall be enclosed in fire resisting construction.
- All glazing within the stair enclosure to be upgraded to ½ hour fire resistance (integrity and insulation values).
- All existing doors on the protected hallway, to be imperforate and doors to habitable rooms to be fitted with door closers.
- All new doors to the protected stairway to be fire doors.
- The stair to discharge into a hallway.
- All rooms to be fitted with emergency egress windows.

Where the conversion exceeds 50m² or contains more than two habitable rooms the stairway should be upgraded to a full half hour fire resisting construction with all doors being fire resistant.

The above are the main areas that need to be addressed when converting your roof space. As each conversion will provide a unique set of circumstances, you should contact the Building Control Surveyor for your area who will advise you on all aspects applicable to your application.

The Standards and Performance Panel acknowledge Building Control Department, Lisburn City Council for the compilation of this Guidance Note.

'This guidance has been produced as an interpretation of a specific requirement of the Building Regulation for use by Building Control Personnel. There is no legal obligation for Building Control to adopt this guidance.'