

# Homeowners guide to the conversion of attached garages to living spaces



Friendly and helpful support from your local authority building control team

## Introduction

The conversion of an attached garage into living accommodation is controlled under the Building Regulations which requires a formal application being submitted before commencing work. (See LABC homeowner's guidance note on how to submit an application). The following information gives basic guidance on some of the issues to consider.

## Foundations

A foundation must be provided to carry any additional masonry loads which may include a brick panel that replaces the existing garage door opening, or an internal leaf of concrete blocks to line the existing garage wall. The condition and suitability of existing foundations and floor can usually be assessed when the door infill area is excavated. In most cases a new foundation will be needed to comply with the Building Regulations or in some cases suitable beams or lintels can be used that span between the edges of the existing foundations on either side of the opening.

## Infilling the Garage Door Opening

This is usually done with a new panel of cavity walling incorporating a damp proof course lapped to the new damp proof membrane in the floor and to the existing DPC at wall junctions. The cavity should extend to at least 225mm below the DPC, however where this is not possible a cavity tray directed to the outer leaf should be provided. The masonry must be tied to the existing wall by brick tooth bonding or proprietary stainless steel fixing profiles. Alternatively, a timber framed panel can be used in place of either an inner blockwork skin or in some instances both skins of masonry. All infill panels must be durable, weather-proof and adequately thermally insulating

## Structural Adequacy

If the existing wall is single leaf construction with piers, it should be checked for stability and be free from defects. If satisfactory then it is likely the wall would be suitable subject to ensuring it is weather and sound resistant (covered elsewhere in this guidance note). Do also ensure the roof structure is weather resistant and structurally adequate.

When using new masonry walling the floor slab should be assessed for adequacy to make sure it can carry the

extra load at the perimeter.

## New Floor

Various methods of forming a floor are acceptable. The four most popular are: -

- **Solid** – where levels are made up with a finishing screed and/or concrete incorporating suitable thermal insulation and a damp proof membrane (DPM).
- **Floating** – Where flooring grade tongued and grooved chipboard is laid it must have glued joints, sit on a vapour check (polythene sheet) on the top of foam insulant board which in turn rests on top of a concrete slab, again the floor must also have a DPM. Where 'wet areas' are proposed, moisture resistant flooring boards should be used.
- **Suspended Timber** – The formation of a traditional floor with joists, wall plates and a damp proof course that all rest on honeycomb brick sleeper walls. The floor is insulated with a suitable material that is fixed between the joists and under-floor ventilation is provided by air bricks to the outside on two opposing sides (or connected to an existing vented sub floor void). You should ensure a minimum void of 150mm is kept between the underside of the joists and the oversite concrete.
- **Battened Solid** – with this technique the timber boarding is fixed onto treated timber battens plugged and screwed into a concrete slab beneath. Insulation can be placed between the battens (fully filling the void) with a vapour check over. It is essential that an effective linked DPM be incorporated with this system.

## Weather Resistance

A brick wall of single leaf construction (100mm thick) must be treated to provide adequate weather resistance. A waterproofing material applied to the inner face and linked to floor damp proofing may in some cases where the wall surface is smooth and free from defects be an effective way to achieve this although it will restrict the natural permeation of air through the wall to the outside which can cause condensation. The provision of a timber framed and insulated plasterboard lined wall or masonry inner leaf to create a cavity wall is often used, however you must ensure you incorporate a suitable moisture barrier and have a linked DPC to form a drained cavity at its base.

## Insulation

The thermal insulating properties of elements such as walls, floors and roofs that separate the heated space from an unheated space or outside air will need to be upgraded to comply with Building Regulations. The LABC guidance note 'U values of elements' gives examples of common wall and roof construction that meet building regulation standards.

When insulating roofs you must provide appropriate ventilation to prevent the harmful build up of interstitial and surface condensation within the roof. Similarly timber framed walls require a fully sealed vapour check e.g. foil or polyethylene sheet on the 'warm' (internal) side of the insulation to reduce the risk of condensation from moist air occurring in the wall structure

## Windows

These should meet the minimum energy efficiency standards, which in general terms means they must be double glazed and meet specific thermal insulation 'U' values. If the new room can only be accessed through another room then a suitable escape window will normally be required, with a clear opening that has a minimum height and width of 450mm and area of at least 0.33m<sup>2</sup> (e.g. 450mm x 733mm). The bottom of the openable area should not be more than 1100mm above the floor.

The windows should provide ventilation by having clear openings equal to at least 1/20th of the floor area of the room (increased to one tenth floor area if window opens by more than 15 ° but less than 30 °). The windows should also be fitted with trickle vents that give at least 8000mm<sup>2</sup> free area to provide background ventilation. Any glazing must be safety glazing if fixed in 'critical locations' (which includes doors and side lights).

## Sound proofing

This may be needed to any single leaf walls separating neighbouring garages or properties. An adequate standard can be achieved by constructing an additional 100mm dense blockwork lining wall or an independent timber framed studwork wall lined with 30mm thick plasterboard and filled with at least 35mm of mineral wool quilt between studs. There should also be at least 15mm clearance between studs and the existing wall. You are likely to need additional thermal insulation if any wall separates the new heated room from an unheated space (see 'insulation' above).

## Electrical

Electrical wiring is controlled under the Building Regulations, and where the work involves a new circuit or

forms a new kitchen, bath or shower room, it is classed as 'notifiable' under Part P of the regulations. The most straightforward route to compliance is by using an electrician who is registered under a government authorised Competent Person Scheme. Otherwise you should check with your local Building Control department for advice on their procedure for checking this part of the work.

## Other Considerations

Mechanical ventilation is required to serve shower rooms, bathrooms utility rooms or kitchens created by the garage conversion. Extractor fans with an appropriate air change capacity can provide this. There may be a need to install mains powered smoke detectors in existing circulation spaces (hallways and landings) if none exist at present and there is no external exit door to the new room. Any new drainage works will need to comply with building regulations in terms of access and layout.

## Further advice

You can obtain further advice on Building Regulations and garage conversions from the Building Control section of your local council

## Planning Permission

The conversion of a garage into a room may require planning permission whether the garage is integral with the house or detached.

Planning permission for the construction of a garage or the original dwelling itself may include specific conditions that prevent its use for anything other than the parking of a private car. In this case it is always necessary to obtain planning permission for the conversion, or any alteration such as removing the door and bricking up or inserting a window.

Consequently you are strongly advised to check with The Council's Development Control section before starting work.

Extra information may be found on the Communities and Local Government website [www.communities.gov.uk](http://www.communities.gov.uk) or the Planning Portal at [www.planningportal.gov.uk](http://www.planningportal.gov.uk)