

Rochdale Building Control Guide

Garage Conversions

Garage conversions are often seen as a simple way of obtaining additional living space, however care is needed when dealing with existing buildings.

This guide seeks to provide information on how to achieve compliance with the Building Regulations.

The solutions shown are just some examples of how to comply, other solutions and manufacturers products may achieve the requirements.

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Foundations

When the existing garage door is removed it may appear simple to build the new wall off the garage floor slab, however this may not be suitable dependant upon how the floor was constructed and the prevailing ground conditions.

A trial hole should be excavated adjacent the slab to verify that the slab is supported upon a wall and foundations. If suitable foundation is not found it may be necessary to install one.

Foundations should be a minimum 150mm thick concrete with 150mm projection either side of the wall.

Floor

Existing garage floors require upgrading to enable use as living space, the required U value is $0.22 \text{ w/m}^2\text{K}$.

The amount of insulation required is based upon the P/A ratio which is the perimeter length divided by the area of the floor. Manufacturer's websites have information regarding insulation thickness based upon the P/A ratio. The following examples are suitable in most instances.

The most popular methods of upgrading the floor are:

1. Solid

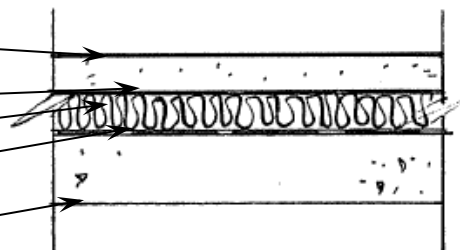
75mm sand/cement screed

500 gauge visqueen

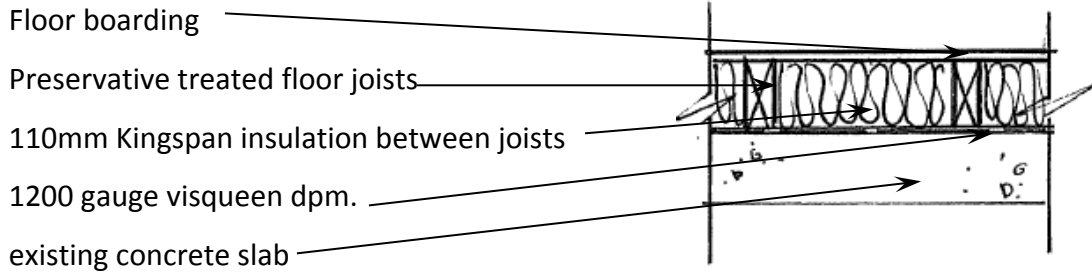
75mm Kingspan insulation

1200g visqueen

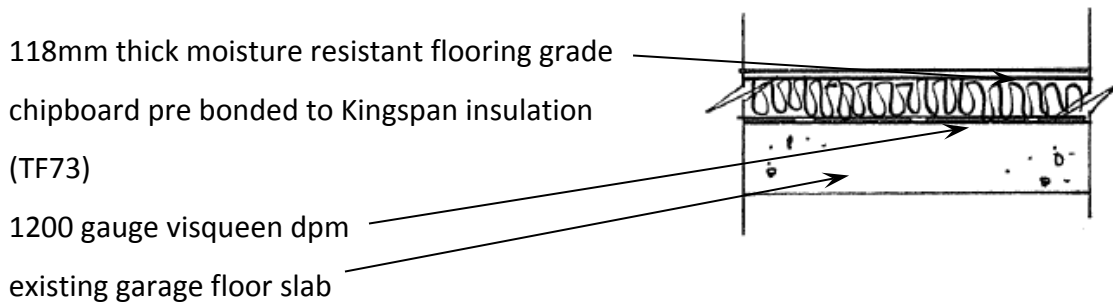
existing concrete slab



2. Timber



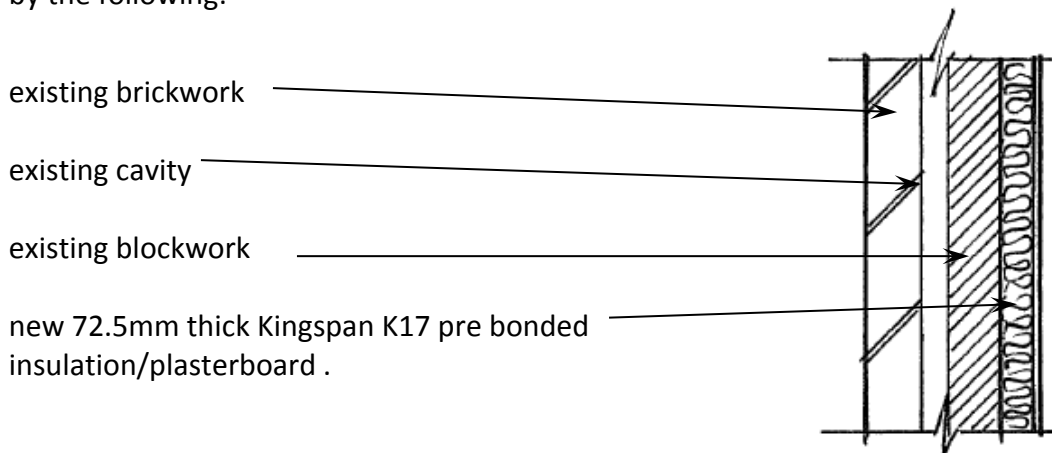
3. Composite.



Thermal upgrading

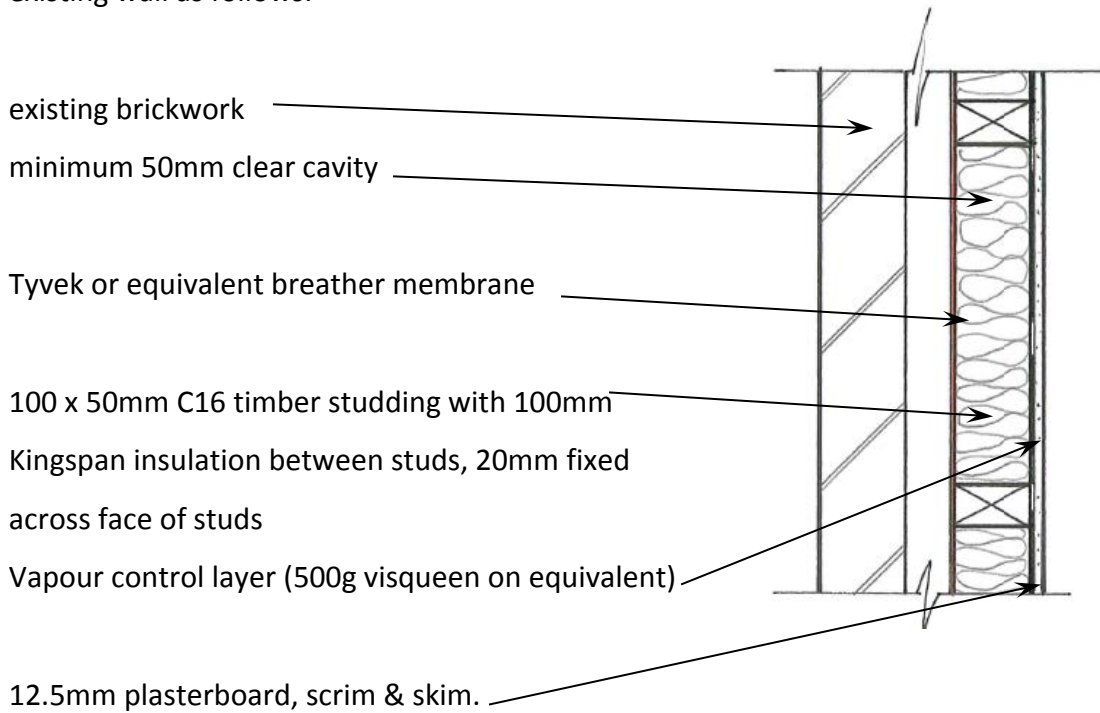
Walls

External walls will require upgrading to achieve the required U value of $0.28 \text{ w/m}^2\text{K}$. The method used will vary dependant upon the existing garage wall construction. Typically insulation is applied internally, for an existing cavity wall this can be achieved by the following:



Solid brickwork external walls can be upgraded by lining with 82.5mm thick Kingspan K17 pre bonded insulation/plasterboard.

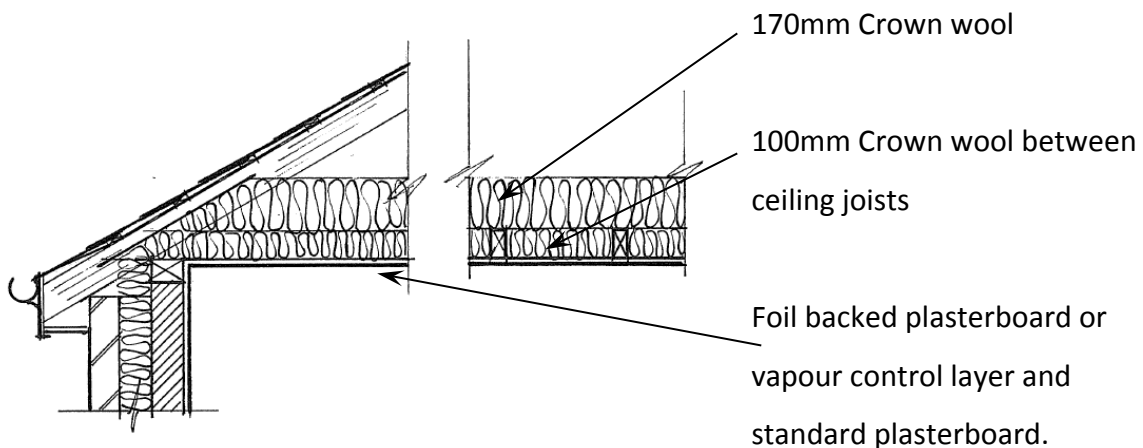
An alternative solution is to provide an insulated timber frame to the inside of the existing wall as follows.



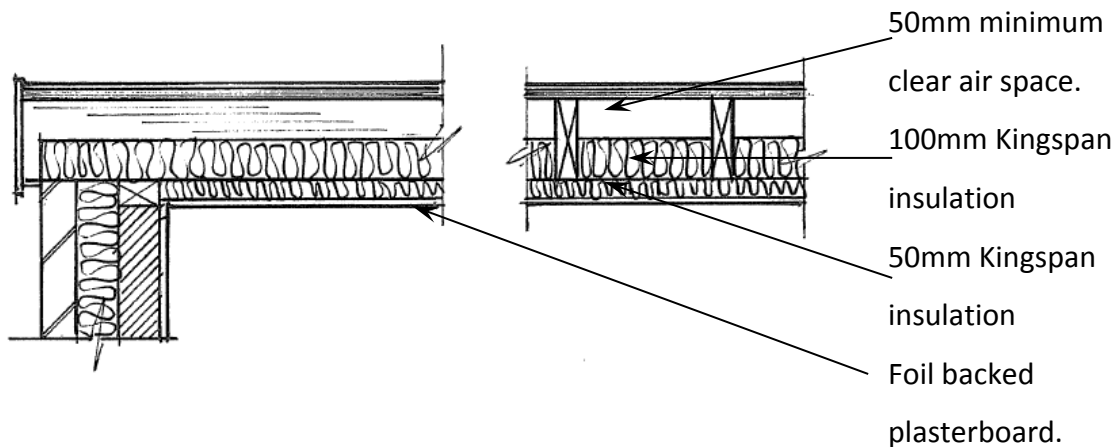
Roof

If a room exists over the garage no thermal upgrading will be required, however if a roof space exists over the garage thermal insulation will be required.

In a pitched roof situation 270mm Crown wool insulation is normally installed with 100mm inserted between the ceiling joists and 170mm laid at right angles over the ceiling joists. It is important to install foil backed plasterboard to the underside of the ceiling joists to reduce condensation in the roof space.



For flat roofs 100mm Kingspan insulation is normally installed between the flat roof joists level with the bottom of the joists and 50mm fixed to the underside of the joists. It is important to maintain a 50mm clear air space between the top of insulation and top of joists to prevent dampness.



Windows

New windows are to achieve WER (window energy rating) band C, or a U value of $1.6 \text{ W/m}^2\text{K}$, which typically equates to 4mm glass 20m air gap argon filled, 4mm glass with low e coating to inner pane.

Ventilation

The room should have windows that open equal to $1/20^{\text{th}}$ of the room's floor area.

Background ventilation is required typically by the provision of trickle ventilators located 1.7m above floor level with simple flap control. Trickle vents are stamped with size of ventilation provided, 5000mm^2 equivalent area is required to most rooms with 2500 mm^2 to shower, bathrooms and kitchens.

Mechanical ventilation is required to the following areas:

Room	Intermittent extract
Kitchen	30 l/s adjacent to hob or 60 l/s elsewhere
Utility	30 l/s
Bathroom	15 l/s

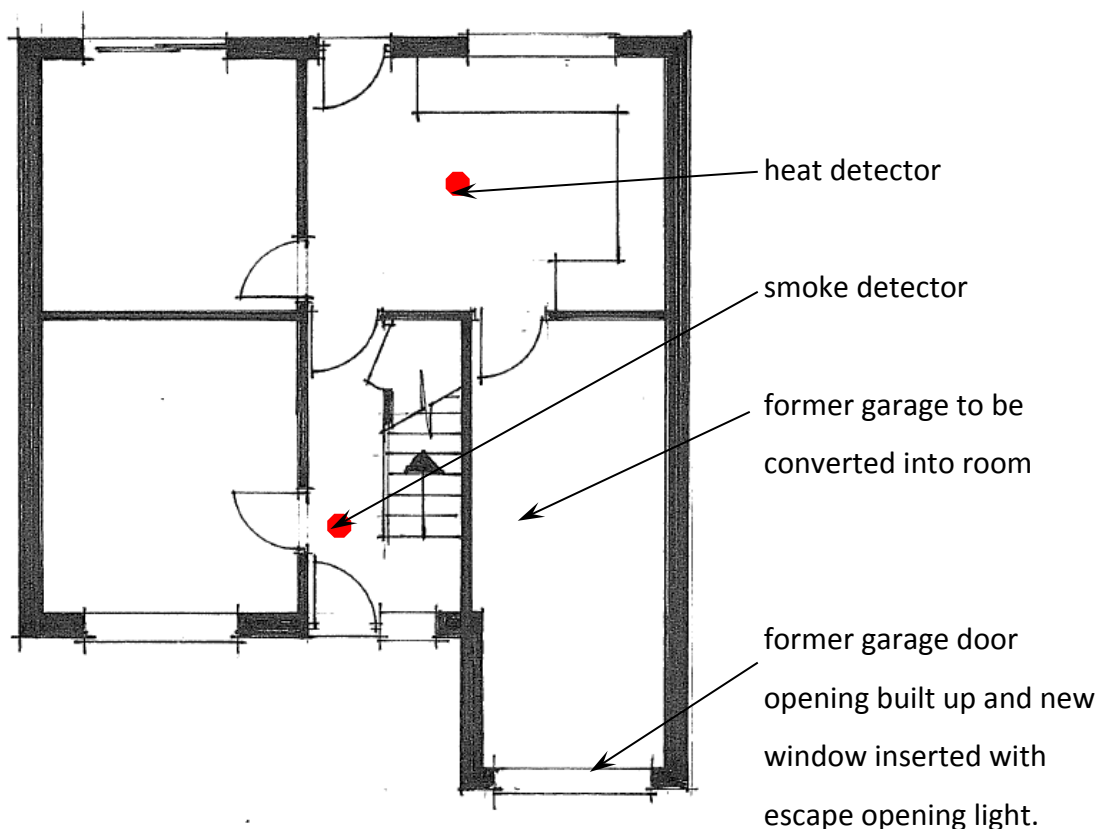
Drainage

Any new drainage connections must be inspected before they are covered over. It is important that if your house has separate foul and surface water drainage that this is maintained.

Fire precautions

Escape windows

If the garage which is being converted to a room is accessed through another room then a means of escape window is required. A clear opening area of 0.33 m^2 is required for escape which equates to an opening size of 450mm x 750mm. For further details please refer to the separate guidance note available from our website.



Smoke detection

Mains wired smoke alarms are required in the circulation space used to access new room these must conform to BS 5446 and be installed by a registered electrician.

Electrical work

Electrical work must be undertaken by a competent person who has sufficient knowledge to undertake the work. Electrical work must conform to the 17th edition of the IEE wiring regulations. The most suitable way of achieving compliance is to employ a competent person registered with NICEIC, NAPIT, ECA or ELECSA.

Lighting & Heating

75% (3 per 4) of new or replacement light fittings should be low energy light fittings with lamps having a luminous efficacy greater than 45 lamp lumens per circuit-watt and a total output greater than 400 lamp lumens.

New heating extended off the existing system should be provided with Thermostatic valves to control the temperature.

Bibliography/Further Guidance

BSI, 2002, *BS 5250: 2002 Code of practice for the control of condensation in buildings*, British Standards Institution, London.

DCLG, 2007, *Building Regulations 2000 Approved Document B Fire safety*, Department for Communities and Local Government, London, <www.planningportal.gov.uk>

ODPM, 2004, *Building Regulations 2000 Approved Document C Site preparation and resistance to contaminants and moisture*, Department for Communities and Local Government, London, <www.planningportal.gov.uk>

DCLG, 2010, *Building Regulations 2000 Approved Document L1B Conservation of fuel and power in existing dwellings*, Department for Communities and Local Government, London, <www.planningportal.gov.uk>

DCLG, 2010, *Building Regulations 2000 Approved Document F Ventilation*, Department for Communities and Local Government, London, <www.planningportal.gov.uk>

RMBC, 2010, *Building Control Guide to Approved Document L1B*, Rochdale Building Control, Rochdale, <www.rochdale.gov.uk/buildingcontrol>

RMBC, 2010, *Building Control Guidance Note- Escape windows*, Rochdale Building Control, Rochdale, <www.rochdale.gov.uk/buildingcontrol>

RMBC, 2010, *Building Control Guide to Approved document F*, Rochdale Building Control, Rochdale, <www.rochdale.gov.uk/buildingcontrol>