Garage Conversions

Foundations

Concrete foundations for the new front (or rear) walls should be provided to a depth of 1 metre or to the same depth as the existing foundation to the garage if they are deeper than 1 metre.
OR
In some case you may consider using suitable concrete or protected steel lintels to span the opening of a single garage door, the ends to be cut into the existing brickwork to give a bearing of 150mm each end.

Walls

Should the existing garage walls only be 105mm thick, the proposed wall construction involving an inner leaf of blockwork or timber studwork should incorporate a 50-100mm wide cavity (depending on type of insulation used). Where the garage is semi-detached, sound insulation should be provided to the party wall by the provision of a sound absorbent quilt and two layers of plasterboard fixed to an independent stud wall with a minimum cavity of 13mm.If a double garage is being partly converted, fire separation between the two parts should be maintained.

Floor

The existing floor should be provided with a liquid or sheet membrane lapped into the damp-proof course of the wall construction, and have a covering, incorporating insulation, of one of the following:

- Concrete slab (insulation to be 100mm polystyrene or 65mm Styrofoam)
- Timber floor (floating, suspended or platform) (insulation to be 125mm polystyrene or 75mm Styrofoam)

If only a screed is provided over the insulation, the joints between insulation sheets should be taped and the screed should be not less than 65mm thick. The screed should also be reinforced with an anti-crack mesh.

Where a timber floor is to be used to overlay the existing slab and insulation is placed below the floor, a vapour barrier should be provided between the timber and the insulation.

Should a suspended timber floor be used then adequate cross flow ventilation should be provided beneath the floor with a minimum free area of 150mm^2 per square metre of the floor area. In this situation the membrane may be left out.

Roof/Ceiling

Traditional pitched roof - the roof should be insulated with not less than 100mm fibre insulation laid between the joists and 150mm laid across the joists. The roof should be ventilated at the foot of the roof, equivalent to an area of not less than a continuous strip 10mm wide, and at the top equivalent to an area of not less than a continuous strip 5mm wide if the roof has a mono pitch design.

Flat roof - the roof should be insulated with not less than 250mm of fibre insulation or 120mm of rigid urethane insulation board . The roof should be ventilated each side equivalent to an area of not less than a continuous strip 25mm wide to give a complete cross flow of air with a minimum gap of 50mm over the insulation. Should the flat roof be a warm roof construction, the insulation will be on top of the timber deck with the water / weather proof membrane above. In this case the insulation within the walls should be taken up to seal with the roof insulation. (Ventilation is not required in this design)

Window/door openings

A vertical DPC should be provided around the opening, sited between the front brickwork and the return of the blockwork. Preferably this DPC should be fixed to the back of the frame. The DPC may also be part of the system used to reduce thermal bridging around the window opening.

Should the new window be provided between original 225mm thick brickwork piers, the inside jambs of the window should be provided with wall board having an insulation material bonded to the rear of the board, fixed to the inside of the jamb with "dot and dab" fixing plaster. Similarly, the existing lintel above the existing garage door may be used for the new window should it be a type that is, or can be, insulated to avoid cold bridging at the window head.

Should the new room not lead directly to the hall approaching the front door, the new window should be an "escape window" having an unobstructed opening of 0.33m^2, at least 450mm high and 450mm wide.

A wooden or uPVC framed window or glazed door should be a double glazed unit with a space between the glass of 16mm and a low emissive coating, with draught-stripping around the opening elements.

Ventilation should be provided as follows:

Room type	Rapid ventilation (eg opening window)	Background ventilation	Extract ventilation
Habitable room	1/20th of floor area	8000mm^2	-
Kitchen	No minimum size	4000mm^2	30 l/s adjacent to hob or 60 l/s elsewhere
Utility room	No minimum size	4000mm^2	30 l/s
Bathroom	No minimum size	4000mm^2	15 l/s

The background ventilation may be provided by trickle ventilation within the window or by other means i.e. an air brick, but must be adjustable and located to avoid draughts (typically 1.75m above the floor level).

Lighting

The new room should be fitted with a light fitting that will only accept energy efficient lamps. These may be fluorescent tubes or compact fluorescent lamps. (A simple bayonet or Edison screw type of holder would not meet the requirement, even if it is fitted with a self ballasted compact fluorescent lamp).

Note

It is not possible to be precise in the advice we give regarding garage conversions as individual circumstances vary. Also, the above details provide only a selection of the more common alternative means of achieving compliance with the regulations and other solutions may be equally suitable. The Building Control Surveyor will be pleased to advise you on individual cases.

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