



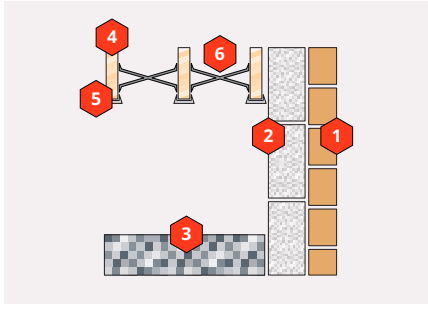
BUILDSTORE
FOR SMART HOMEBUILDERS



GUIDE

FLOOR STRUCTURE

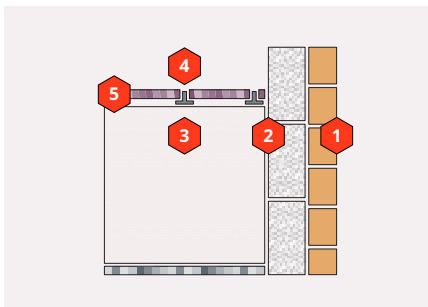
There are 3 main types of flooring available for domestic housing: Suspended Timber Floor, Beam and Block Floor and Solid Concrete Oversite Floor.



1. Outside Wall
2. Concrete Block Inner Wall
3. Concrete Oversight
4. Wooden Joist
5. Metal Joist Hanger
6. Herringbone Strut

SUSPENDED TIMBER FLOOR

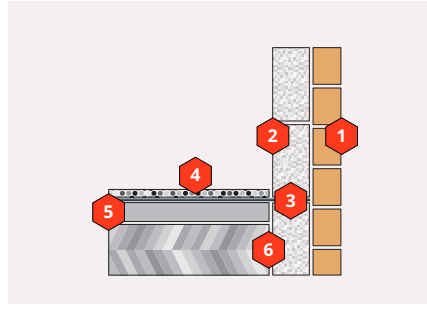
A Suspended Timber floor at ground or intermediate level is created by timber joists spanning from wall to wall to support the floor decking or boarding. The joists are supported on the outside walls using metal joist hangers built into the brickwork. Interim support is also provided by the sleeper walls already referred to. Many houses now employ manufactured 'I' beams instead of timber joists. These provide greater strength and eliminate creaking. Timber frame companies may supply flooring panels in lieu.



1. Outside Wall
2. Concrete Block Inner Wall
3. Sleeper Wall
4. Concrete Beam
5. Concrete Block

BEAM AND BLOCK FLOORING

Beam and Block floors can be utilised at ground or intermediate level. With a Beam and Block floor, inverted 'T' shaped concrete beams span from wall to wall. These walls must be founded. The beams are infilled with concrete blocks to provide a stable suspended floor, which can often support internal partition block walling.



1. Outside Wall
2. Concrete Block Inner Wall
3. Hardcore Infill
4. Sand Blinding
5. Damp Proof Membrane
6. Min 100mm Concrete Oversite

A SOLID CONCRETE OVERSITE

Basements need to be carefully thought out and designed by qualified engineers. There are various means of construction, including pre-formed concrete, poured concrete, blockwork and hollow Styrofoam blocks filled with concrete. These need to be reinforced and integrated with any flooring system. All basements must be tanked or waterproofed and, once again, there are various methods.

Most involve the application or building in of a waterproof membrane, but others employ a sump and pump system, which channels moisture harmlessly away.

INSULATION OPTIONS

Flooring systems need to be insulated at the ground floor level: Timber ground floors are usually insulated by means of glass fibre or mineral wool between the joists, supported by netting. Alternately, rigid foam insulation can be cut between the rafters, supported by battens.

SOLID CONCRETE OVERSIGHT INSULATION

Solid Concrete Oversites can be insulated with rigid foam type insulation boarding laid below it, above it or in a combination of the two. When laid below, an additional layer of damp proof membrane is laid over the insulation prior to the concrete being poured. If it is exclusively below, then vertical perimeter insulation is needed between the slab and the outside walling. If it is laid on top, then it can support either tongued and grooved flooring as a floating floor or a sand and cement screed laid on a damp proof membrane.

BEAM AND BLOCK INSULATION

A Beam and Block ground floor usually has the rigid foam insulation laid on top, and this is either screeded or has a floating floor as above. When used at intermediate level, although it is not strictly necessary to incorporate insulation, it is normal practice beneath either screed or a floating floor.

Insulation and decking laid on top of a concrete or beam and block floor are usually left until later on in the building process. If underfloor central heating is to be employed, the pipes are also laid within the screed or the insulation at this later date. Timber floors receive their decking at the same time as they are laid and therefore, any necessary metal baffle or spreader plates, together with the central heating pipework, will need to be laid prior to the decking going down.

TIPS

- If you are using chipboard flooring as a surface, it is important that you follow the manufacturers recommended fixing instructions: includes sufficient nailing and glueing of joints.
- Ensure the floor is fully insulated
- If you have a block and beam floor, you should ask the supplier if you will require a crane on site to offload and position the beams.
- With a floating floor ensure you leave a 10mm expansion gap around the perimeter.
- If some rooms are to be screeded while others are to have a floating floor, make sure that the flooring is set at the right height to maintain the same levels.