CONCEPTUAL DETAILING FOR INTERIOR DESIGN

ISHIK UNIVERSITY/ENGINEERING FACULTY
INTERIOR DESIGN DEPARTMENT

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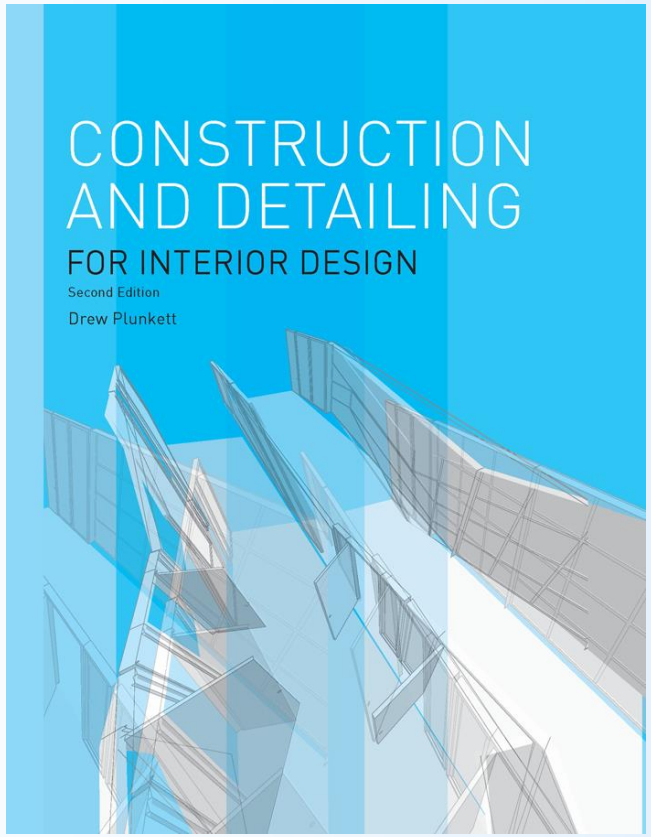
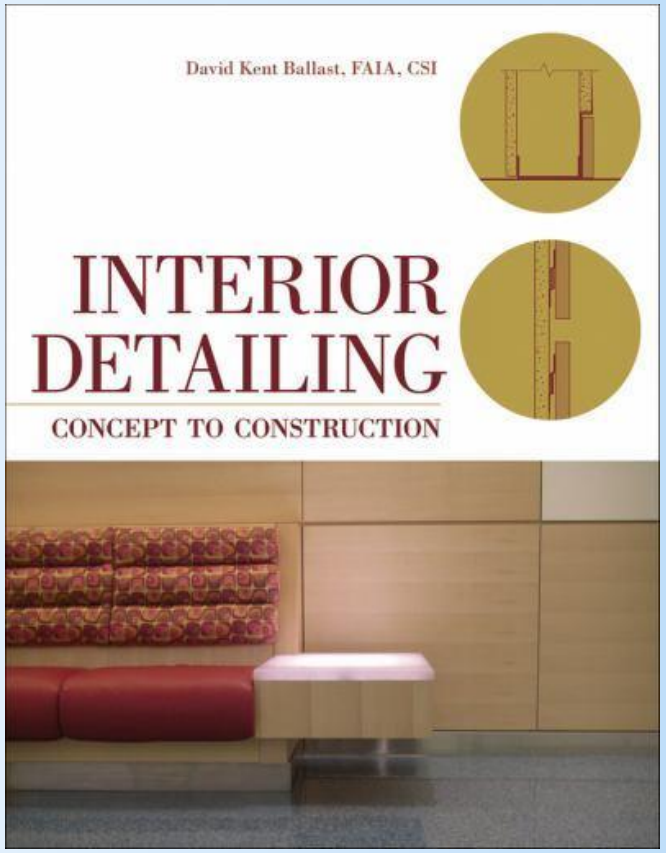
REFERENCE BOOKS





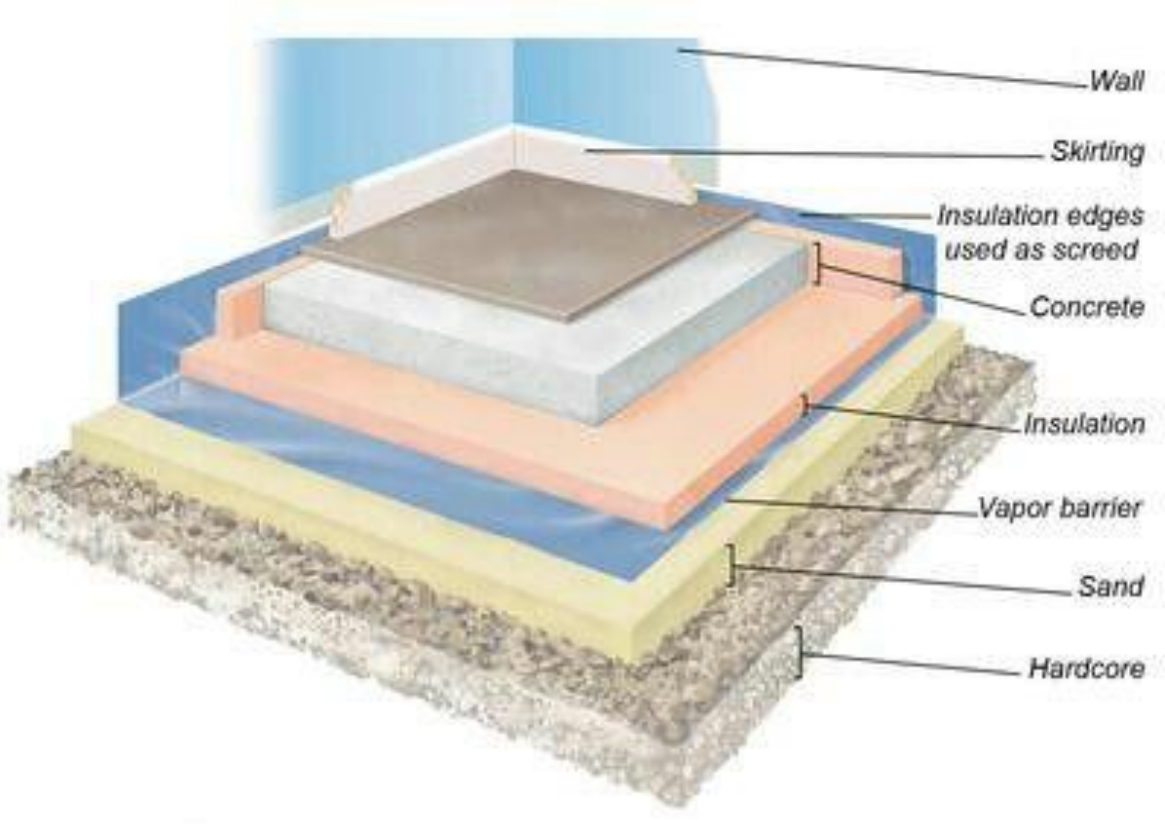
FLOORS

1- Solid floors

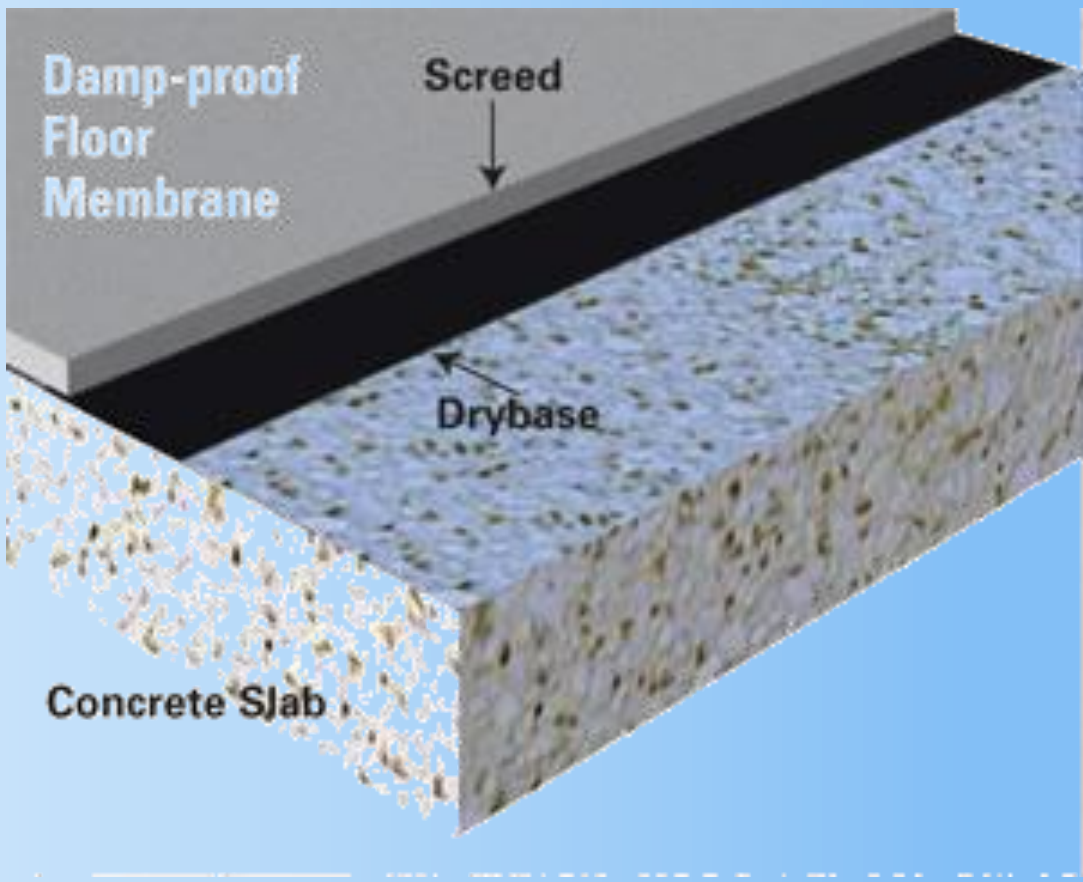
Solid ground floors are laid directly on to the earth. The earliest and simplest version of these merely involved compacting of the earth, with excavation or filling to create a solid, broadly level surface.

More recent solid ground floors have used poured wet concrete, which is easy to level, to create a durable surface.

Standard construction involves the removal of topsoil (because it contains organic matter), to reach the inert subsoil stratum. The site level is made up with loose stones, known as 'hardcore', over which is poured approximately 100–150mm of 'oversite' concrete, which contains comparatively large stone aggregate.

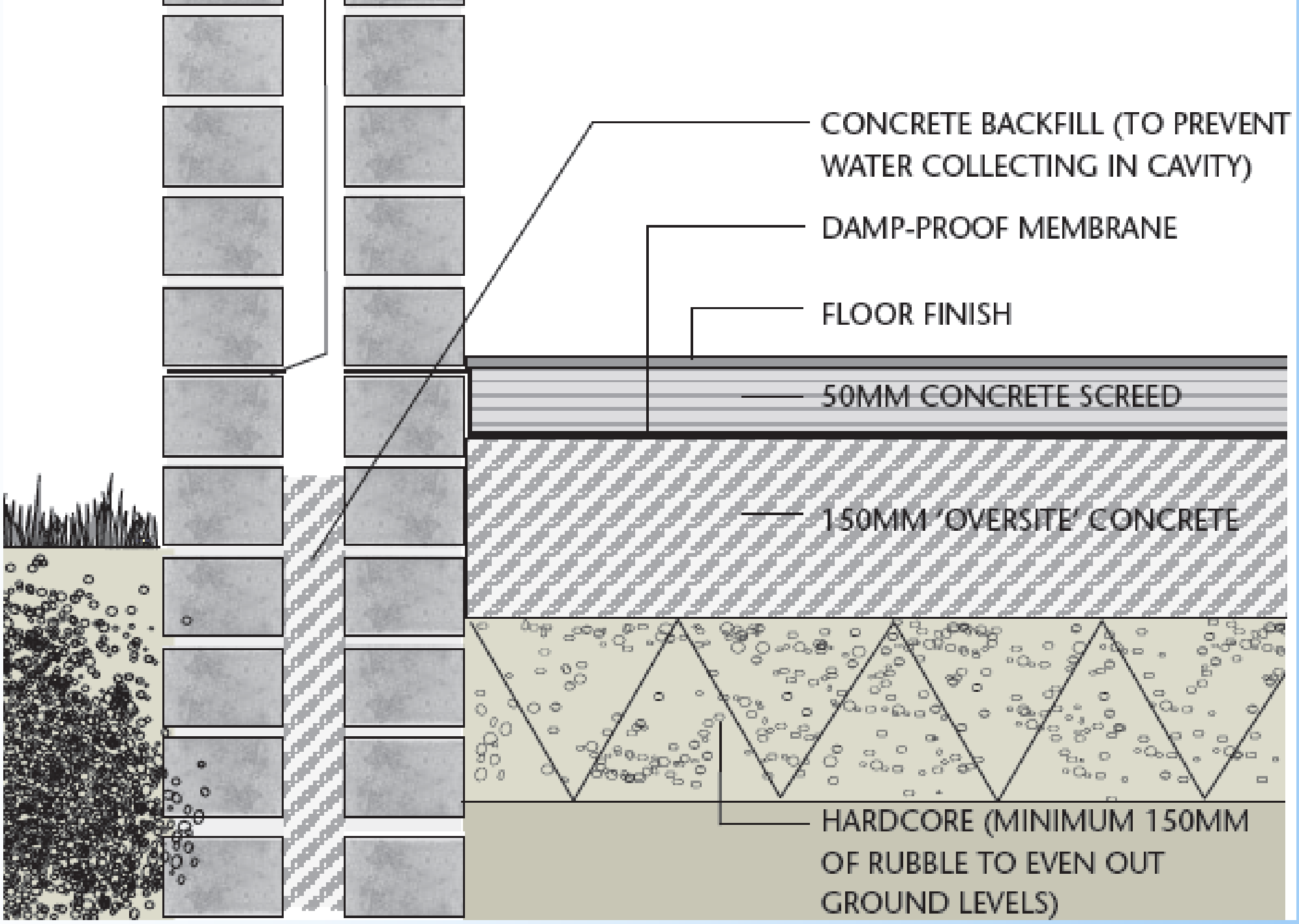


It is now accepted practice to incorporate within the poured concrete a damp-proof membrane (or DPM), an impervious layer that prevents rising moisture penetrating the fabric of the building. This is either laid as a plastic sheet over the subfloor, alongside insulation material, or painted on to it.



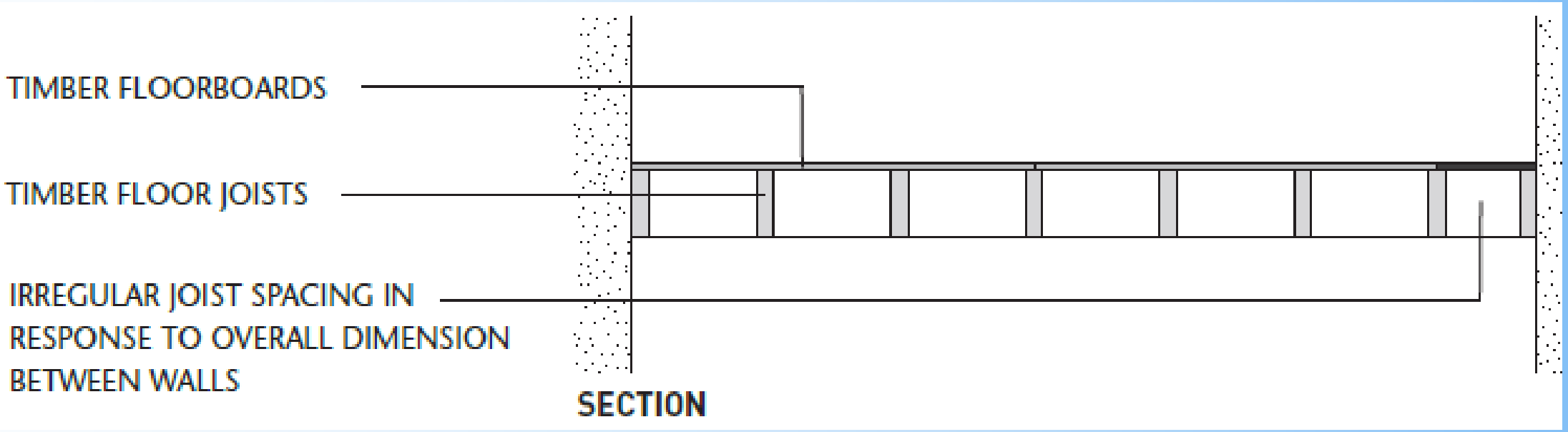
Damp-proof courses

The damp-proof membrane is generally joined to a damp proof course (or DPC), another impervious membrane built horizontally into one course of brickwork or blockwork of the external and internal walls, at least 150mm above exterior ground level, to prevent moisture rising vertically through them.


CONCRETE BACKFILL (TO PREVENT WATER COLLECTING IN CAVITY)
DAMP-PROOF MEMBRANE
FLOOR FINISH
50MM CONCRETE SCREED
150MM 'OVERSITE' CONCRETE
HARDCORE (MINIMUM 150MM OF RUBBLE TO EVEN OUT GROUND LEVELS)

2- SUSPENDED GROUND FLOORS

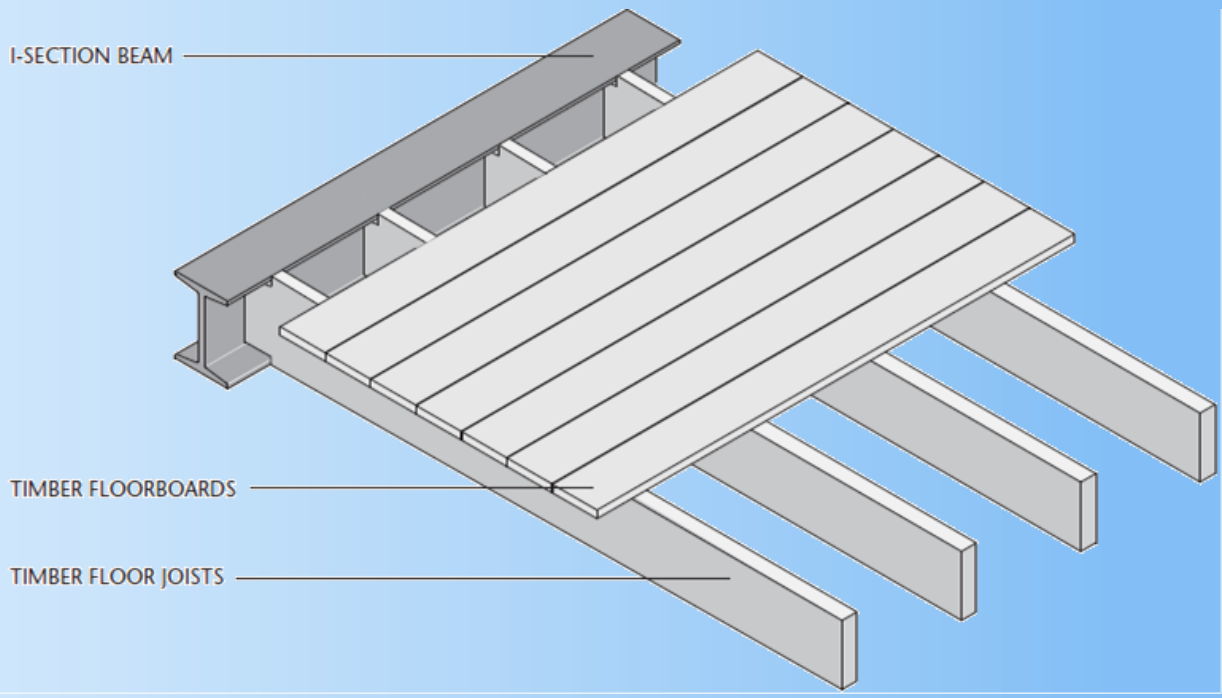
'Suspended' ground floors offer a means of avoiding rising damp and of dealing with significant changes of site level without having to carry in and compact a large volume of hardcore.



3- UPPER FLOORS

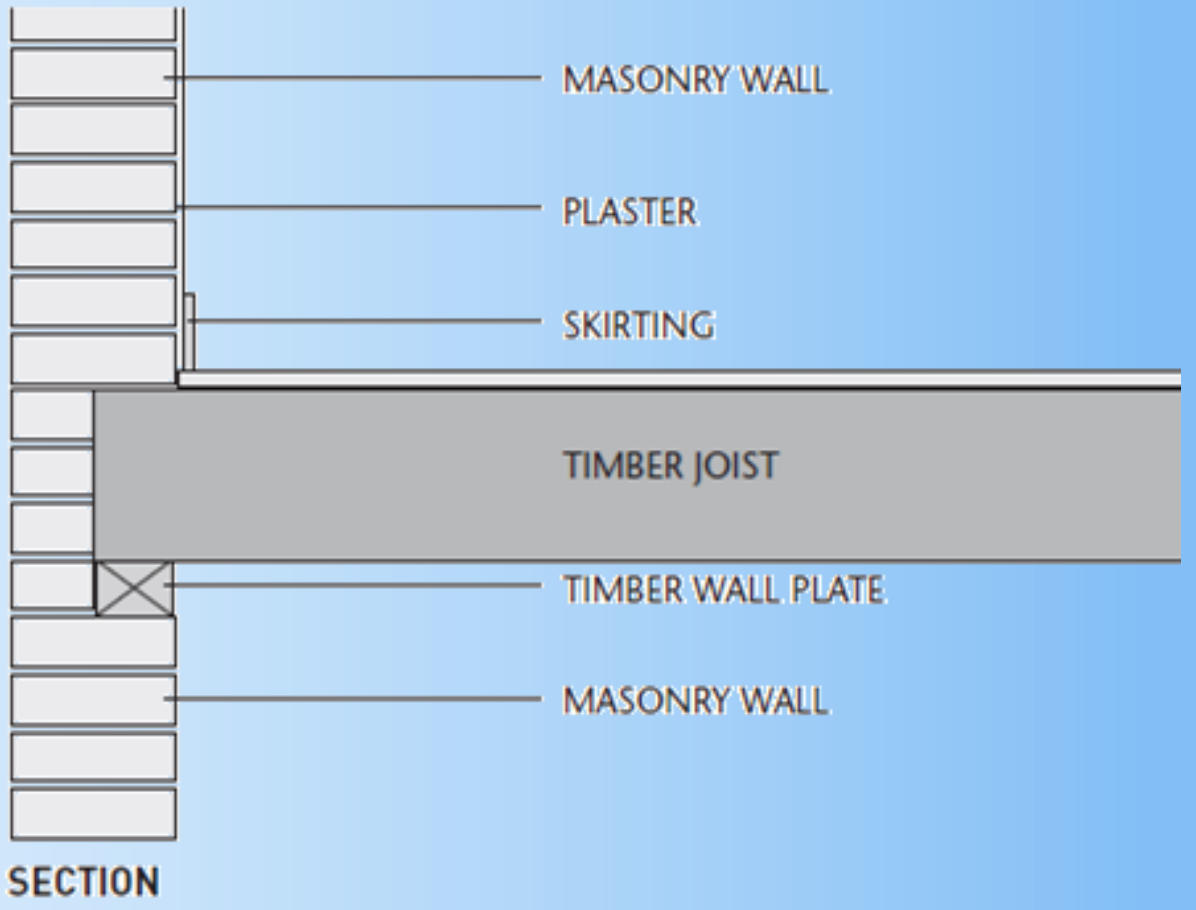
Timber floors

Timber joists offer the simplest and most common method of constructing upper floors. Typically, joists span the shorter room dimension. They are normally set at 400mm centres with wooden floorboards nailed to them at right angles to create a comparatively monolithic structure.



TIMBER JOISTS

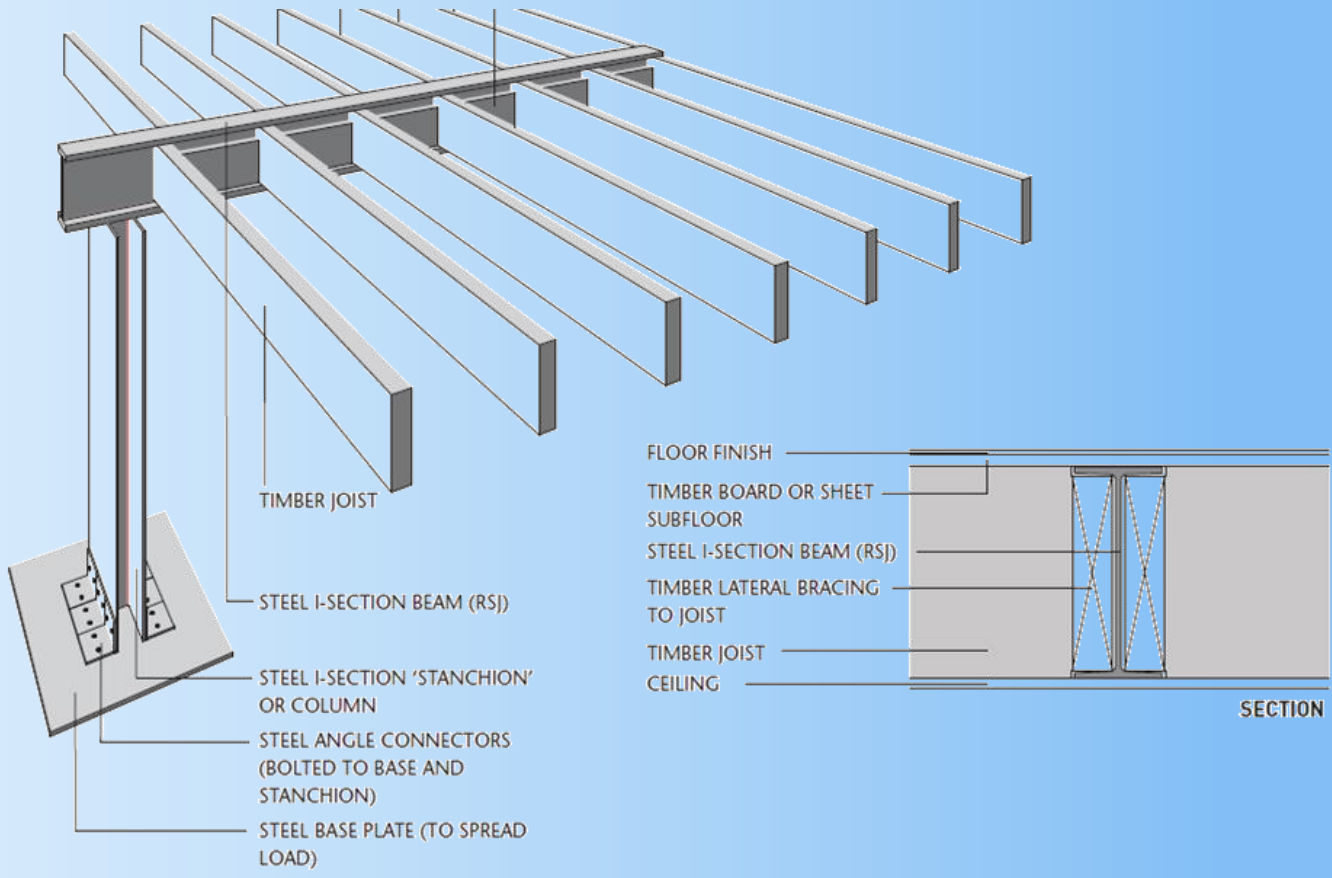
Joists are the beams that support the components (such as timber floorboards and plasterboard sheets) that make up the planes of floors and ceilings. Their depth varies according to the distance between the structures that support them. Those used in ceilings are not as deep as those for floors, as they do not support the additional loadings of furniture and people

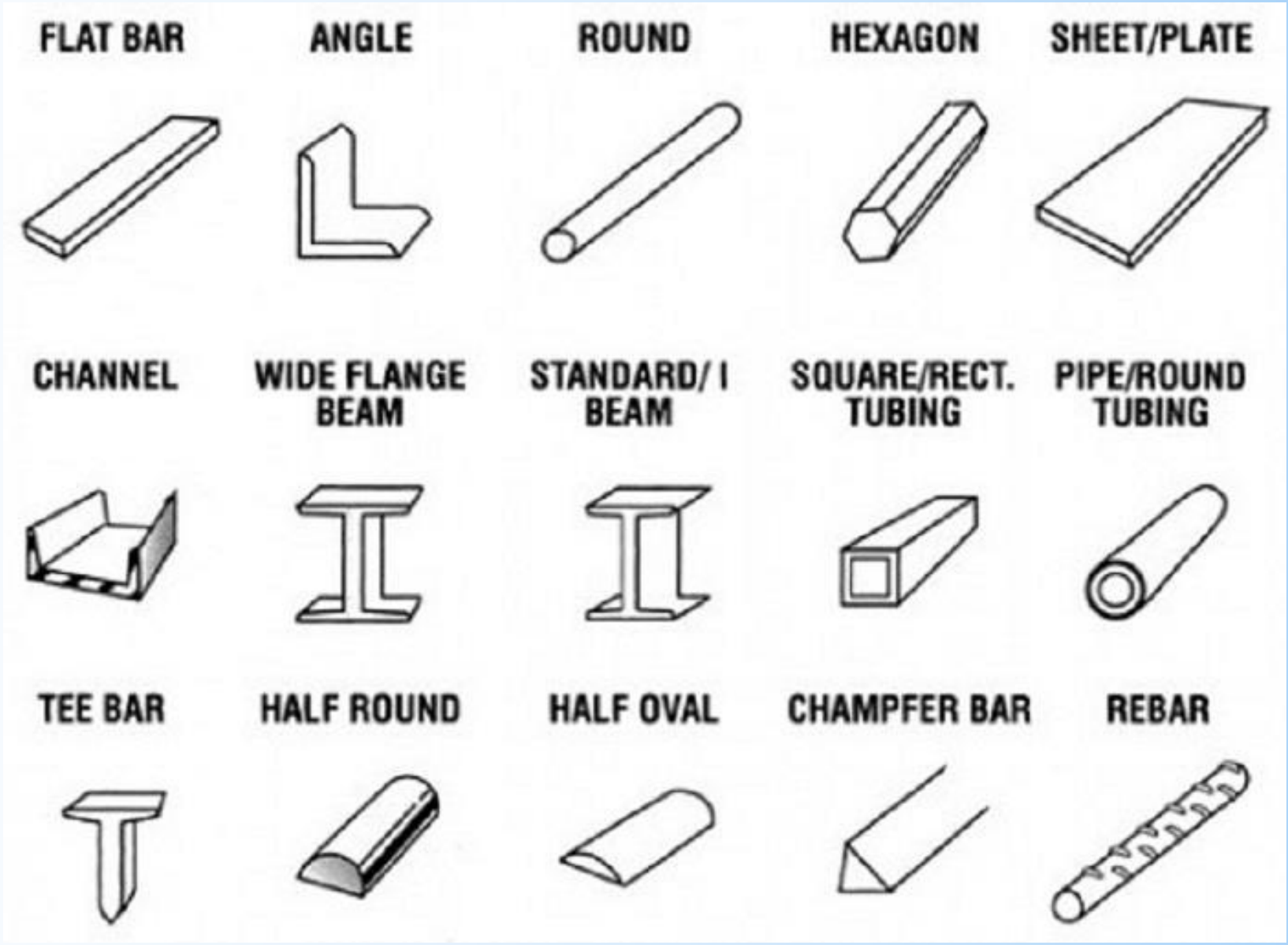


STEEL BEAMS

The greater strength of steel beams is often used to reduce the span of timber beams. Their dimensions, including the thickness of the steel, should always be calculated by a structural engineer.

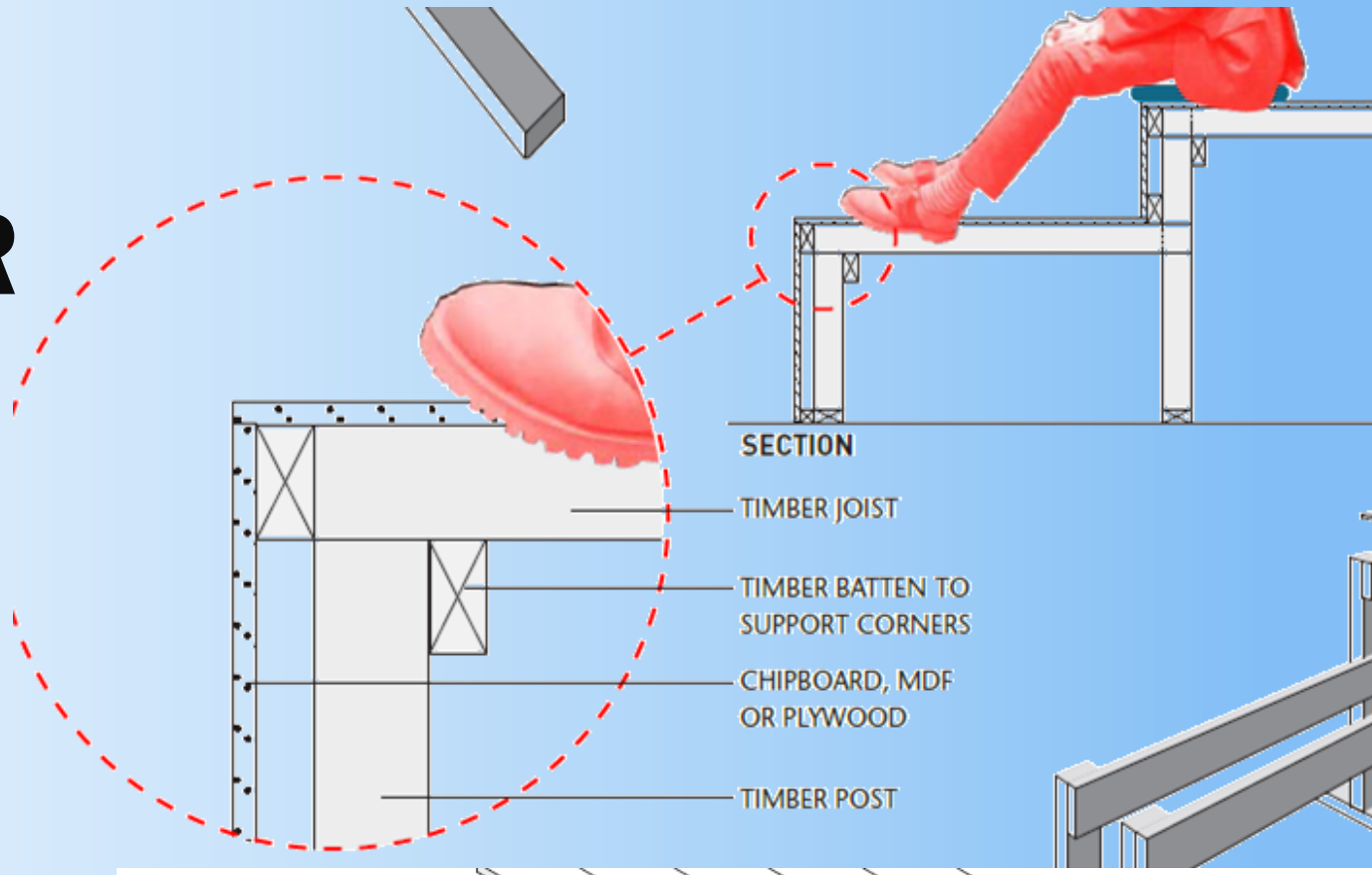
Timber joists may rest on top of the steel beam or, with the I-section beam (often known as rolled-steel joist, or ‘RSJ’), between the top and bottom horizontal ‘flange’ elements.

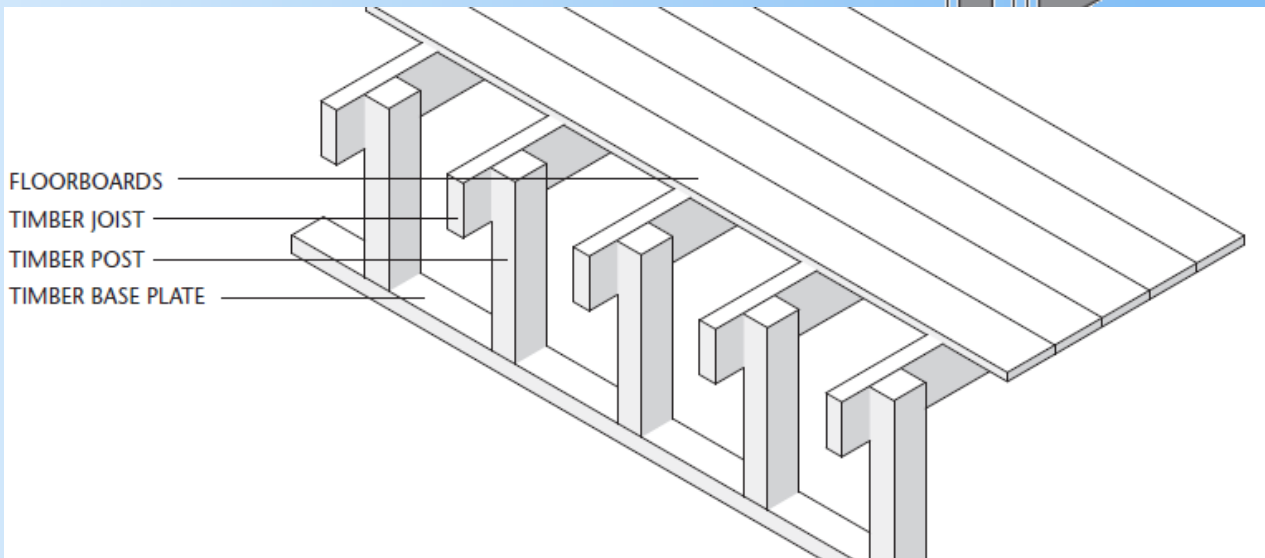



FLAT BAR
ANGLE
ROUND
HEXAGON
SHEET/PLATE
CHANNEL
WIDE FLANGE BEAM
STANDARD/ I BEAM
SQUARE/RECT. TUBING
PIPE/ROUND TUBING
TEE BAR
HALF ROUND
HALF OVAL
CHAMPFER BAR
REBAR

RAISING THE FLOOR

When it is considered desirable to introduce changes of floor levels, typically within a comparatively high ground-floor space, it is again simplest and most economical to use timber construction. The principle is familiar. Joists at 400mm or 600mm centres support either traditional tongue-and-groove floorboarding – or more commonly tongue-and-groove chipboard or oriented strand board (OSB) sheet, which is better suited to take sheet or tile floor finishes.





FLOOR FINISHES

Preparing for finishes In newly completed buildings, the quality of structural floors may be acceptable for many commonly used finishing materials. However, minor variations in level, which may mean that areas of sheet or tiles are not wholly glued to the subfloor, can result in fracturing of brittle materials. Where undulations occur, a **'self-levelling screed'** can be used – *this is a very liquid compound that when poured into shallow areas will spread to match the level of the existing floor, and is capable of drying, where necessary, in very thin layers that will adhere to the existing surface.*

Concrete floors A 50mm smooth screed will normally cover the rougher 150mm of a concrete subfloor. Finished screeds should be of a high enough standard to allow finishes to be fixed directly to them. A good-quality screed is achieved by mechanical vibration of the newly poured concrete

FINISHING MATERIALS

finish will usually be done by a specialist following a manufacturer's or supplier's instructions. However, it remains essential to consider practicalities and realities when selecting the finishing material.

The floor plane, although apparently a modest element in an interior composition

It contributes significantly to holding the other elements together visually.

It is also important to consider the acoustic and thermal qualities of materials, which can critically affect users' enjoyment of, and efficiency in, a space.

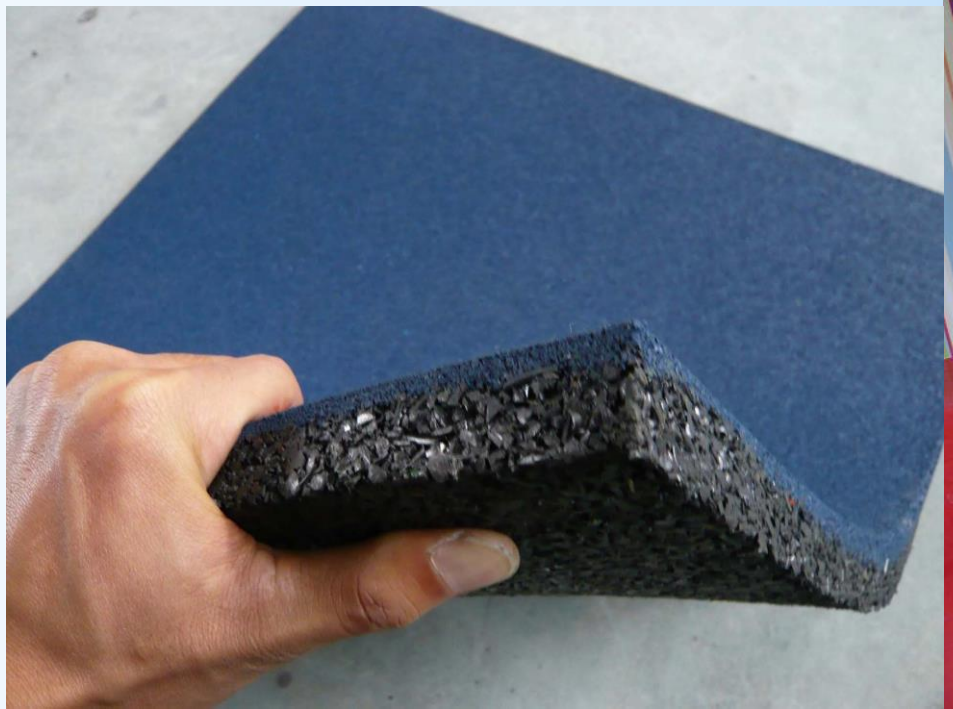
STONE AND CLAY

Natural stone, reconstructed stone and fired clay tiles are best laid directly on to a smooth, level screed, using proprietary brands of adhesive and ‘grout’ – the material used to finish the joints between tiles.

Stone and clay tiles come in a variety of sizes, up to 600mm square, and are comparatively thick, typically 10mm. The adhesive layer adds an extra 2 or 3mm to the overall depth of a new floor.

PLASTIC AND RUBBER

Thinner, more flexible tiles are manufactured from various plastics, rubber and linoleum. The last two varieties are increasingly favoured because they use renewable, sustainable sources.



It is possible to get pure colours in rubber tiles and some plastics, but linoleum and most plastics have a flecked pattern that is reminiscent of, and can be made to resemble, stone texture and graining. These materials are also manufactured in sheet form,

which is wide enough to eliminate the need for joints in most interior spaces, and are particularly useful in areas where hygiene is important

TIMBER

Timber floor finishes are popular because they are perceived to be clean and natural.

Most boards have a locking joint system, eliminating the need for nails, screws or adhesives. They ensure a very tight joint, indistinguishable from those between the strips that make up the basic plank component. They should be laid on a soft underlay to absorb slight local irregularities in the subfloor and reduce sound travelling between floors.

CARPETS

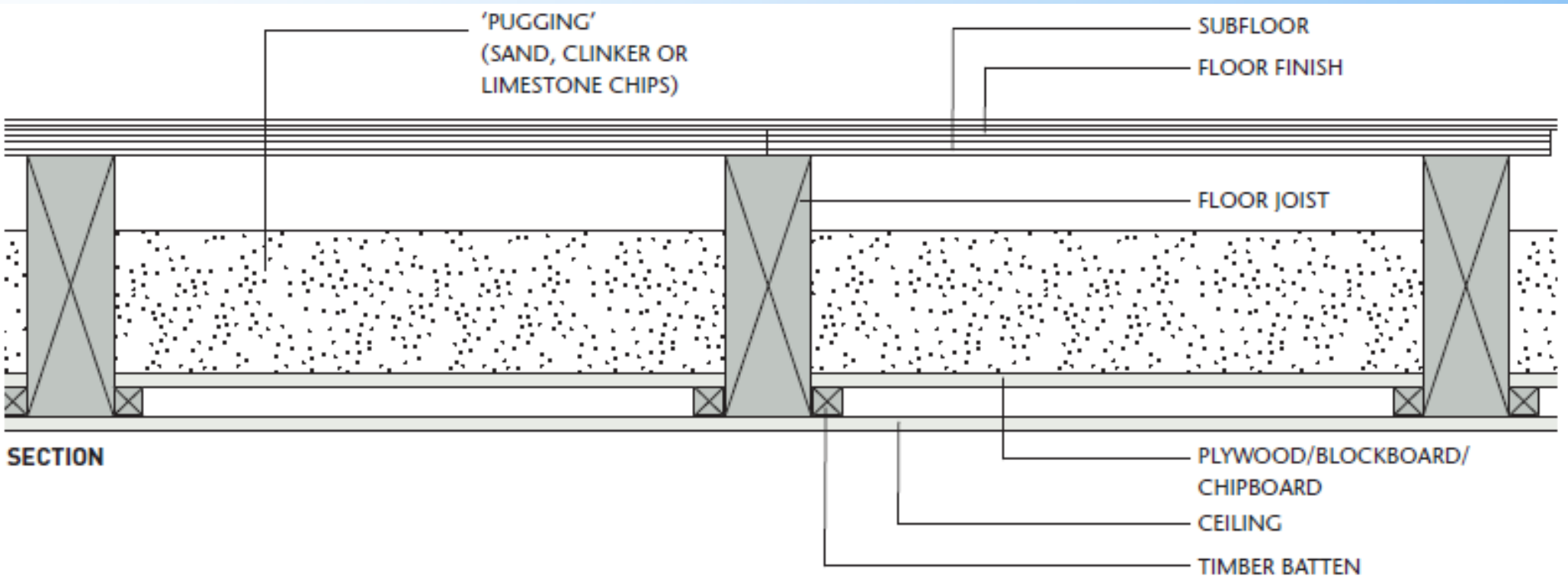
Carpets offer the widest range of colours, patterns and textures and are produced from natural wool and artificial plastic-based yarns. They are available in rolls up to 4500mm wide, and tiles, usually 400 or 500mm square.

OTHER CONSIDERATIONS

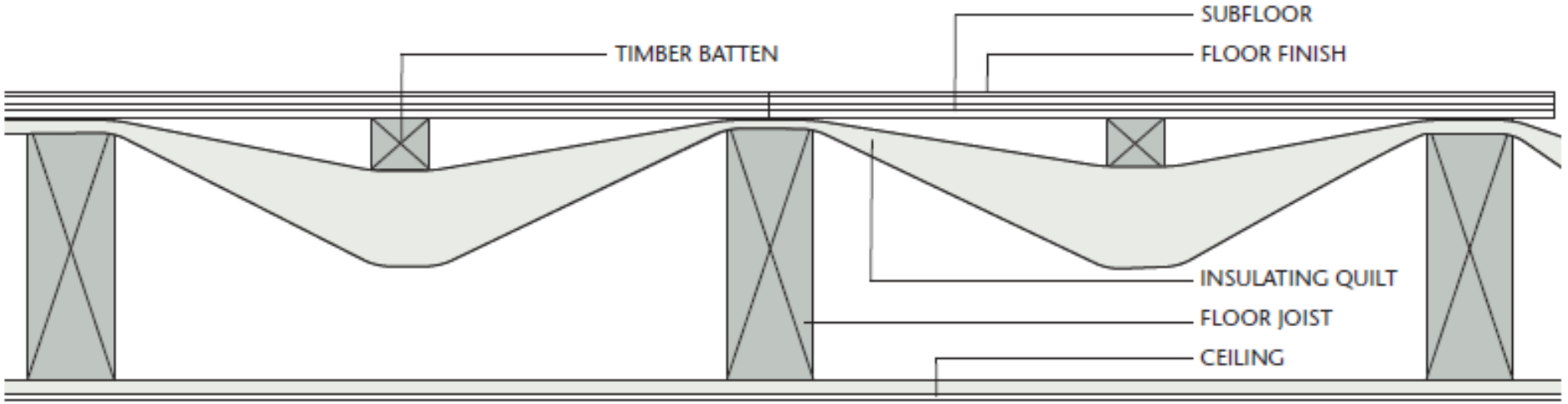
Conduiting: The floor provides an important zone for the distribution of electrical cabling and of pipework for both plumbing and heating.

Sound proofing: Mass and density of flooring is the most significant component in sound transference. The heavier the construction, the less likely it is to vibrate or act as a sounding board for the transmission of noise, so concrete construction is inevitably effective.

Fireproofing: As with walls, standards of fire resistance are legally required for floors to protect escape routes within buildings and adjoining property.



SECTION



SECTION