Planning a new internal partition

Building a partition will not increase the actual floor area available within a house but by subdividing it more appropriately it can provide extra rooms which will make living in the house more enjoyable.

Although UK planning permission will not be required for erecting an internal partition, UK building regulations still need to be satisfied, these cover such aspects as ventilation, fire safety and drainage (if appropriate). It is worth discussing the plans with the local building control office for guidance as to the requirements and whether formal building regulation approval will be required.

Whatever the purpose of the partition, a number of points need to be considered:

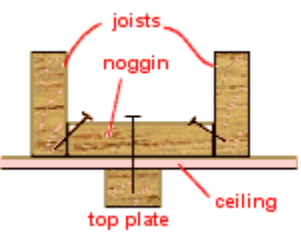
- **Lighting** - natural daylight may not be necessary although it is often desirable. If an existing window is not going to be included in the partitioned off area, a new window could be added in an outside wall. Alternatively glazing could be incorporated into the partition to 'borrow' light from the adjacent room, this can easily be incorporated along the top of the partition.
- **Ventilation** - although a window is probably the most common form of ventilation, it is quite possible to include an electrical extractor fan to ventilate the new area.
- **Access to the room** - generally a new doorway will need to be built into the new partition, various options are possible - a standard internal (30 in) hinged door, two half doors, a sliding door or a curtain - limitations of space may be overcome by careful planning. Remember that furniture may need to pass through the new doorway.
- **Electrics** - often when a room is divided, it is necessary to change the ceiling lights. The existing light may need to be repositioned and a new light and switch may need to be added in the 'new' area. The switch will usually be positioned by the side the door in the partition, so the wiring and switch will need to be incorporated into the partition during construction. Alternatively a ceiling mounted pull switch may be added - this is a UK requirement where the room is to be used as a washroom or shower. There may be a need for additional wall sockets on one or both sides of the partition; it's generally easier to build these into the partition rather than adding new sockets to existing walls.
  Outlets may also be required on the partition for heaters, shower units etc.
- **Plumbing** may also be required. The most obvious requirement is where the partition is being built to create a shown area.

If services like electricity and water do need to be provided, it is usually easier to place these inside the new partition wall rather than having to fit them in existing walls.

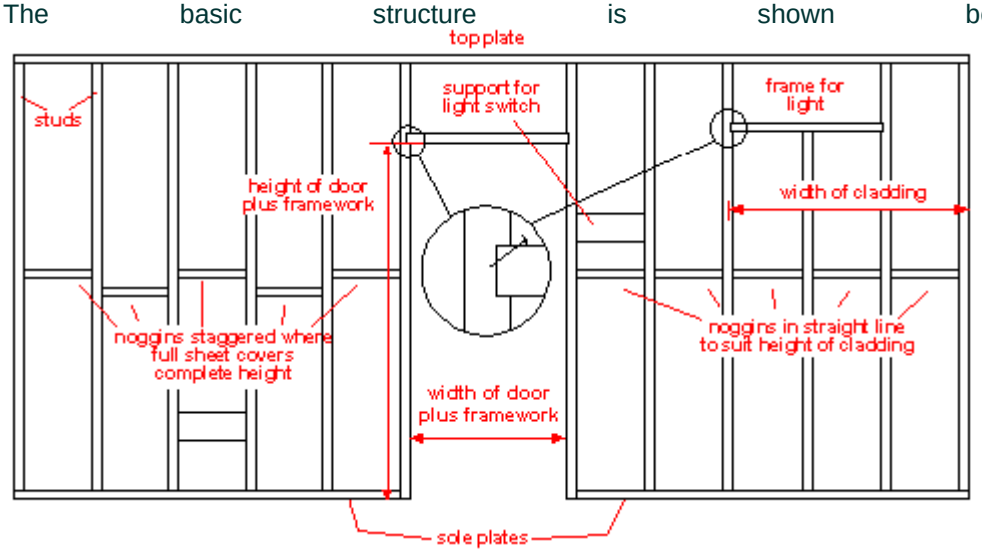
Draw a plan of the existing room and draw in the proposed partition and work out where to put doors, extra windows, forced ventilation, electric's, and plumbing etc. It may be difficult to visualise the scale of the new rooms and it often helps to 'make' a full scale plan by marking out the proposed partition on the floor of the actual room and moving the furniture into the 'two' rooms - this will help to determine if the rooms will both be usable.

The basic stud partition framework

A stud partition is an easy way to divide an internal room, it is really a temporary structure which can be removed if the use of the area changes.



The basic structure is shown below:



Recommended sizes for the timber (all sawn) are:

- Top and sole plates - 100mm x 50mm (4 inch x 2 inch)
- End studs - 100mm x 50mm (4 inch x 2 inch)
- Other studs - 100mm x 75mm (4 inch x 3 inch)
- Noggins - 100mm x 50mm (4 inch x 2 inch)

Top and sole plates.

Mark the line of the sole plate first - there will probably be two lengths, with a gap for the doorway. The gap for the doorway should allow for the door frame required and for the two studs between the top plate and the floor. It is often a good idea to position the doorway such that a full number of cladding sheets will fit between an end wall and the side of the door; this will reduce the amount of work necessary when the partition is clad.

Positioning the partition:

- If the floor joists run at right angles to the partition, no special requirement is necessary other than to keep the sole plate on one floor board if possible.
- If the joists run parallel to the partition, position the sole plate over a joist.
- If the partition is being erected on a solid ground floor, place a layer of damp-proof course felt or heavy polyethylene between the floor and the timber; this will eliminate the risk of rising damp.

Before the sole plate is secured, ensure that the locations of any electric cables, water and other services under the floor are known.

Secure the sole plate to the floor, ensure that the separate lengths are in line - either use a long straightedge across the doorway or run a string line between the extreme ends. On a timber floor, nail through the sole plate into the joists (not just the floor boards) at about 1 metre spacing. On a solid floor, use suitable plugs and screws.

Use a plumb line or a vertical straightedge to locate the line of the top plate. Cheek whether the top plate will run across or parallel to the joists above the ceiling.

If the joists are parallel to the run of the partition, the line of the top plate may or may not coincide with a joist,. If the top plate does not line up with a joist, noggins should be fitted

above the ceilings so that the top plate can be secured into something fairly solid - such noggins should be spaced about ever 2 metres.

Before fixing the top plate, locate and mark the positions of the joists or noggins into which it will be fixed. The joists may not be evenly spaced, so measure each individual spacing and mark them on the top plate. Drilling pilot holes through the top plate will reduce the effort when hammering the nails through the ceiling.

Secure the top plate to the ceiling - making sure that it is exactly above the sole plate.

Fitting vertical studs.

Measure the distance between the top and sole plates at each end, and cut the end studs slightly longer than this to ensure a tight fit. The back of the studs may need to be cut away at the bottom so that they clear any existing skirting board and fit flat against the existing wall. Fix the end studs to the existing walls using screws and plugs if they are masonry, and fix to the plates by skew-nailing - drive nails through the upright at an angle so that they penetrate the plates.

The spacing of the internediate studs should be such that the sides of each plasterboard sheet (or other cladding) ends in the middle of a stud - for a 1220mm (4 foot) sheet, 1 or 2 intermediate studs should be fitted. The length of each intermediate stud should be individually measured to allow for any irregularities in the floor or ceiling, and again cut slightly longer than the dead size.

It is easier to cut any recesses to take light and door noggins before the stud is fixed between the top and sole plates.

Secure each stud by skew-nailing into the plates, use two nails per side at both top and bottom.

If windows/lights are to be fitted into the top of the partition, cut recesses (12mm - 1/2in deep) into the studs to take the noggin under the window. The window can span across two noggins, in which case the intermediate stud will need to be shorter than the adjacent ones. Do not span more than one stud in this manner as it will seriously weaken the framework. Leave fitting the intermediate stud until after the window noggin has been installed.

The studs on either side of the doorway should go from under the top plate to the floor itself, cut recesses (12mm - 1/2in deep) to take the over door lintel. Position the recesses to take account of the height of the door and the door frame which will be built later. Carefully check that these studs are vertical when they are erected, nail through the bottom of the studs into the sole plate.

Fitting the noggins

When all the studs have been erected, measure, cut and fit the noggins; unlike the studs, the noggins should be cut to the exact size of the gap. They are also fixed by skew-nailing, and are positioned so that the horizontal edges of the sheet cladding align with the centres of the noggins. However, it is usual to fix plasterboard sheets vertically rather than horizontally, so a full 2440mm long sheet will cover from floor to ceiling in most modern rooms. In this case, noggins can be located halfway between floor and ceiling and staggered up and down by about 50mm. This allows the noggins to be fixed by driving nails through the stud into the ends of the noggins.

If vertical timber planking is to be used for the cladding, position noggins at about 450mm (18 inch) vertical spacing.

The lintel above the door and the noggins under any window/light should be fitted into the recesses previously cut in the studs.

The basic frame is now complete, and any holes for pipes or cables can be drilled through the timbers. It may be easier to fit these services after one side of the cladding has been fixed. If any heavy objects or wall units are to be fitted to the partition, extra noggins can be fitted to suit.

Support blocks should be fitted to take any switch or socket boxes, position these so that the front of the box will just be flush with the surface of the cladding when fitted

Cladding with plasterboard

The plasterboard should be cut 13mm (1/2 inch) shorter than the floor to ceiling height, taking account of any variations which should have become apparent when fitting the studs. The spacing of the studs and noggins should ensure that every edge of the plasterboard is supported on the framework.

Plasterboard is easily cut by scoring firmly with a craft knife on one side (use a straightedge), and bending back along the cut. Then cut the paper backing to separate the two pieces. Gently sanded the cut paper edges to remove any burrs. Holes can be cut in the board using a pad saw, but this is often easier to do after the board Is fitted in position.

Using a 'door lifter wedge' to support the plaster board during fixing can make the job easier. A simple door lifter wedge can be made from a triangular piece of timber about 150mm (6in) long and 50mm (2in) high. This can be used as a lever under the plasterboard sheet to push it into position, the wedge can be held in place using foot pressure leaving both hands free to nail the sheet in place.

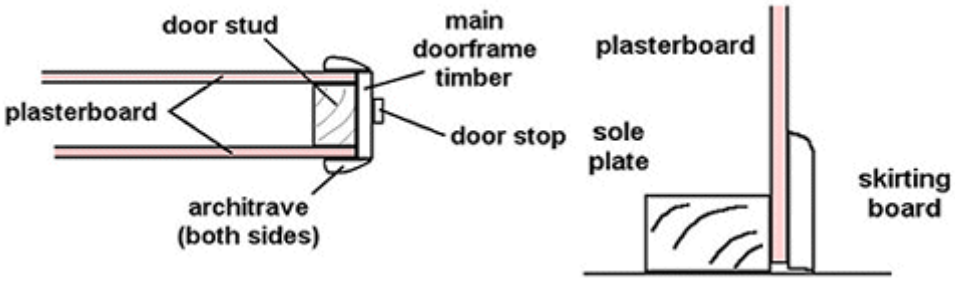
Before nailing the plasterboard in place - make sure that the plasterboard Is the right way around!

Offer up the plasterboard to the framework, and hold it firmly up against the ceiling using a door lifter. Check that the edges are centred over the studs, and fix it in position using galvanised nails, The nails should be no closer than 12mm (1/2 in) to the edge of the board. Drive the nails in until the head of the nail just dimples the surface of the board without fracturing the paper liner. Space the nails 100mm (4 inch) along the edges of the plasterboard and 150mm (6 inch) along the studs and noggins behind the sheet.

Each sheet should be butted against each other.

Complete the cladding on one side of the framework before starting on the other side.

Finally apply jointing tape (aka Plasterer's scrim) over the joints and nail heads - this does not add any strength to the wall but gives a suitable surface for application of a final, thin coating of plaster.



Finishing a stud partition

Once the plasterboard has been fitted and the surface frames and skirting board can plastered, the door/window be fitted.

The studs and noggin around the doorway need to be covered with planned timber, the main frame should be 25mm (1 in) thick and wide enough to cover the studs and the edges of the plasterboard. For a hinged door, architrave is then fitted around the frame on both sides and the door hung.

The door stop is added after the door has been hung.

For windows/light the same form of finishing as used for the doorway is appropriate.

Skirting board timber should be cut as required and secured along the bottom of each side of the partition, nail through the skirting into the bottom of each stud or the sole plate.

The surface can now be decorated just like any other wall, by painting or wallpapering.