

BUILDING A DECK

Guidance Notes



The construction methods described in this booklet are suggestions and are provided purely as a guide. All work carried out on the construction of a deck will be done at the risk of the builder and shall in no way impinge upon Hire Shop Birmingham Ltd

Please read the important Health and Safety notes at the end of this booklet

Planning Your Deck

First we dream and then we plan! It is essential to make a simple plan from which you can work. A deck can be as individual as the designer's imagination. It can be constructed to any shape or pattern and can be built to incorporate additional features such as split or raised levels, hot tubs and ornamental ponds.

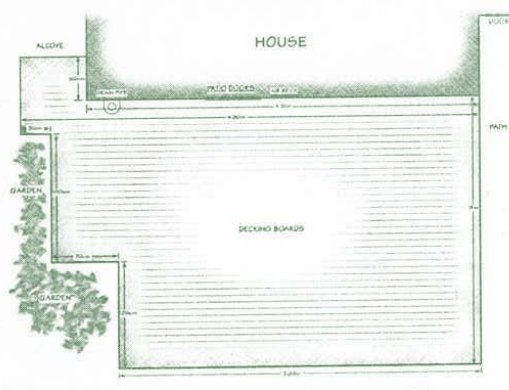
Effective planning ensures that you save on both materials and effort. Please use this booklet to help you ensure that nothing is left out.

To make sure that your decking project is built safely, you are advised to consult a qualified professional regarding proper construction, techniques, materials and hardware. Before planning your deck it may be worth checking with your local planning office to ensure that there are no restrictions.

Liase with neighbours, and any other parties affected, to avoid any possible discord.

Check the location of all utilities: gas, water and electricity, a deck that does not obstruct utilities will not have to be disrupted later should any under-

ground repairs be required.



Size and Positioning Considerations

Take some time to think about the size of your deck. Often decks are built too small: Once table, chairs and other furniture are placed on the deck you may find yourself without enough space for entertaining.

- What will it be used for?
- How many people will use it?
- What furniture will you want put on it?

Some considerations should be given to the position and alignment of your deck area. Used in conjunction with Trellis panels, a wonderfully sheltered garden room can be created. Shelter from summer sun or preventing winds can also be taken into account. Think too about how the structure will be seen from within the house itself.

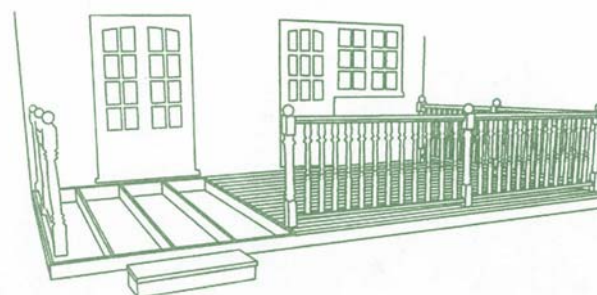
Careful planning now can save headaches later!

The Deck Structure

A deck is simply a wooden platform or "floor" raised above the ground. This structure may be supported by posts, built over a patio or attached to an existing structure using a ledger board.

The platform is composed of a wooden supporting framework, with a timber surface all pressure treated. It may also include handrails for safety (any area raised higher than 500mm above ground must have a handrail).

Decks can be secured with a variety of fixings such as galvanised deck screws and coach bolts for fixing the frame. For elevated decks galvanised joist hangers are recommended to aid the integrity of the structure.



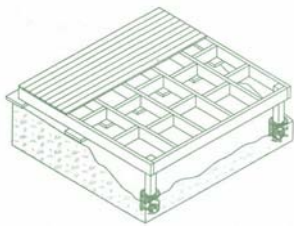
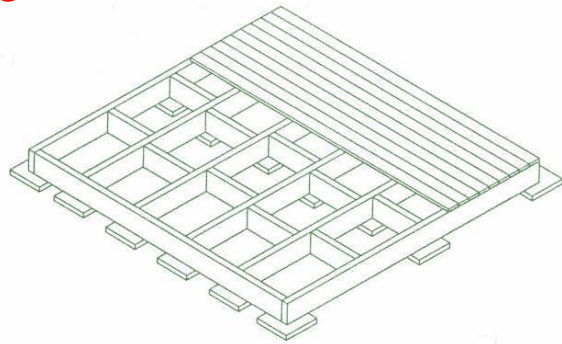
The following step-by-step guideline offers a basic overview of deck construction. Build the deck in stages, systematically, making sure that all materials and tools etc are on hand before you begin.

It is preferable to have a helper, as another pair of hands is useful for the more involved stages of construction.

Three Basic Rectangular Decks

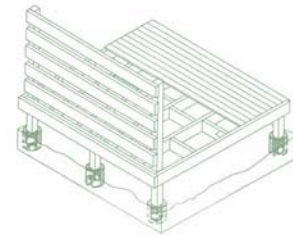
The Ground Level Deck

A deck is simply a platform on the ground laid onto a level surface, as shown below. If you are laying your deck on an existing level concrete area, the framing can be placed directly onto this surface. If you are laying your deck on a non-concrete surface e.g. grass or clay, lay the framing on patio slabs or 47mm x 200mm pressure treated timber bearers.



The Deck Built on a Slope

Where there is a sloping site, it can be modified, adding posts (legs), as shown opposite, to accommodate the slope of the garden.



The Elevated Deck

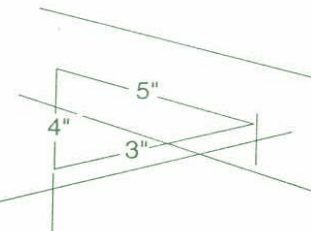
The deck can be raised completely off the ground using posts. We suggest that a deck should not be raised more than 800mm (32 inches) above ground level without first consulting a qualified building professional. This deck comprises of a wooden platform. Covered in timber decking, which will require a slightly stronger frame design and a safety handrail when raised 500mm (20 inches) or more above ground level.

Preparing and Marking Out the Deck Area

Use site pegs or scrap timber as batter boards to mark out the area, and set the position of the supporting posts (if needed). The strings will give you a better idea of both the appearance and dimensions of the finished deck.

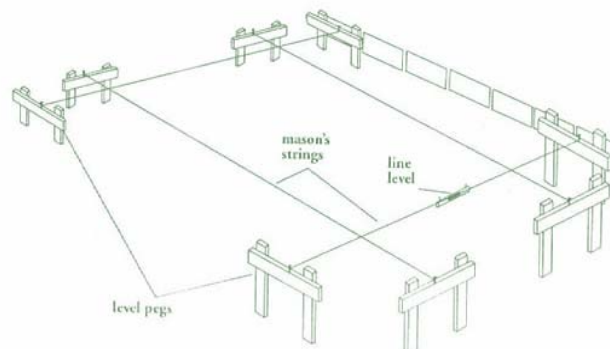
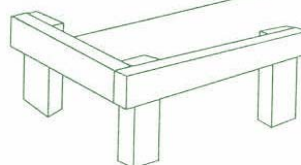
Using Strings to Form Right Angles

The easiest method of obtaining a Right Angle is to make a '3-4-5 triangle', which will give you a 90 degree angle at a corner. Simply measure off a piece of string into 3, 4 and 5 unit lengths with a felt tripod pen. The 'units' can be in feet (i.e. 3ft, 4ft and 5ft.) or metres, though using feet gives a far more manageable sized triangle!



Prepare the site

A deck will usually shade the ground sufficiently to prevent moist weed growth, but removing them before you begin makes life easier. After measuring and setting out the area, remove any protruding ground and dig any foundations to the required depth. Cover over with a membrane or polythene to prevent future weed growth and then spread over with bark or gravel. If polythene is used we recommend that you pierce a series of holes in it to allow drainage of any surface water.



How to Build a Ground Level Deck Attached to a Building



If your garden or flat or you wish to cover on existing level patio, why not consider a ground level deck?

Ground level decks offer an uncomplicated alternative to traditional patios, and in most cases do not require additional posts, rails or steps.

The following step-by-step guideline offers a basic overview of deck construction. Build the deck stages, gathering tools and materials for each stage before beginning. It is useful to have a helper for the more difficult stages of construction.

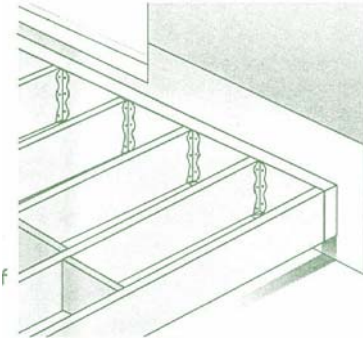
Positioning the Ledger board

The ledger board will run the whole length of the deck and its positioning will determine the height of the finished deck. The ledger on a ground level deck should not go above damp proof course height (DPC). This is to prevent moisture getting above DPC.

Offer the ledger board against the wall and mark its position.

Before installing the ledger it is a good opportunity to mark out and attach the joist hangers that will support the deck joists to both the ledger board and the header joist.

Attach the joist hangers to the ledger board and header joist using galvanised joist hanger nails. A good tip is to use a scrap piece of joist as a spacer: hold inside each joist hanger and close the hanger around spacing to ensure that the joist will fit correctly.



With the joist hangers in position we can mark and drill the holes for attaching the ledger to the building. Ensuring the ledger is level we can attach the ledger to the building through bolts.

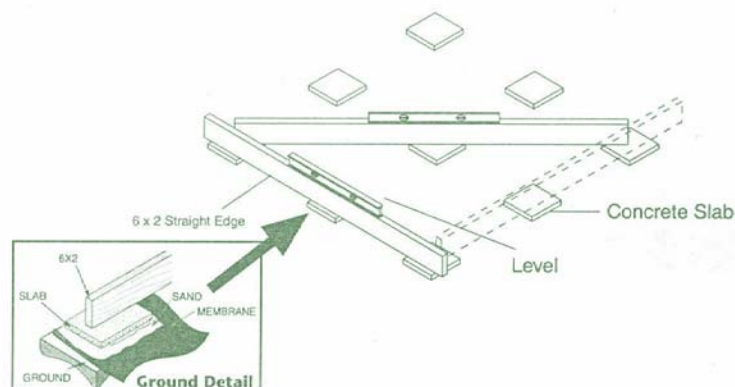
The ledger can either be attached to the wall with the joint filled with silicone sealer or attached with timber spacer, leaving a gap between the wall and the ledger for drainage of surface water.

Levelling the Foundation

With our site prepared and covered with a membrane we can now position the concrete slabs or pressure treated timber bearers that will act as our deck foundation.

Attach both outside joists to the ledger board using screws or coach bolts and check that they are square. (This can be done using the 3-4-5 method described on page 3.)

Using a mixture of sand and cement, we can now bed and level the slabs or bearers to the height required to level the outside joists.



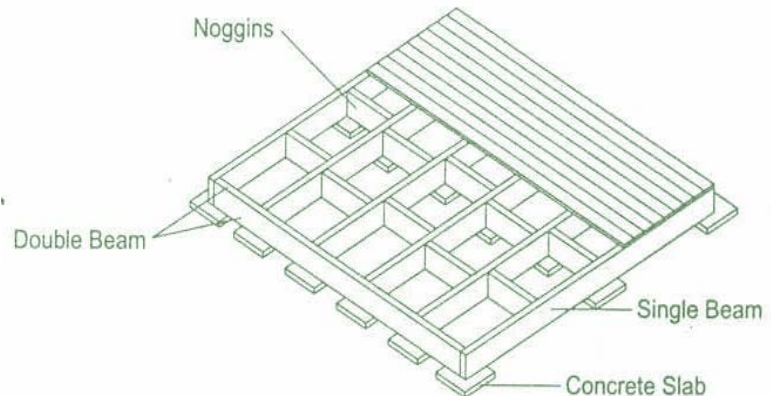
How to Build a Ground Level Deck Attached to a Building (cont.)

Constructing the Deck Frame

Connect the header joist to the outside joists or beams using coach bolts.

Measure and mark each timber joist and cut so that they fit into the joist hangers. Remember to seal any cuts with a preservative end grain sealer.

Position the joist into the joist hangers and attach them at each end using galvanised joist hanger nails. Use joist off cuts or scrap timber as Noggins to add stability to the deck.



How to Build an Elevated Deck

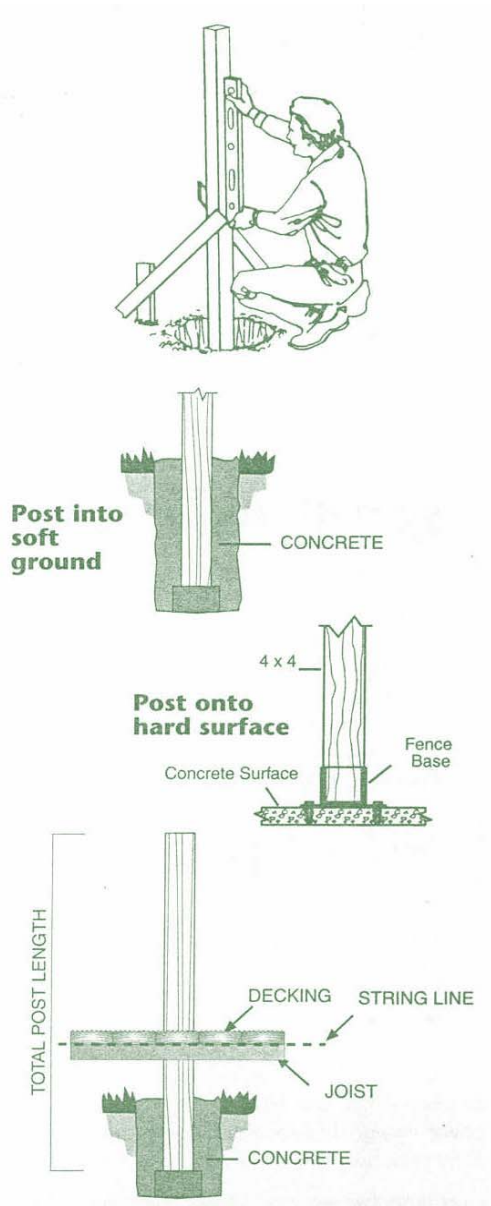
Installing supporting posts

There are several methods of installing a post. Choose the right one for your surface. For fixing into earth, you can simply dig a hole, and place a medium density solid concrete block horizontally in the hole and sit the 100mm x 100mm (4 x 4) post onto it. Infill with concrete, and allow to set overnight.

Alternatively you may need to fix to a hard surface such as concrete. In this case you will require a fence post base fixing (as shown in diagrams opposite). Use the manufacturer's guidelines to secure these to your hard surface and insert posts.

The level of the decking can be set by using a string of lines across from the relevant level pegs. Allow a little extra post height, and don't cut off the post to final height until you are sure they are correct.

Use the string line as your starting point and calculate UP for the height of the post above the deck (taking into consideration the height of the rails if you are using them). Calculate DOWN from the string line for the depth of post to the base of hole. Remember too, to allow for the thickness of decking itself.



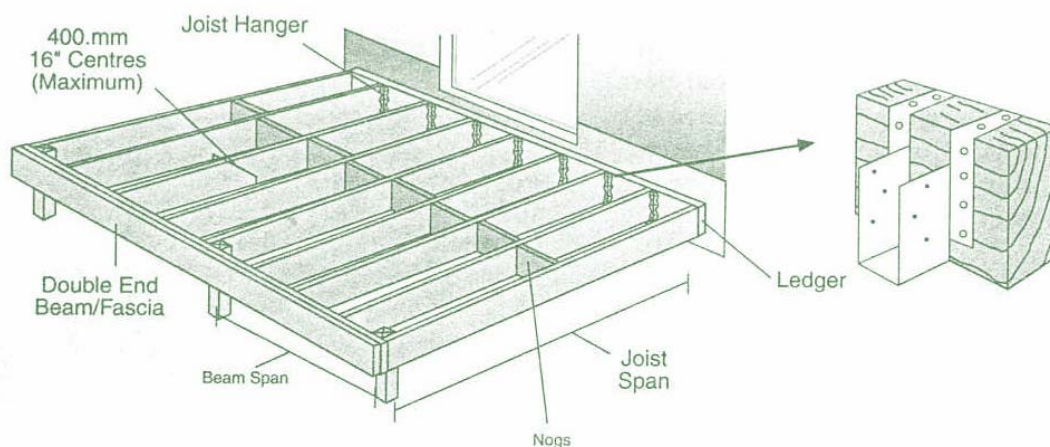
How to build an elevated deck (cont.)

Attach Joists to Elevated Decks

On elevated decks the joists should be placed no more than 400mm (16 inches) between centres. Joists are attached to the Ledger or double beam with galvanised joist hangers. Place a scrap piece of 100mm x 47mm (4" x 2") in the joist hanger to set the width of the joist hanger on the inside of each double end beam every 400mm (16 inches). Place the joist inside the hanger and nail or screw through the hanger into the joist.

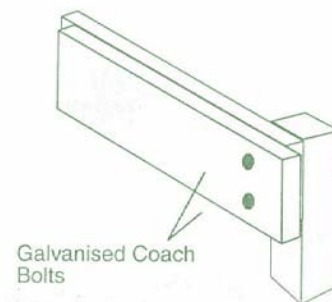
Noggins are used to keep the joists from twisting or buckling. Measure and square-cut noggins to fit snugly between the joists. Attach them between the joists in a staggered manner as shown.

Spacing between posts should not exceed 1800mm (6') and an unsupported joist span should not exceed 2400mm (8'). For project where a beam or a joist must exceed these maximums, additional beams and /or posts are needed. Please consult a qualified building professional.



Forming a Double Beam/Fascia

Use a second piece of ledger board or end joist and attach it to original to which the joist hangers are attached. Drill and secure the timbers together with coach bolts to form a double beam. This will add strength to your deck where it carries a load and will act as a fascia to cover unsightly galvanised joist hangers that may have been visible.



How to Lay Decking Boards

Laying the decking is a satisfying job, the most important part of the work, it is also the most visible feature. Achieving a professional finish is important. Make every effort to lay the deck straight and the screws in line. Leave a gap of around 3-5mm between the boards. Some notching around posts may be required if a railing system is being used.

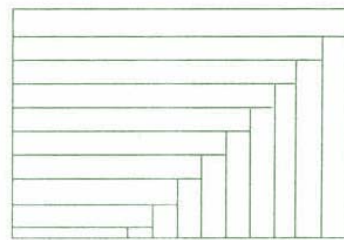
TIP: Use a screw or large nail as a spacer when laying the deck. Some movement may occur after the deck is laid. Attach each board with two galvanised deck screws.

How to lay decking boards (cont.)

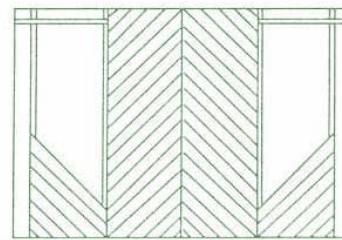
For a professional finish, the edges of the boards should be trimmed after completion. To get a really straight line, snap a chalk line along the boards leaving the desired overhang and trim with a circular saw (for straight edges). The best finish is achieved by cutting the boards flush to the edge, then adding a fascia board. Drill pilot holes, especially when screwing near the edge or the end of a board. Remember to seal any cut edges with a suitable preservative end sealer.



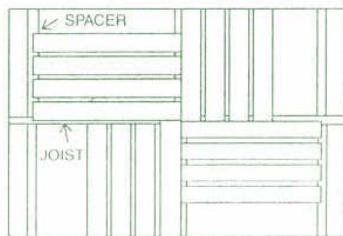
You can further enhance the deck by choosing to lay the decking in one of the patterns illustrated below. Parquet, diagonal or herringbone designs all add visual interest, and give a wider choice of finish, depending on the application and site. These patterns require little more material than a plain sort, and more attention to detail and finish will be required. There are unlimited possibilities for the imaginative homeowner.



Alternating Decking



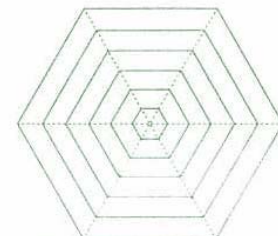
Herringbone Decking



Parquet Decking



Diagonal Decking



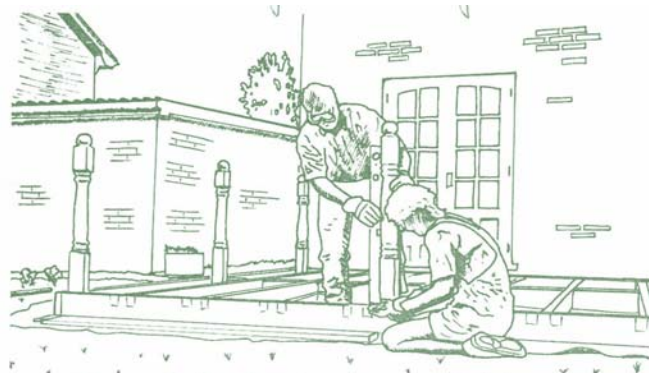
Octagonal Decking

How to Build Railings

Railings enhance the deck as a whole, and are mandatory where the deck is elevated above 500mm (20 inches).

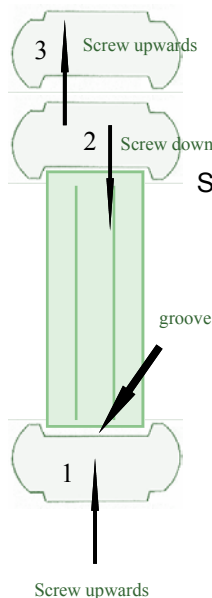
The deck-it-yourself system of railings is a simple balustrade system.

Newel posts should be attached to the inside of the deck joist frame using two coach bolts. The gap between posts should be no more than 1.8m to make sure the handrail remains rigid. Deck boards that sit around the newel will need notching with a jigsaw.



How to Build Railings (cont.)

Constructing the Balustrade



Cut three pieces of hand/baserail to fit between two newel posts. Select the correct number of spindles to allow a maximum 100mm gap between each one (use a piece of 8x41 infill cut to 100mm to act as a spacer).

Fixing the baserail to the spindles

Screw piece 1 of the hand/baserail to the bottom of the spindles using galvanised decking screws, by screwing upwards through the bottom of the hand/baserail (as shown opposite)

Fixing the handrail to the spindles

Repeat the above process at the top of the spindles to form a balustrade with piece 2 of the hand/baserail.

Finally screw piece 3 of hand/baserail to the top of piece 2 (as shown opposite) by screwing up through piece 2 in to the piece 3.

By using this method you will hide all screw heads.

Fixing the balustrade to the Newels and deck

Sit the balustrade between the two newels and screw down through the grooved part of the baserail into the decking boards. To attach to the newels screw at an angle through the grooved part of the rail in to the side of the newel. Make sure you sink the screw head to allow an infill piece to sit in the groove.

Finally cut and fit the 8x41 infill with brass or galvanised nails, in to the grooves of the handrail and baserail.

How to Build Multi-Level Decks

A sophisticated multi-level deck can be created by simply joining together two rectangular decks. Generally multi-level decks look best when one rectangle is obviously larger than the other. Simply adjust the rectangles to fit with your own requirements. The simplest way to change levels is to build one deck 150mm (6 inches) higher or lower than the first.

The following Health and Safety notes are for the advice of the purchaser.

Always be aware when handling timber that sharp protrusions or rough sections may result in wooden splinters entering the skin during manual handling.

Decking timber is treated with a Tanalith-E preservative, therefore it is important to remove wood splinters as soon as possible.

To minimise the risk of wood splinters do not slide the timbers between the hands / fingers.

It is recommended to wear suitable gloves when handling rough timber.

Depending on the component part size the manual handling may be awkward and customers are advised to carry out good manual handling practice

- Always lift within your own capability.
- Always ensure a firm grip before lifting.
- Bend your knees and not your back.
- Keep the load close to your body.
- Keep your arms close to the body.
- Do not twist the body under load.

It is recommended to wear safety glasses, to an appropriate British Standard, when using nail / screw fixing guns.

In the event that excessive noise levels are generated by the work it is recommended that you wear suitable hearing protection.