



FACTSHEET #19

Boost property value with a clay brick path, paving or patio

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A patio is a great way to expand the living area of the home and provide an entertainment area for family and friends.





A brick-in-sand patio is easy to build and requires just a few basic skills and about 2 days' work. It's a great way to expand the living area of the home and provide an entertainment area for family and friends.

The same brick-in-sand method can be used to provide a convenient, flat pathway that keeps your feet out of the mud on a rainy day. Or create a walkway around the house to provide a firm, smooth surface. Path building is a great project for homeowners of all skill levels

A brick paver walkway is set on a solid bed of gravel and sand. It will stay flat and smooth even under heavy use, and unlike concrete, it won't crack due to soil movement. By using different bonding patterns, you can add a unique, decorative dimension. If you choose a rustic brick, use the colour variations to create a natural and unique effect.

LOW COST, EASY MAINTENANCE

A patio can be created with many materials, but clay brick pavers are the material of choice for their natural beauty, durability and superior colour retention even when wet.

Pavers are produced in different colours, dimensions and thicknesses. Typically thinner pavers (50mm or less) are suitable for low traffic applications such as domestic driveways, patios and paved walkways.

A paved patio is low maintenance. Clay brick can withstand high temperatures so it is most suitable where you would like to braai. Long term repairs are easy. If a paver is stained or cracked, you can simply replace it or, depending on the pavers you have, just turn it over!





DESIGN

Choose your paving bonding pattern – see Figure 1 for ideas.

- Basketweave and stack patterns are easy to lay.
- Stretcher patterns are attractive, but will require some bricks to be cut.
- Diagonal herringbone patterns are ideal for patios that are an unusual shape but will require a lot of cutting.
- Slight colour changes can add to the design.
- Set full bricks at the outer edge to form a "soldier" row i.e. place the outer row perpendicular to the inner rows to form a natural border.

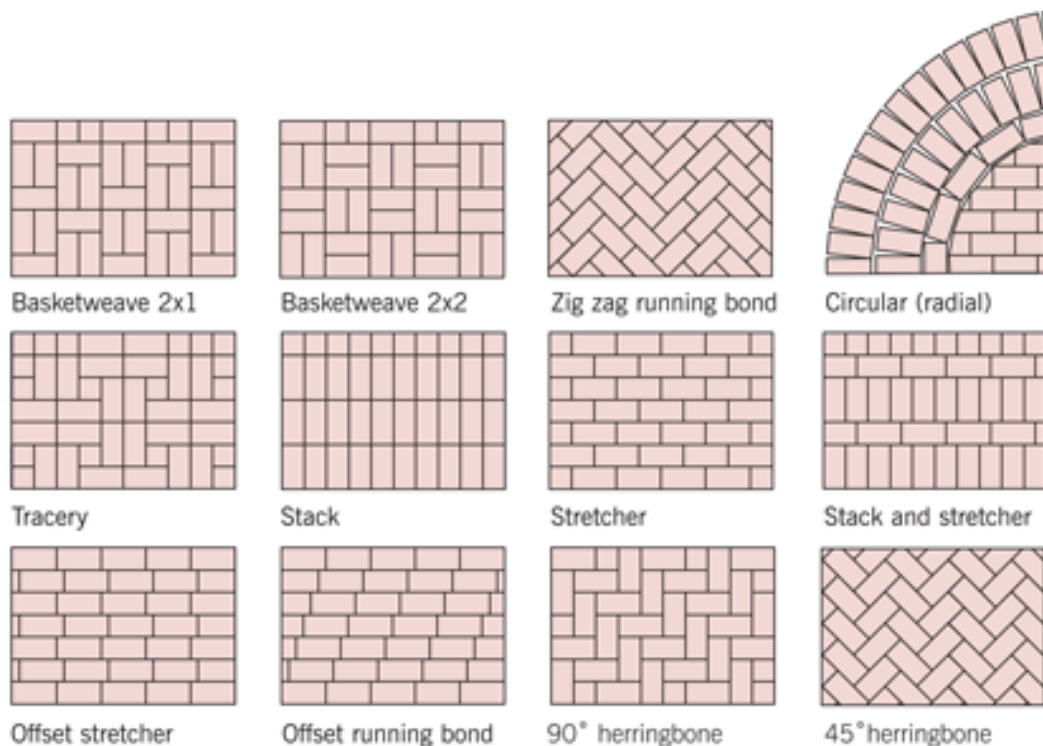


Figure 1: Paving bonding patterns

WHAT EQUIPMENT WILL YOU NEED

Besides your building materials (brick, gravel and sand) the only equipment you will need is a sturdy wheelbarrow and shovels, a brick hammer and chisel and a steel trowel.

Although you can use any flat item to levelling and edges (e.g. a straight timber beam), a carpenter's level and line level are practical and useful. To set the bricks evenly you can use pieces of plywood, but tile shops sell large-size spacers that are easier to use and inexpensive.



TIPS FOR PAVED AREAS

MARK OUT THE PATIO

In addition to checking that your patio is level, you need to make sure it slopes away from your home's foundation and toward an area that can either handle additional rainwater or has existing storm-water drainage. Plan for a 1cm drop in elevation for every metre of distance.

Unless you are experienced, avoid curved paths and edges.

1. Drive pegs into the corners and tie string between them. Use anything with a right angle to ensure that the area has 90-degree corners. Adjust pegs and lines if necessary.
2. Calculate the size of your patio space (in square metres) by multiplying the length by the width - for example a 5m x 3m patio = 15 square metres (m²). Add 10% to allow for errors and fillers. This will guide you in buying the right volume of bricks, sand and gravel.
 - Bricks – your size (m²). On average, there are 40-50 pavers per square metre.
 - Gravel – your size (m²) x 0.15 (as an indicator, 2.5 tonnes of average gravel material will cover about 15 square metres).
 - Bedding sand: size (m²) x 0.05 (as an indicator 750kg will cover about 20 square metres.)
 - Jointing sand: a 40kg bag will cover about 15 square metres of paving, depending upon the size of the joint spaces.

PREPARATION

As with any type of flooring, it's important to start with a level base when laying clay pavers. If you start with a solid subfloor, your patio will look professionally installed and will last for a long time.

Before you begin, check for plumbing, cable or electrical lines. Although you can pave over these as they will almost always be deeper than you need to excavate, if they need to be maintained your paving get damaged.



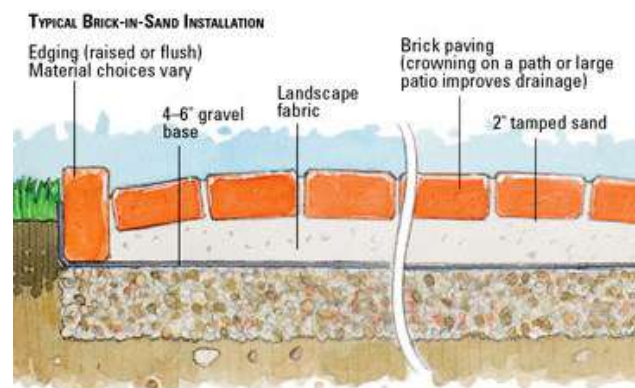


Dig down below the root level of vegetation in the area, a good 15cm. For dry soil, watering the area the night before you dig will soften the area for easier digging. To work out how far to dig down for the base start by deciding the finished patio height. It should be 1-2 cm above the surrounding ground so that rainwater won't stand on the surface. It will also make it easy to mow around the edges. Subtract the thickness of your paving stone and dig down an extra 15cm for your sand and gravel foundation. If you have low-lying, wet soil near a river, you will need an extra 5cm.

BASE COURSE

The key to a long-lasting sand-set path is the quality of the bed. You need a strong, level and smooth base upon which to lay pavers.

The base course is a structural layer of gravel that distributes the load of any heavy items on the patio or path. You will need a thickness of 6-8cm for well-drained soil, and 12cm for water-logged soil. Shovel in about half the gravel required. Spread gravel over the entire area, rake smooth and tamp down. Then shovel in the rest and tamp again.

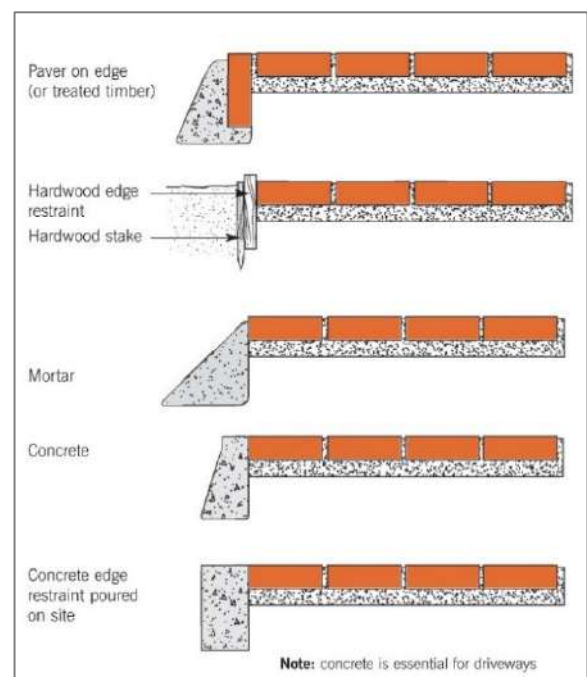


EDGING

After creating the base course, set in any edge restraints using additional pavers, a solid cement lip or metal or plastic edging. This minimises movement of pavers and stops creeping weeds.

Mark out the edges on two adjacent sides with string – choose sides that must align with the edge of a house. Roughly place one row of bricks with spacers.

Place the 3rd edge at a position that will mean you don't need to cut any bricks. Then place one "column" of bricks and spacers to measure the fourth side. Don't forget to allow for the edge "soldier" row that might be wider. (see Laying the paving). Remove "test" pavers before laying the Bedding course.





BEDDING COURSE

This is the layer of sand on which the pavers are bedded to form the flat and even pavement surface. Generally a well-graded sand is used. This will also minimise weeds coming up from underneath. Use the same technique when laying the sand bed, but mist both layers of sand with a fine spray before tamping down.

Now that you have an edge, pour sand over the entire area inside the edging to a depth of 3cm. Use a rake to evenly distribute it. Using a horizontal 2x4 timber beam, smooth out and level the surface of the sand.



LAYING THE PAVING

Set full bricks at the outer edge of the walk to form a "soldier" row i.e. place the outer row perpendicular to the inner rows. After laying six to eight bricks in place, tap them down lightly with a rubber mallet.

Once the border is complete, starting laying the inner bricks from one corner, spacing the bricks about 3mm apart and keeping the courses straight with a mason's line. Leave bricks out that need to be cut for later.

Bricks and pavers are modular but may vary slightly in finished size. To keep the edge straight and the bricks at the same height, tie mason's line to two bricks and station them at opposite ends of the site. Pull the bricks apart until the line is tight, and use it as a guide.

As you complete about a 1 metre square section, lay a straightedge on the surface to make sure no bricks are too high or too low. Seat any high brick with the rubber mallet. If a unit is low, pull it out, add sand, and replace the brick. Continue laying bricks using the same techniques. When you have to kneel on the laid bricks, use pieces of plywood to distribute your weight.





CUTTING PAVERS

Lay all the pavers that do not need cutting first, so you know the exact space you need to fill. Determine the point where the paver should be broken, then position a chisel on the designated point. Strike the top of the chisel with a hammer to split the paver.

If you have numerous pavers that need breaking (for example a diagonal herringbone design), consider using a wet saw to speed up the process - the saw will cut through the pavers quickly and easily.



PACK THE JOINTS

Remove the spacers between the pavers. Spread a thin layer of sand over the entire patio and use a push broom to work it into the gaps between pavers. Soak the patio with a gentle spray of water to help settle the sand into the gaps. Repeat the process until the sand fills all the gaps. This will help keep them set in place, minimize weeds and allow for drainage.

KEEP PAVERS ON HAND

Keep a few extra bricks on hand to make repairs easier. Broken pavers can be removed by prying them out with a couple of screwdrivers or a thin pry bar. If the paver needs to be cut to fit, be sure to cut it slightly smaller than the length of the opening to allow for sand to be repacked around it.



Caption: Paving is not difficult to learn: 80 Landscape Technology students at the Cape University of Technology (CPUT) completely transformed a 12 metre x 14 metre area on their Cape Town campus in just two weeks.

For further information

The Clay Brick Association of South Africa
Website: www.claybrick.org



