

Project Cost Estimator

Materials Description	Quantity	Cost
Edge Boards & Stakes for formwork		
Timber screed to suit		
Crushed Gravel		
River Sand		
Pavers		
Nails		
Equipment		
Hammer		
Lump Hammer		
Brick Bolster		
Angle Grinder with Diamond Disc		
String Line		
Broom		
Vibrating Compactor		
Total		

All these materials you need for this job are available at Magnet Mart, your home improvement warehouse.

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Home Project

MagnetMART

Home Warehouse

Lay Pavers



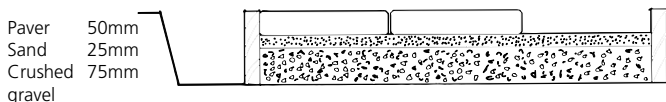
- Easy to follow step-by-step guide
- Important and handy tips
- Materials check list
- Project Cost Estimator

Before you start, please read through this pamphlet carefully and estimate and assemble all the materials you will need for the project and gather your tools and equipment together. Refer to the checklist and estimating form on the back panel of the pamphlet to assist in this preparation.

YOU CAN – Lay Pavers

1. Estimating Materials & Planning the Job

- **Pavers** – Use this guide to calculate how many pavers you need for your project:
 1. Measure the area you intend to pave (length x breadth = area in square metres).
 2. Divide the area of your project by the area of one paver (in square metres), the answer will be the number of pavers you require.
 3. To find the total cost, multiply the number of pavers (Step 2) by the cost of one paver.



- **Crushed Gravel** – A bed of fine gravel under the sand and pavers will add to the longevity of your project and add strength to the paver bedding. Lay a gravel bed at least 75mm thick for foot traffic areas and 100mm thick for driveways.
- **Sand** – One cubic metre of river sand should be sufficient to bed an area of 40 square metres at 25mm thickness. If you need a thicker sand bed, the total area covered will reduce in proportion.
- **Traffic** – will the pavers need to stand up to heavy traffic? Garden paths or patios can be paved with 50mm thick clay pavers, driveways will need 65mm pavers to take the extra load of vehicles.
- **Drainage** – Paved surfaces affect drainage, to allow for water run-off, excavate the site to take into account a fall of 1cm per metre. Plan for the low end to finish on or just above ground level, away from existing building foundations.
- Measure and mark out the site using a string line (see Fig 1).
- Check the area is square by measuring the diagonals – they should be the same length (see Fig 1).

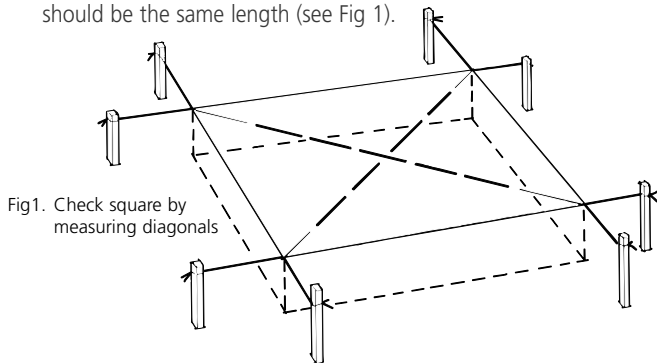


Fig1. Check square by measuring diagonals

2. Excavate the Site

- Determine the depth of the bedding layers and pavers and dig out the topsoil to the appropriate level, ensuring that the excavation is at least 150mm larger all round than the finished paved area to allow room for the formwork (see Fig 2).

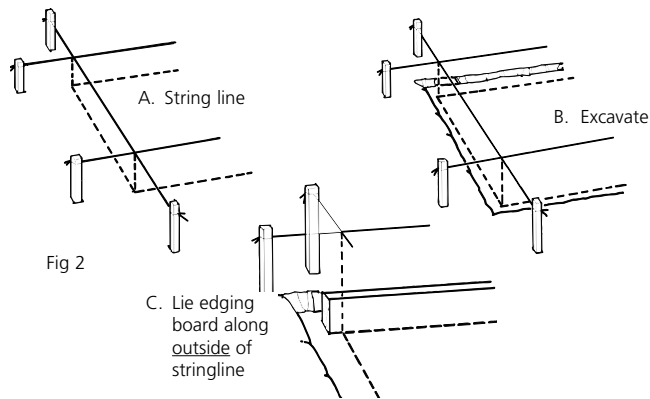
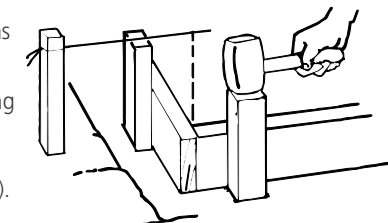


Fig 2

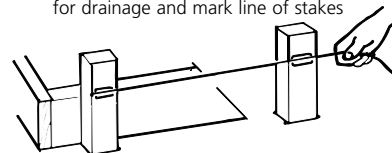
- Ensure that the ground surface is firm and free of tree roots or other obstructions, adding material to low areas and tamping down firmly.
- Position edging boards along the string line and drive stakes firmly into place to support the form (see Fig 3). Ensure the top of the formwork is at the correct height for the finished pavers and takes into account the need for drainage. Nail the boards securely to the stakes.
- Trim the stakes to the top of the edging boards (see Fig 4). Pack soil tightly around the perimeter.

Fig3. Positioning edging boards

A. Drive in stakes behind edging board



B. Position chalkline on corner stake. Adjust for drainage and mark line of stakes



C. Nail edging boards to stakes at this chalkline.

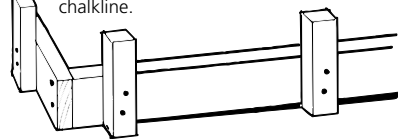
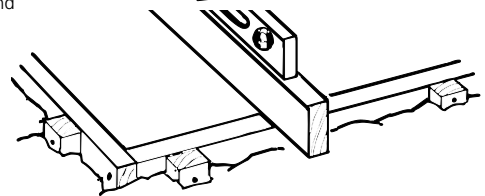


Fig 4. Trim stakes and pack in soil.



- Spread a layer of crushed gravel over the entire area to be paved. In order to achieve a uniform compacted thickness, consider hiring a mechanical plate vibrator. The gravel should be a thickness of 75mm for light duty areas and 100mm for heavy traffic areas such as driveways (see Panel 1: Estimating materials & Planning the job).

- Make a screed board using a notched piece of timber that is long enough to fit between the formwork boards and extends to a depth of 10mm less than the thickness of your pavers to allow for compaction (see Fig 5). The screed is used to drag the sand bed level to make a smooth bed for your pavers quickly and easily.

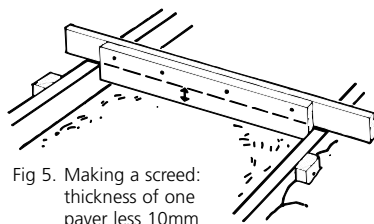
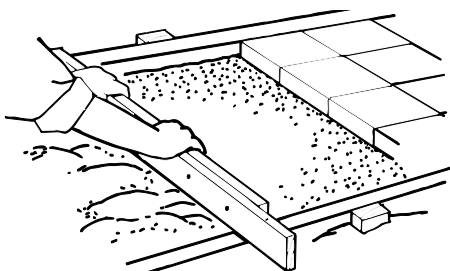


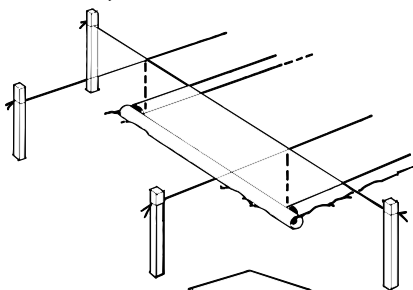
Fig 5. Making a screed: thickness of one paver less 10mm

- Dump moist sand into the bed, roughly level then work down with the screed, moving back and forth until sand is level (see Fig 6). Only screed an area that will be immediately paved – about 2 square metres.

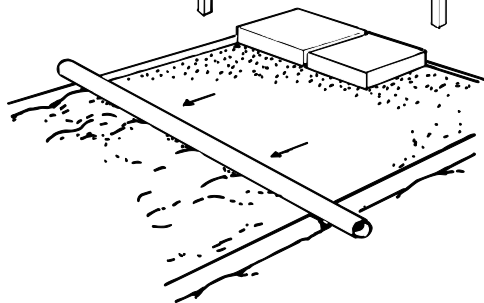
Fig 6. Level Sand and alternative methods of screeding with steel pipes.



A. Lay pipes along string line.



B. Use pipe as screed.



3. Laying the pavers

Usually, it is best to lay the first row of pavers side by side (see Fig 7) to form a neat leading edge to your paved area. Follow this row with your choice of pattern as outlined in the diagrams.

Sometimes the choice of paver block will dictate how you lay them, for example, shaped pavers (see Fig 8) may interlock.

Fig 7. Laying of pavers

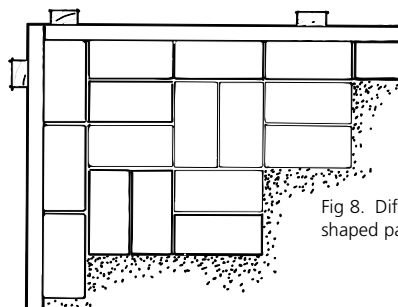
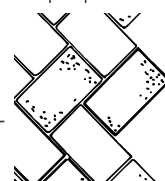


Fig 8. Different shaped pavers.

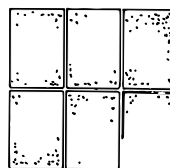


Shaped pavers



Herringbone

Rectangular pavers may allow you to experiment with various patterns such as herringbone, basket-weave, brick pattern or simple block pattern.



Simple block pattern



Brick pattern



Basket weave

Tips

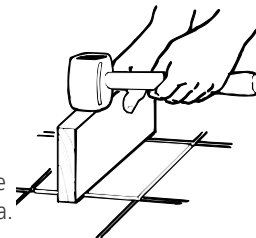
- Commence laying pavers in one corner, placing each block carefully in position (do not slide as you will disturb the sand bed), leaving a 2 – 4mm gap between each paver.

Fig 9. Tamp with mallet and wooden block.

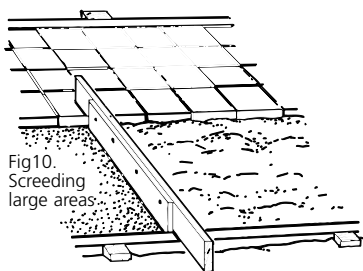
- Lay a few rows at a time so you can comfortably tamp the pavers down with a mallet and wooden block (see Fig 9). Check the level of the pavers as you tamp them using a spirit level.

- For large areas, consider hiring a plate vibrator to tamp down the paved area.

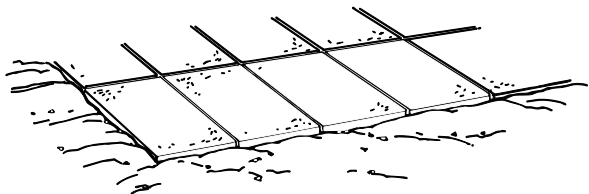
- Repeat the screeding, laying and tamping process until your paved area is completed.



- For large areas, screed using the laid pavers as one reference edge (see Fig 10).



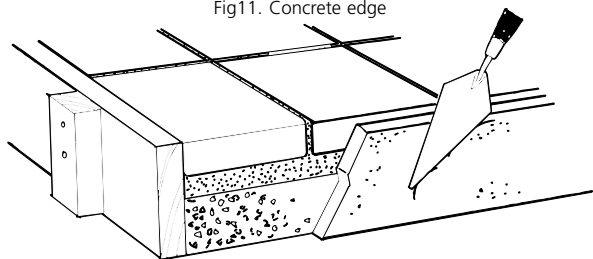
- From time to time, you will need to cut a paver to fit a space, see next panel on How to cut Pavers for easy directions.



Once the paving is all laid you need to fill all the joints between the pavers.

- Spread dry sand over all the paved area and sweep into the cracks with a stiff broom. Repeat until all the gaps are filled.
- Dampen the surface with a fine spray from a hose to wash the sand particles into the joints, don't use too much water as it will wash the sand out of the joints.
- Allow to dry and repeat if necessary.
- You can get excellent results by using a sand and cement powder mix for this step, take care not to allow the mixture to build up and dry on the surface of your pavers.
- One last step once all the pavers have been laid is to secure the borders of the paved area. You can do this by leaving the formwork in place if it is treated pine or hardwood. Alternatively you will need to form a concrete edge all round the paved area.
- If you decide to concrete the edge, lay a border of concrete along the edge and just below the surface of the pavers (see Fig 11). Then back fill with soil and allow the grass to grow over the edging.

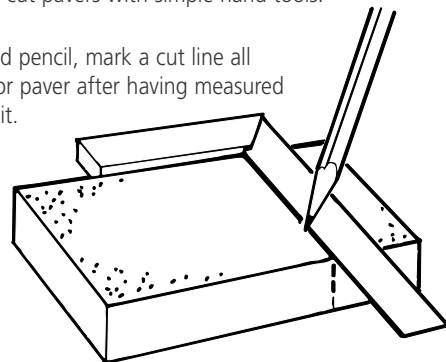
Fig11. Concrete edge



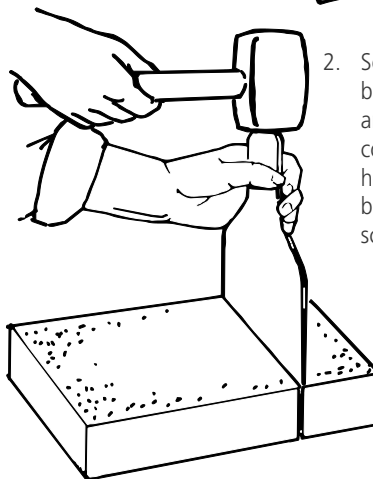
How to Cut a Paver Block

If you do not have an angle grinder with a diamond cutting disc, you can still accurately cut pavers with simple hand tools:

1. Using a square and pencil, mark a cut line all around the brick or paver after having measured the space it is to fit.



2. Score the line using a wide brick chisel (called a bolster) and a lump hammer. After a couple of tries, you will find how hard you need to hit the bolster to produce a fine white score line on the brick.



3. After scoring all four sides, start again by placing the bolster directly on the score line and striking firmly with the hammer. If the brick or paver does not break cleanly, try scoring a little deeper next time.