



## Laying Natural Clay Brick Paving – guidelines for Dry Laying Method for Domestic Applications

Perfect for patios, driveways and paths, natural clay brick pavers are long-lasting and easy to maintain. Professionals and anyone who is competent at DIY can use this guide to laying brick paving to ensure a flawless result.

### Getting started

Depending on the site, you may need to carry out some initial excavation, to a depth that accommodates the sub-base, the bedding (or 'laying') course and the pavers themselves. The end result will need the pavers to sit at least 150mm below the damp proof course (dpc). You will then need to construct a sub-grade, sub-base and bedding course before laying the pavers. Each course must be compacted and levelled before the next can be applied. Falls should be 1:80, can be up to 1:60 if required.

### 1. Prepare your sub-grade.

Note: if laying a drive, you can overlay an existing driveway if it is structurally sound and if the level of the new drive will still be at least 150mm lower than the dpc level of adjacent buildings. If this is the case, you can move on to 'construct your sub-base' below.

If laying a drive on new ground, or constructing other paved areas where ground preparation is necessary, a well-prepared sub-grade will ensure that the bedding course will be as dry as possible. You may also need a draining foundation where the groundwater level is within 500mm of the surface.

To prepare a sub-grade, excavate to the correct depth (see above) and remove any material that will not compact easily, such as large chunks of rubble. Replace any material removed with suitable material to meet the specifications for the site. Compact the sub-grade until it is as level as possible (no more than 20mm divergence). The sub-grade will need to be wide enough, bearing in mind the edge restraints and any adjacent structures. If you are in any doubt as to what materials you should use, or how thick the sub-grade should be, please contact us.

### 2. Construct your sub-base.

Using Type-1 stone material that is well-graded, compact the sub-base in layers. Each layer should not be thicker than 75mm and each layer must be fully compacted before the next layer is added and compacted. Continue to add layers until the required minimum thickness is reached (this will vary and depend on the quality of the sub-grade and the frequency and weight of traffic loadings on the site – contact us with any queries about this). Again, thickness should be uniform with not more than 20mm divergence – typically, a domestic sub-base should be around 150mm deep on good, solid ground,

but site conditions may mean that your sub-base will need to be thicker. For any questions about how to construct your sub-base, contact us and we will endeavor to help. Full guidance can be found in BS7533.

### **3. Edge restraints**

In order to hold the bedding course and pavers in place you will need to construct a rigid edge restraint around the perimeter of the area to be paved. Existing walls may be used, or kerb units can be created by using pavers turned onto the sides or ends.

### **4. Bedding/laying course**

Once your ground is prepared with a sub-grade and/or sub-base and edge restraints are fitted, lay the bedding course of well-graded, moist grit sand (not building sand) of 40-50mm. You should be able to squeeze the sand in your hand without water escaping, with the sand holding its shape when released – this will prove that the sand has the correct level of moistness. Compact the bedding course and screed to level the surface. If you have to leave the work overnight at this point, ensure that the sand is completely covered to prevent the sand becoming too wet or moist through dew or frost.

### **5. Paver course**

First, unpack the pavers. Open several packs to ensure a good, even blend of colours and unpack each diagonally rather than horizontally – this will ensure that any minor variations in the colour or pattern of the pavers will be distributed evenly across the area. Any pavers damaged on site should not be used, but can be used for cuts if appropriate. Ensure that you unpack the pavers onto flat, even ground, and ensure that you wear appropriate safety-wear to prevent injury from falling pavers.

Decide on the orientation and pattern of pavers to be constructed. The pavers can be laid with the smooth top, sanded bottom or open texture sides as the top surface to obtain different looks. Please note that if laid on their side they are only suitable for pedestrian traffic. The pattern may be a simple matter of aesthetics, but if the paved area is to be used by vehicles then an interlocking pattern will prove most stable. Most installations use a brick bond or herringbone pattern. If working on a slope, begin at the bottom of the slope and work upwards – if the gradient is particularly steep you may need to use intermediate restraints, for example a row similar to edging cemented into place at set intervals.

Fit whole pavers first, and complete using the cuts. For herringbone patterns, start in the centre and work to the edges, cutting there as necessary. This will avoid the pattern going out of line. Where there are gaps (e.g. around a curve), you will need to cut down full pavers to fit. Any such in-fill pieces should be cut as accurately as possible, using a disc cutter and fitted flush with the whole pavers wherever necessary to complete the paving pattern or to fill the entire area. Ensure that safety goggles are worn and that correct safety precautions are taken. The joint width between pavers can be between 2mm and 5mm. Each paver or in-fill should be not more than 2mm higher or lower than adjacent paving bricks. Using a 3mm rule, ensure that overall there is not more than a 7mm deviation of the laid surface. Any more than this could result in the pooling of water every time it rains and will ultimately destabilize your paving.

### **6. Compaction**

Just as the sub-grade, sub-base and bedding courses were compacted to ensure a solid finish, the pavers will now need to be compacted. Before doing so, though, use a brush to sweep dry, fine jointing sand (ideally, crushed sand of 2-4mm grade) into the joints between the pavers. Brush away any surplus sand.

Compact the pavers onto the bedding course using a vibrating plate compactor that is fitted with a rubber soleplate to avoid damage to the pavers. If damage does occur, replace any broken or cracked pavers and re-fill with jointing sand before re-compacting that area.

Check again that the difference in height between the pavers is never more than 7mm across the entire area, to avoid pooling (as above). If compacting has caused some deviations, correct these by re-adjusting the pavers.

## 7. Final joint filling.

Once the pavers have been compacted and are as level as possible, brush another layer of dry, crushed sand (2-4mm grade) into the joints across the whole area. Repeat until all of the joints are completely filled and the pavers are immovable. Brush a final layer of fine sand (0-2mm grade) into the joints to finish. Your paving is now ready for traffic.

## 8. Maintenance

Clay paving is easy to maintain and requires little time to be spent on it once it has been correctly laid. High-pressure washing systems or diluted bleach can be safely used periodically to keep the pavers clean and free of algae. Acid-based cleaners should be avoided. To maintain the pavers to a high standard, wash occasionally using a hard-bristled brush and hot, soapy water, and regularly remove or kill any weeds that may emerge between the joints. When using a brush or high-pressure cleaner, ensure afterwards that your joint filling is still intact. Replace or top-up if necessary.

## 9. Care

If you follow the procedures set out above, your paving will last many years and will require little maintenance. If however, our guidelines have not been followed then we regret that we cannot accept liability for any problems that you might incur.

Please also note this is a generic guide, you may have individual circumstances, considerations that may alter these parameters. When in doubt, seek local advice from an engineer or paving professional. If in any doubt at any stage as to how to proceed, please contact us for advice.