

Installation and maintenance guide

PAVER SOLUTIONS



Creating a lasting legacy

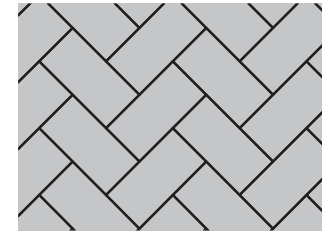
The natural beauty of clay sets it apart from other hard landscaping materials. Clay paving never fades.

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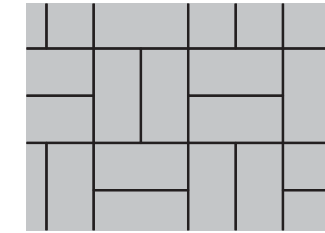
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Laying patterns

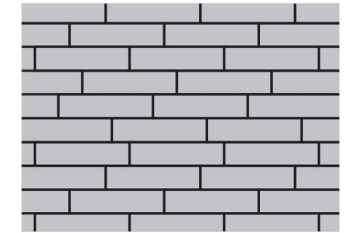
A key part of the creativity and aesthetic potential of clay pavers is in the laying patterns.



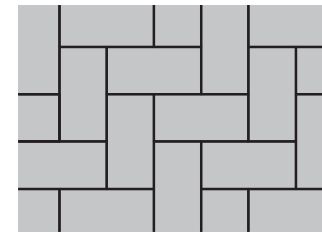
HERRINGBONE 45 DEGREE – COMMERCIAL



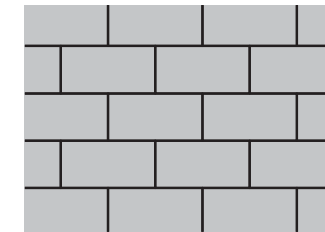
BASKET WEAVE (2 FACE AND 3 FACE) – PEDESTRIAN



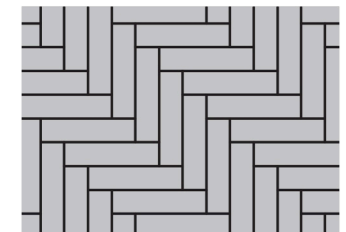
STAGGERED BOND – PEDESTRIAN



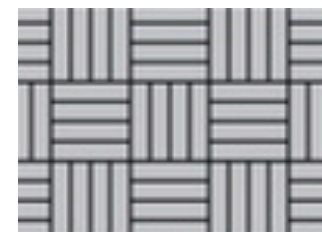
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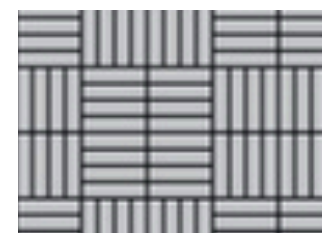
RUNNING BOND COURSE – PEDESTRIAN



CHEVRON



DUTCH PAVERS WF



DUTCH PAVERS WF



Installation guidance

Unbound (flexible) pavements

- 1** Prepare sub-grade

The sub-grade shall be cut and formed to the required level ensuring no soft spots. Any soft spots are to be removed and replaced with appropriate material.
- 2** Lay and compact sub-base

The sub-base material is spread and compacted in layers. The choice of compaction equipment is important – a vibrating compactor plate may not be suitable for large scale projects. A vibrating roller would be more appropriate. The surface of the compacted sub-base should be close textured to prevent any loss of bedding course material.

The sub-base should be laid to falls to allow for drainage gradients.
- 3** Install edge restraints

Install appropriate edge restraints along the perimeter of the area to be paved. When using kerbs ensure the concrete bed/haunch has matured before any compaction is undertaken.
- 4** Spread, compact and screed bedding course

Spread the sand in a loose uncompacted layer over the area to be paved; compact the sand with a vibrating plate compactor. The compacted sand is then screeded to level to receive the pavers. It is essential that the sand bedding course is not disturbed (i.e through foot traffic, etc.).

- 5** Lay pavers, fill joints and compact

When the bond pattern has been determined, it is good practice to lay a control sample panel in order for the final pavement to be consistent and all site personnel/paving contractors are aware of the proposed paving design. Paving work may start from an exact edge or the centre line of the pavement. String lines may be used to keep the pattern straight. Straight lines are necessary in areas subject to vehicular traffic to provide an even spread of horizontal load.

Whole pavers should be laid first, followed by cut pavers. The pavers are laid in the desired bond pattern with a joint width between 2-5mm – with a target joint width of 3mm. Pavers that butt directly to each other tend to spall (chip) as the pavement moves.

After the area has been laid with whole pavers; special infill pavers or cut pavers are placed in the spaces. Pavers should be cut with a masonry saw or special clay paver block splitter to ensure clean and accurate cuts. Clay paving should not be cut to less than a quarter of its original size along the length of the paver and never across the width – where required, complimentary fittings and inboard cutting should be used.

When the pavers have been placed on the bedding course, the pavement is vibrated using a vibrating plate compactor. Compaction should not occur closer than one metre to the unrestrained working edge of the pavement under construction. The compactor should be fitted with a neoprene sole plate or alternatively a sheet of plywood can be laid over the pavers to protect them from the compactor.

After the first compaction, jointing sand is spread on to the surface and brushed into the joints.

The pavement then received 2 or 3 passes of the vibrating plate. Further jointing sand should be swept into the joints and re-compacted until all the joints are full.

Bound (rigid) pavements

- 1** Install concrete road base.

Where a concrete road base is used ensure properly designed movement joints are installed. The concrete base surface should be finished smooth and allowed to harden overnight
- 2** Lay mortar bedding course

A primer may be required between the road base and the mortar bedding course (subject to design). The mortar bed is laid typically 35- 50mm thick.
- 3** Lay pavers, fill joints and compact.

When the bond pattern has been determined, it is good practice to lay a control sample panel for the final pavement to be consistent and all site personnel/paving contractors are aware of the proposed paving design.

Paving work may start from an exact edge or the centreline of the pavement. String lines may be used to keep the pattern straight. Straight lines are necessary in areas subject to vehicular traffic to provide an even spread of horizontal load.

Whole pavers should be laid first, followed by cut pavers. The pavers are laid in the desired bond pattern with a joint width between 6-10mm.

After the area has been laid with whole pavers; special infill pavers or cut pavers are placed in the spaces. Pavers should be cut with a masonry saw or special clay paver block splitter to ensure clean and accurate cuts.

When all the pavers are laid, a slurry mix of jointing mortar can be poured into the joints ensuring all joints are fully topped up – any surplus is washed off with water.

Permeable (SUDS) pavements

- 1** Lay and compact sub-base.

The sub-base is laid in layers (150mm thick) and compacted using non-vibrating compaction equipment – a roller is the most effective. Coarse graded aggregate for the sub base should comply with the grading requirements of a 4-20mm material.
- 2** Spread and screed bedding course.

The aggregate is spread and screeded to 50mm thick. The bedding course is not compacted. Material for the bedding course on which the Aquata is laid and the jointing material should comply with the grading requirements of a 2-6.3mm aggregate and a 3mm single size aggregate can be used as joint infill.
- 3** Lay pavers, fill joints and compact.

When the bond pattern has been determined, it is good practice to lay a control sample panel for the final pavement to be consistent and all site personnel/paving contractors are aware of the proposed paving design.

Paving work may start from an exact edge or the centreline of the pavement. String lines may be used to keep the pattern straight. Straight lines are necessary in areas subject to vehicular traffic to provide an even spread of horizontal load.

Whole pavers should be laid first, followed by cut pavers. The pavers are laid in the desired bond pattern.

After the area has been laid with whole pavers; special infill pavers or cut pavers are placed in the spaces. Pavers should be cut with a masonry saw or special clay paver block splitter to ensure clean and accurate cuts. When all the pavers are laid, jointing material is brushed into the open joints. The pavement is then vibrated using a plate compactor. Further jointing material is the brushed into the joints ensuring all joints are fully topped up.

Maintenance | Commercial

Early trafficking and cleaning

If the pavement has unbound joints traffic may use the pavement immediately following the final

pass of the vibrating plate compactor. At this stage the joints between the pavers will be relatively porous. Cleaning should be by hand broom only for this period. Cleaning with hoses or mechanical sweepers with vacuum attachments is not recommended during the first 3 months. Following the ingress of water, together with general dirt and detritus, the jointing sand will consolidate and become relatively impervious.

Basic cleaning principles | general

Clay paving provides a durable and hard-wearing surface, but like any other paving material, may suffer from staining. Frequent sweeping and washing reduces the effect of dirt and grime and maintains the attractiveness of a pavement. The removal of stains need not be a problem if the following principles and procedures are followed.

Select correct cleaning solutions.

Is the use of chemicals necessary? If clean water and a detergent fail to work then the answer could be yes. Do not automatically reach for an acid cleaner, establish what the contaminant is.

Removing common stains

Efflorescence

Most clay pavers have a low soluble salt content, and a slight white bloom may appear on the surface immediately after laying. The source of this stain is most likely to be derived from the jointing sand.

These salt deposits are usually harmless and can be removed by dry brushing and allowing to weather away naturally.

Efflorescence may also manifest itself when pavers start to dry out following the seasonal use of de-icing salts, particularly in town centre pedestrian areas. Normal weathering will remove this discolouration. Special urea based gritting salts are available to minimise this problem.

Whitescumming

This is often seen as a thin white film on the paving surface if there is contamination from an external source, e.g. concrete structures discharging their run off, or even the leaching of certain limestone sub bases. It may also appear after an attempted removal of mortar stains or after the sanding of joints with 'clayey' sand (i.e sand contaminated with clay content).

General dirt and grime

Frequent sweeping and hosing will usually ensure a clean pavement. If this is not enough, then washing with a detergent may be required. Any use of pressure washing may require the replacement of jointing sand.

Vanadium stains

Buff or fireclay products in particular often contain vanadium salt that may appear as a yellow, green or red/brown discolouration of the pavers. Vanadium stains are naturally occurring and are neither permanent nor harmful and do not indicate any defect in the paver. Stains in exposed areas generally wash off in time but their removal can be hastened by chemical treatment.

Mortar stains

Experiment on a small section of the affected pavement with a weak solution of water mixed with hydrochloric acid. Once the appropriate strength of solution has been determined then follow the manufacturer's instructions in the removal of the stain. Clean area down with clean water once stain is removed.

Fungi, moulds, moss and lichens

These are common, particularly in shady or damp parts of the pavement. They will not damage the pavement but may cause it to become slippery. Remove by vigorously brushing the affected area when it is dry. Alternatively high-pressure water may be used.

It is necessary to 'sterilise' the area with a strong fungicide/ weed killer or proprietary brands from garden centres. Follow manufacturer's instructions and test their effect on a small area initially.

Oil, bitumen, tar

Oil does not penetrate into the body of clay pavers and will sit on the surface until it is dispersed naturally. Scrape off any excess material when dealing with petroleum asphalt and bitumen or mop up immediately any petrol or oil stains using absorbent paper towels. Wiping and further spreading of the contaminants should be avoided.

Treat with commercial emulsifying agents, such as 'Gunk', following manufacturer's instructions. Subsequently, use detergent to clean up and rinse well with clean water.

Neither hot water, nor steam, nor emulsifying agents will affect the colour of the paving.

Food stains and tyre marks

Scrub with full strength commercial detergent and rinse well.

Chewing gum

The most serious of cleaning problem associated with town centre and public realm projects is chewing gum.

Wire brushes should remove the majority of chewing gum, but it will require several attempts. Specialised high-pressure water jet lances and freezing methods have also been successful in varying degrees.

Paint and graffiti

Very difficult to remove. Soak up any wet paint with an absorbent material. Do not wipe as this will spread the paint. Treat with white spirit solvent followed by washing down of the area with a strong detergent and hot water/steam.

Dried paint should be scraped off and an appropriate paint stripper applied following manufacturer's recommendations. Wash the area down with a strong detergent and hot water/steam.

Alternatively, consult a specialist company should the affected area be large or as a result of vandalism.

Should all else fail, take up the affected area, turn the pavers over and re-lay.

Permeable (SUDS) pavements

The wienerberger Aquata system is a low maintenance system and is tolerant of maintenance not being carried out.

Regular inspection of the permeable pavement is advised (particularly after heavy storms); and where ponding is evident it will indicate that the joints have become clogged. However, studies have shown that even when permeable pavements are not maintained and become clogged, there are massive redundancies built in to allow the pavement to drain surface water effectively.

Where permeable pavements are located in close proximity to grassed landscaping it is advised to mow grass monthly and resow as required.

Mechanical (cleaner with suction only) brushing will help maintain performance and the appearance of the permeable pavement. This should be carried out annually – usually after Autumn.

Loss of jointing material may become apparent after suction sweeping – joints should then be refilled with the correct material and vibrated. Gullies, channels, inspection chambers and RWP back inlet gullies should be inspected every 6 months and remedial action taken where required.

It is advisable to keep permeable paving joints topped up with jointing aggregate. All maintenance visits and inspections should be recorded, and a copy kept for the client.



Maintenance | Domestic

Keep It Pristine All Year Round

Clay paving is not just a practical solution for your outdoor spaces; it's an aesthetic choice that adds warmth and character to gardens, patios, and driveways. However, to ensure it remains a highlight of your outdoor environment, regular maintenance is key. Fear not, for keeping your clay paving in top condition doesn't have to be a chore. With the right approach, you can ensure it stays clean, durable, and beautiful for years to come. Let's dive into the essential tips and tricks on how to clean clay pavers.

The beauty of clay paving lies in its durability and ease of maintenance. For day-to-day care, sweeping away debris and hosing down the surface can keep your paving looking fresh. However, when faced with more stubborn dirt, a mild detergent solution comes to the rescue. Remember, while pressure washing is an option, it's best used sparingly to avoid disturbing the jointing sand and the paving bed. Pressure washing should be avoided in the first three months after new paving has been installed to allow the area to settle. Instead, opt for gentle scrubbing with soapy water – a simple yet effective method to keep your paving pristine.

Regular Cleaning: The First Step to Perfection

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Battling Weeds, Moss, and Algae: A Spotless Surface

Weeds, moss, and algae can detract from the beauty of your outdoor space, commonly growing in shady or damp areas. Regular vigilance is your best defense; remove weeds as soon as they appear to maintain the aesthetic appeal of your paving. For moss and algae, a dry brush on a sunny day or a blast from a pressure washer (used judiciously) can work wonders on garden clay pavers. If these guests prove particularly stubborn, a fungicide or a weed killer from your local garden centre can help, but always test on a small area first to ensure no discolouration occurs.

Stain Removal: From Oil to Beverages

Clay paving's resilience to stains is one of its standout features. Oil spills, often a concern for those who tinker with cars and bikes, rest on top of the surface, making them easy to clean without penetrating the pavers. Absorbent paper towels will do the job initially, followed by a detergent wash. For beverage spills, a strong detergent should suffice, and for the most stubborn stains, a diluted bleach solution may be necessary, tested in an inconspicuous area first. As always, rinse thoroughly with clean water after any treatment.

Efflorescence: Understanding and Managing

Whilst clay pavers are low in soluble salts, sometimes new clay paving can show efflorescence, a temporary white deposit often resulting from natural salts in jointing sand. This is no cause for alarm; these deposits usually fade away with time. Avoid chemical treatments as they're unnecessary and could harm your paving.

Winter Care: Safeguarding Your Paving

Winter doesn't have to spell trouble for exterior paving. It's perfectly compatible with standard de-icing salts, ensuring safety and accessibility even in frosty conditions. Any resulting discoloration from these salts is temporary and will fade with the return of warmer weather.

Maintaining your clay paving is about embracing a routine that keeps it looking its best. Regular cleaning, vigilant weed and moss removal, prompt stain treatment, and appropriate winter care are all part of the package. By following these steps on how to clean block paving, you not only preserve the functionality and appearance of your paving but also enhance the overall charm of your outdoor space.

Remember, a little effort goes a long way in ensuring your clay paving remains a lasting testament to your home's beauty and your commitment to its upkeep.

