



BAKSTEEN[®]
CLAY PAVERS

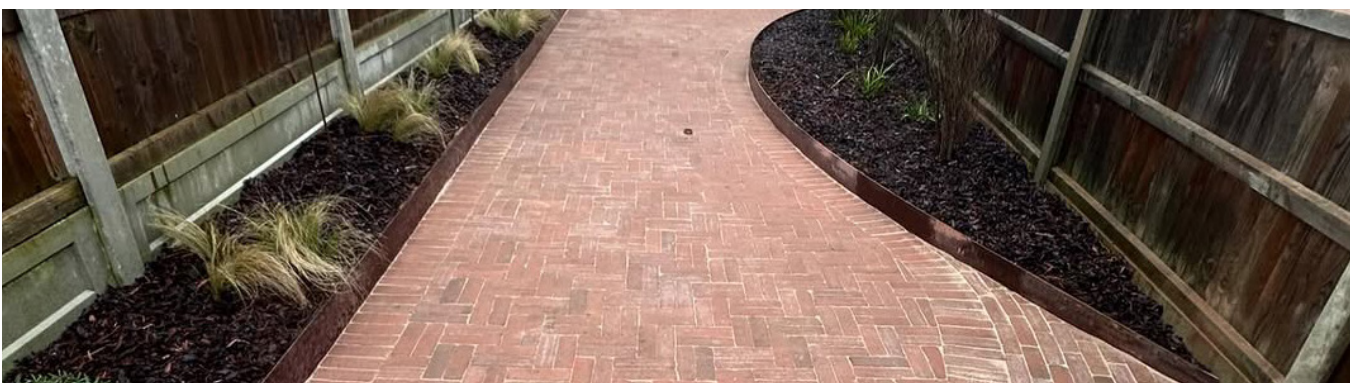
Guide to Planning & Installing **Baksteen Clay Pavers**



TALASEY
LANDSCAPING SOLUTIONS

Planning Ahead

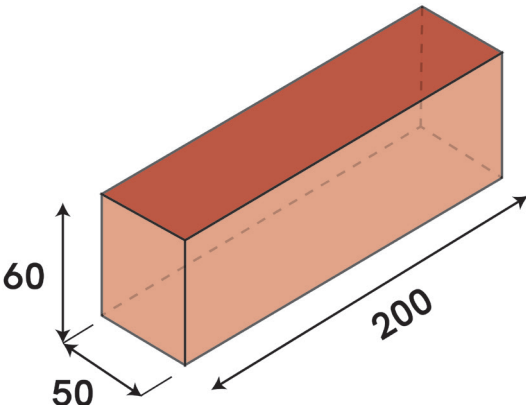
- Work out the dimensions of your area, use dimensions that minimise cuts. Peg it out to help you picture it. Calculate the pavers you need in M² and add 10% to allow for cuts, wastage and any damages.
- Consider the type of use and traffic your area will be exposed to, and design in adequate foundations to give you many years of service.
- Consider what type of installation method is appropriate for your needs. Later in this guide, we have method instruction on different types of construction; Flexible, Rigid and Fully Bound Rigid.
- For new or extended driveways consider planning permission requirements around water management and providing appropriate drainage to avoid run off onto the public highway.
- When digging out, consider where your services are, e.g. drains, underground and overhead cables.
- Consider how deep you need to dig depending on your specific site and how high the water table is.
- Consider if tree roots are an issue.
- Consider what type of soil you have, (sub-grade). Our guidelines on depth of excavations are very general and you may require local expert advice.
- Consider where you can store and stack the product during install, where will you have your mixer and aggregates. Don't forget your skip. Remember, groundwork and installation are heavy work. Ensure you have the appropriate PPE and tools for the job.
- Fully read our Understanding Baksteen Clay Pavers Guide for more tips and advice, particularly, if you are inexperienced in installing our Baksteen Clay Paver ranges.
- Before embarking on a DIY project, research other sources and techniques, if in any doubt, ask an expert for advice.
- This guide is our suggested methods, there are many others out there. Where there is a specific product guidance, this is borne from our experience with our products.
- When laid on edge, on a suitably designed bedding and sub-base, these pavers will withstand light van vehicular traffic, making them perfect for driveways. Alternatively, if laid on bed, they are suitable for pathways, patios and light vehicular traffic.



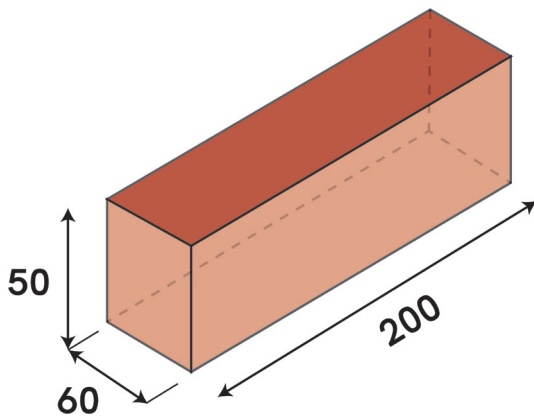
Choosing Clay Pavers

When Baksteen is Laid on Edge

(suitable for light van vehicular traffic)

Per Pack		
Size	200x50mm	
Thickness	60mm	
Weight	1320kg	
Coverage	10.40m ²	
Pieces	1040	

When Baksteen is Laid on Bed

Per Pack		
Size	200x60mm	
Thickness	50mm	
Weight	1320kg	
Coverage	11.30m ²	
Pieces	1040	

Plan Your Levels

- Think ahead, regarding the finished levels of your pavers. The paving surface must always be a minimum of 150mm below the damp course (DPC).
- Unless installing a permeable SuDS system, always incorporate a fall to allow water to run off the paving surface to adequate drainage. For most domestic settings, 1:60 is usually adequate.

Groundwork & Foundations

- Peg out the area to be excavated using stringlines as boundary lines.
- Dig out to allow for sub-base depth + laying bed depth + paving depth.
- For flexible unbound and rigid installation commonly used for a garden patio, a compacted 100mm– 150mm sub-base is adequate. For a domestic driveway, a compacted 150mm– 200mm sub-base is adequate. For example, if you were installing your clay paver laid on bed at 50mm depth, on a domestic patio with a 100mm subbase and 30mm mortar bed, you would need to dig down approximately 180mm. If you were installing your clay paver laid on edge at 60mm depth, on a driveway with a 150mm sub-base and 40mm sand screed, you would need to dig down approximately 250mm.
- For a rigid fully bound install commonly used for heavily trafficked areas the sub-base depth needs to increase and a professional installer should be consulted.
- Remember to account for the required gradient too when digging out.
- Saturated ground may need to be allowed to dry out. For certain ground conditions a geotextile membrane maybe required to stop migration of the hardcore sub-base into the sub-grade.
- Infill your sub-base with hardcore, MOT Type 1 (DTp 1) is generally appropriate for most domestic installations. Some ground conditions and heavier vehicle-type usage may require consideration of a Hydraulically Bound Material instead to create a fully bound construction.
- Rake it out evenly, damp it down before compacting, easiest and most effective with a Vibrating Plate Compactor. Fully compact in layers of approx. 75mm until desired depth is reached.

Before You Start

- Check your product, never lay products that are not to expectations, report them to your merchant straight away.
- Dry laying as a trial run is a great way of seeing the blend of products and confirming your laying pattern is how you like it.
- Mix from several packs at a time to achieve a natural blend.
- Do not lay in temperatures of 5°C and falling.



Baksteen Clay Pavers Flexible (Unbound) Installation Guide

IMPORTANT - All clay pavers, whether it's a patio, a pathway, a terrace or a driveway requires at least three layers: a sub-base to give it strength; a laying course of sharp sand to support the pavers; and the clay pavers themselves. It also needs to have firm edges to hold the pavers securely in place, and the right kind of jointing to fill the gaps.

Clay Paver Flexible (unbound) Installation Cross Section

Retaining Edge Haunching

Haunch to a minimum of 50% height of edge restraint

Retaining Edge bedding

ST4 (C20) concrete 30-50mm

Retaining Edge bedding

ST4 (C20) concrete 30-50mm

Edging Course or Soldier Course

Clay Paver

Laying Course

Grit Sand screed

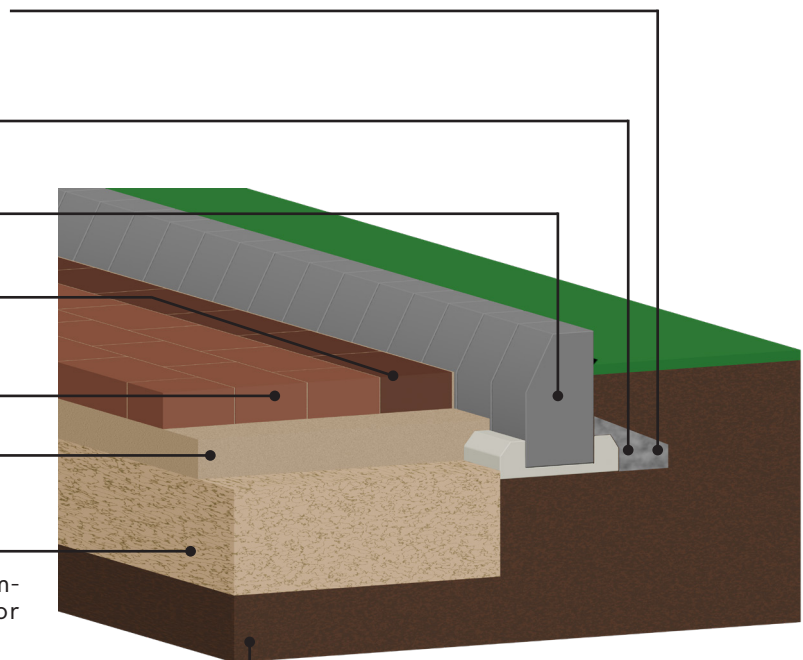
Usually, 40mm depth

Sub-Base

Compacted granular MOT Type 1 100mm-150mm for patios 150mm-200mm for driveways

Sub-Grade

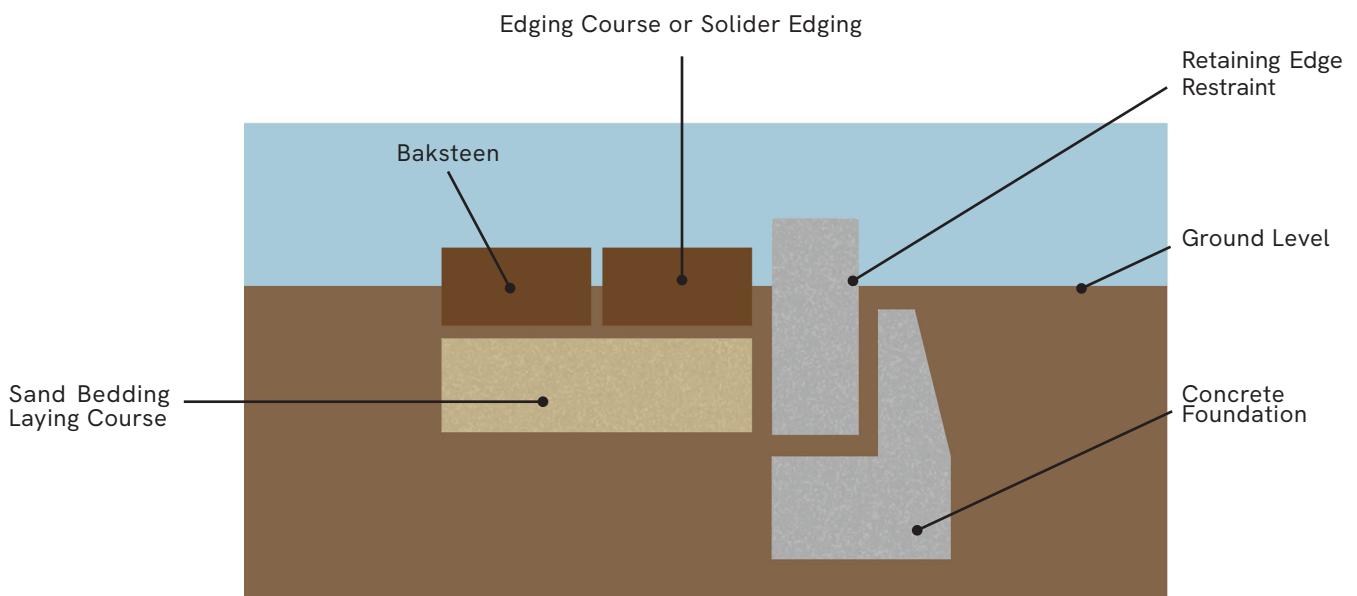
Excavated to the depth of the sub-base, laying course and paving depth plus any falls required usually 1:60 is adequate



Edge Restraints

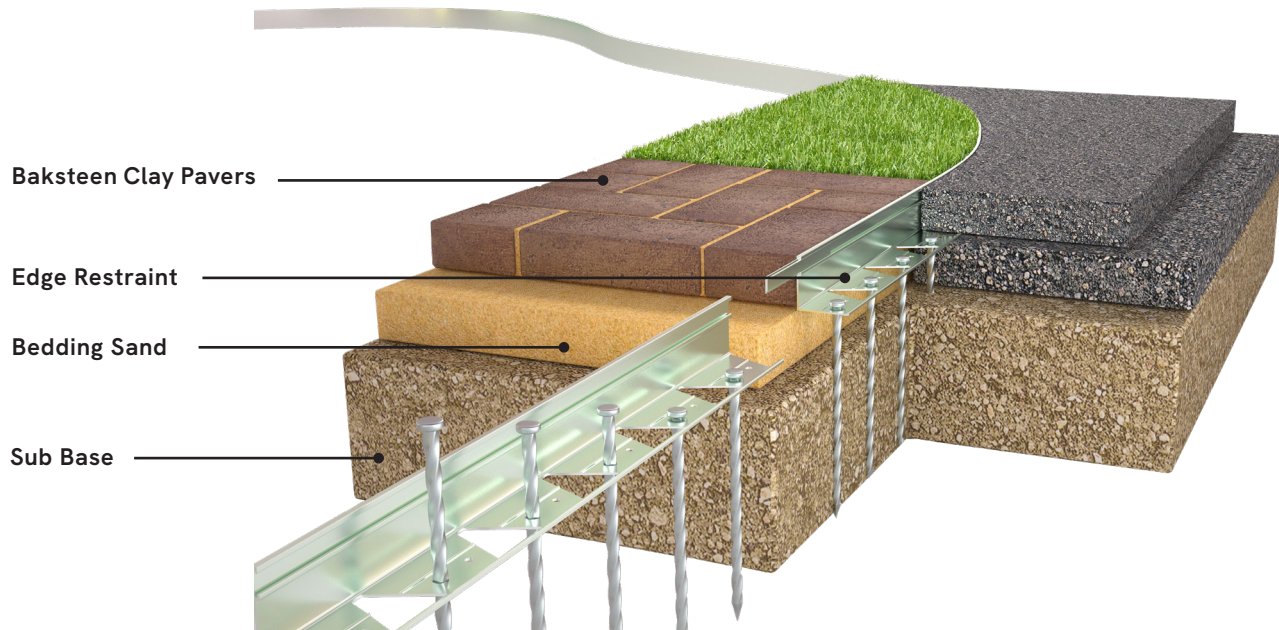
- Set up taut string lines as necessary to act as guides to alignment and levels.
- The entire paved areas must be framed by a firm edge restraint to stop the pavers and sand bed creeping.
- For driveways, patios and pathways, we have a kerb in our Natural Paving brand to complement the Baksteen Clay Paver. Also consider our Pavetuf Edge Restraint which is made from strong aluminium giving a sleek trim finish. Otherwise, if haunching in the pavers themselves, could an alternative colour be suitable, to create a great looking frame.
- If using a kerb edging or the clay pavers themselves, haunch in your restraint units on a bed of concrete approximately 100-125mm deep to give a really solid edge, six-parts ballast to one-part cement is usually adequate. Tap down, with a rubber mallet, to your required level.

Clay Pavers Retaining Edge Restraint for Flexible (unbound) Installation

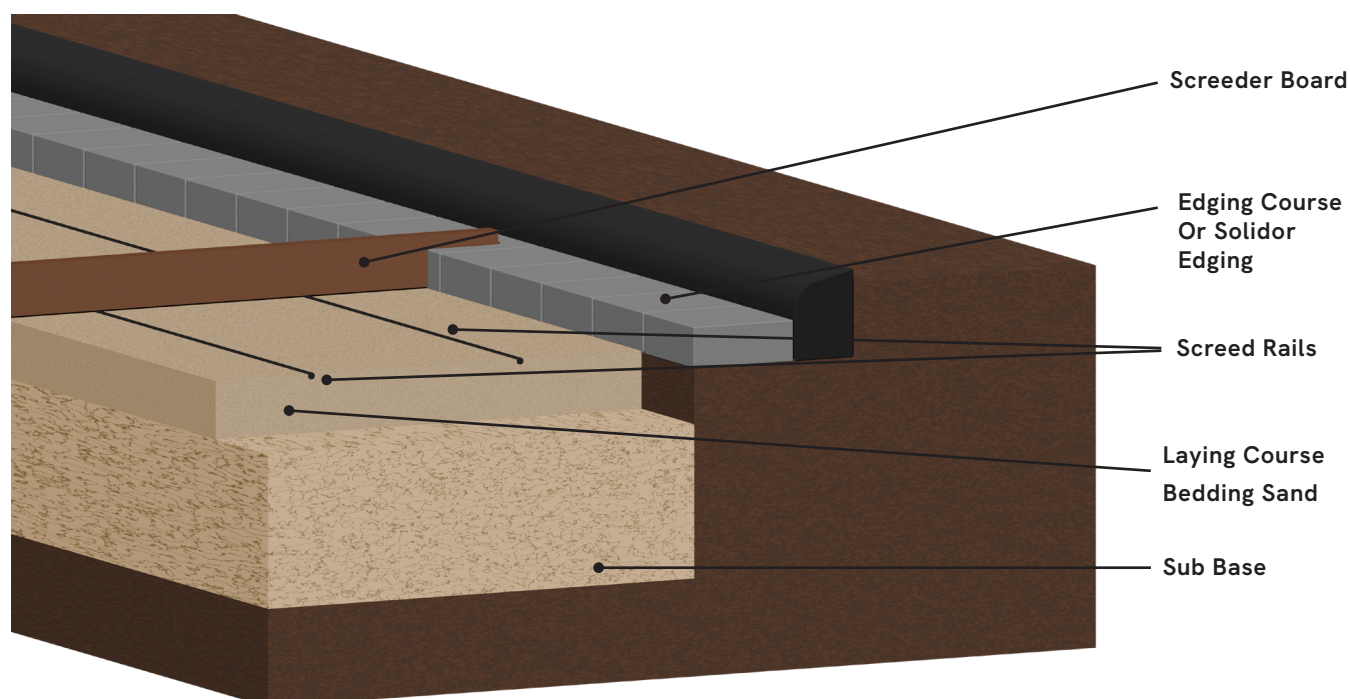


- Allow to fully cure before using a Vibrating Plate Compactor in the area.
- If using the Pavetuf Edge Restraint these are fixed in place with 250mm long steel fixing pins. See Edge Restraints Guide to Use & Installation for full details on the knowledge hub

www.talasey.co.uk



Sand Screed / Bedding Sand



Bedding course material should be washed, naturally occurring sharp silica sand and should be selected in accordance with recommendations given in BS 7533-102 code of Practice for Laying Precast Concrete Paving blocks and Clay Pavers for Flexible Pavements. Bedding sand is both the strength and weakness of a flexible pavement as it provides the interlock that ensures pavers can accommodate extreme loading.

- Only do this in dry weather.
- The finished screed should leave the pavers approximately 5mm proud of desired finished paving level.
- Rake out a thin layer of sharp sand and compact down using a Vibrating Plate Compactor with just a couple of passes of the plate. To acquire the desired level place screeding rails in the sand and set to the finished level you require. Add more sand, covering your rails. Pull the screeder board across the screed rails to level the area. For the DIY'er a couple of gas pipes is a good acquisition for this purpose.
- Do not walk on the compacted screed.
- Remove the rails, taking care to back fill the void and compact back down by hand using a float to maintain your nice flat screed.

Laying the Blocks

- Always mix from as many packs as possible, ensure you have enough product to finish the job.
- Unpack the pavers vertically and not horizontally across the top of the pallet - this will help to maintain the correct bond pattern. Damaged or broken pavers should not be used; however, these can be used as cut pieces for infilling.
- Always work 'uphill'.
- Pavers should be laid in the designated bond pattern working from an edge restraint or existing laying face edge.
- Place each paver carefully onto the screed bed. Try to place the pavers straight down onto the bed so that sand isn't trapped in the joints.
- To avoid spalling and/or chipping of the pavers, a joint of 3-7mm is required to ensure there is no point of contact between the pavers (never butt joint). Consider using spacers.
- The laying of any clay paver, with or without spacer nibs, will require the opening or closing up of joints to maintain good alignment of joint lines throughout the work - this is normal due to the tolerances of natural clay pavers.
- Use stringlines throughout to maintain your lines, we recommend these are placed every 6-8 courses of pavers, adjust joints between 3-7mm, as required to allow for product tolerances.
- Lay all full blocks first.



Cutting Clay Pavers

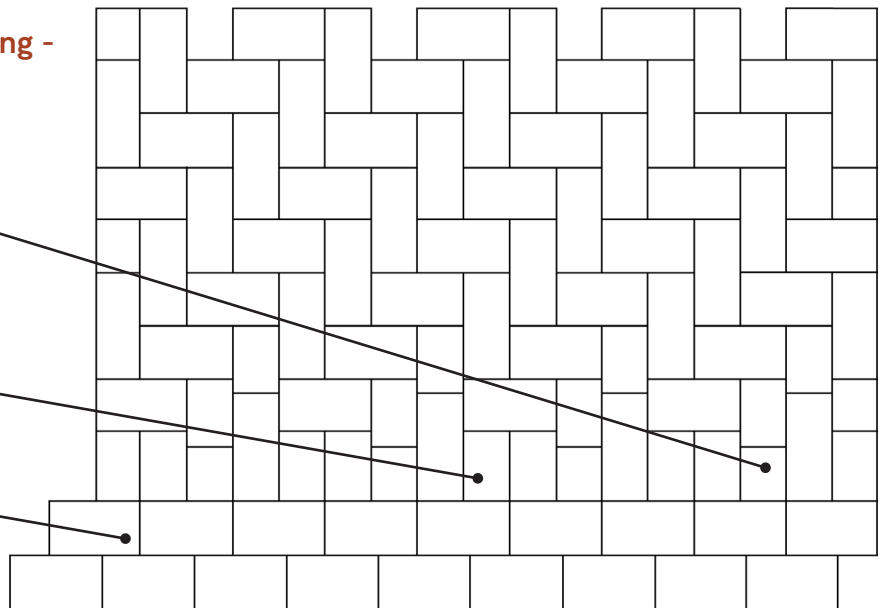
- Clay pavers should be cut using a multi bladed mechanical paver splitter or preferably a bench mounted water cooled diamond tipped power saw to achieve the most accurate finish.
- It is recommended clay paving should not be cut less than a third of the length of the paver, small 'infill' pieces avoided and 'in-board' cutting should be used. In-Board cutting is a technique that is used to eliminate small cut pieces at the edge of pavements, and make best use of the paving available.

Example showing in-Board Cutting -

Insert half block

Blocks to be cut to no less than 1/4 of original plan size.

Chosen Edge Restraint



Vibrating and Jointing

- The joints between adjacent blocks are filled (jointed) by sweeping kiln-dried sand over the surface to fill them completely.
- Consider using a polymer joint filling sand like Pavetuf Sand Set Jointing Sand. The polymers are water activated to create a stable joint. Also high in PH mineral this sand helps deter weed growth.
- Use a rubber sole mat on your Vibrating Plate Compactor to avoid heavy scuffing.
- Then travel across the paving in several directions, compacting down the blocks and settling the jointing sand. Once completed, the blocks should be at the set desired level.
- Any damaged pavers should be removed and replaced with any unevenness or height differences re-adjusted.
- Some joints may need topping-up with extra sand.
- If using a polymer sand, mist the surface with water to activate the setting process.
- Your area is then ready for immediate use.
- Check the jointing sand again every 3-4 weeks (or after the first heavy rain) as it may have settled further and keep checking until the joints have stabilised.
- Repeat after any maintenance that potentially washes out the joints. Fully topped-up joints will ensure the paving gives you many years of reliable service.



Drainage

- Always incorporate a fall to allow water to run off the paving surface to adequate drainage. For most domestic settings, 1:60 is usually adequate.
- If a drainage channel is required see our range of Decorative Channel Drain which is A15 and B125 class and is suitable for pedestrian and driveway vehicle traffic up to 12.5 tonne.

Domestic Driveways

- Specific consideration is required on the entire foundation and construction for the potential traffic. For driveways with a steeper incline, maintenance of the joints needs to be considered due to the greater potential for wash out, particularly when in excess of 15°. For steeper inclines, it may be worth considering a rigid construction, see the Rigid Installation Guide that follows.
- Pavers may exhibit tyre marks, particularly lighter colours, and particularly when under braking and power assisted steering.

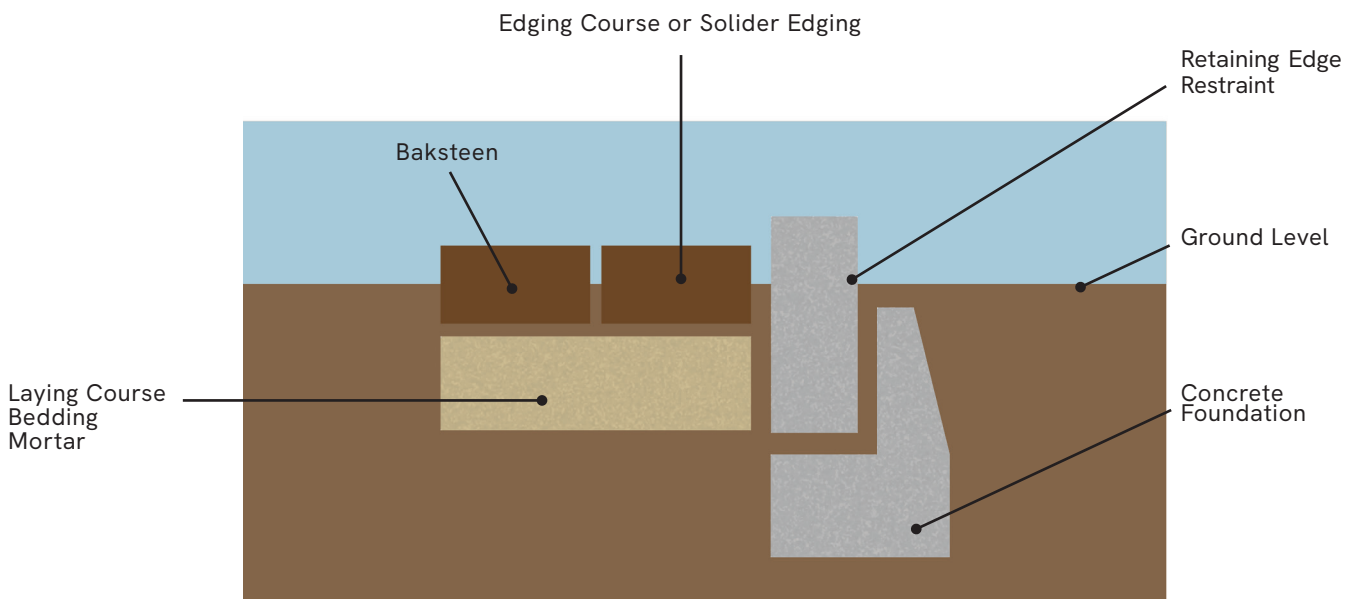
Baksteen Clay Pavers Rigid and Bound Installation Guide

There are two methods for Rigid installations described below. You should consider which is most appropriate for the type of traffic your area will be subjected to. It is down to the specifier to decide which method is most adequate for an individual project, you should seek advice from a professional if in any doubt.

The first method discussed is similar in construction to most other paving types used in domestic settings like natural stone flags. It may be adequate for foot traffic areas, or lightly trafficked domestic driveways, where ground conditions are stable, and the installation is well constructed. The second method is a Fully Bound Rigid construction, certainly appropriate for commercial areas or domestic settings that are highly or heavily trafficked.

Rigid Installation

- Plan your levels as previously described on page 03.
- Prepare the foundations and groundworks as previously described on page 03.
- Install retaining Edge Restraints where required as described on page 06.



Laying the Blocks

- Set out string lines as a guide when laying, check lines and levels regularly.
- Make up a slightly wet mortar mix. Four-parts sharp sand to one-part cement is usually appropriate for Baksteen. A good guide is that there should be sufficient water to allow the mix to be moulded into a ball without falling apart, but not so much that water would run out of it were it to be squeezed in the hand. Remember, it should not be so wet that it cannot support the weight of the pavers or so dry, it won't bond to the back of the clay and/or can't be tapped down to the desired level.
- You may wish to consider adding a plasticiser to the mix to increase workability and reduce water demand.
- Apply Pavetuf Priming Slurry or similar to the bottom of each paver immediately prior to placement to aid maximum adhesion.
- Joint widths should be set based on the manufacturers guidelines for the jointing option chosen but as a guide 5-10mm is usually sufficient.
- Jointing Mortars like Pavetuf Flowable Jointing Mortar are recommended as they create a strong stable joint.

- Always prepare a full bed of mortar. Lay a small number at a time, maintaining the desired level, checking your lines and joint widths throughout and tamp down to approximately 50mm. The bed must support the entire paver.
- Place each paver and tap down using a rubber mallet. Check the level to your stringlines or by using a spirit level.
- Repeat with each individual paver to your chosen laying pattern and maintaining your joint widths.
- Never butt joint!

Cutting Clay Pavers

- Clay pavers should be cut using a multi bladed mechanical paver splitter or preferably a bench mounted water cooled diamond tipped power saw to achieve the most accurate finish.
- It is recommended clay paving should not be cut less than a third of the length of the paver, small 'infill' pieces avoided and 'in-board' cutting should be used. In-Board cutting is a technique that is used to eliminate small cut pieces at the edge of pavements, and make best use of the paving available.

See page 10 for In-board cutting information

After Laying

- Do not walk on the paving for at least 24 hours.
- Point as soon as possible.

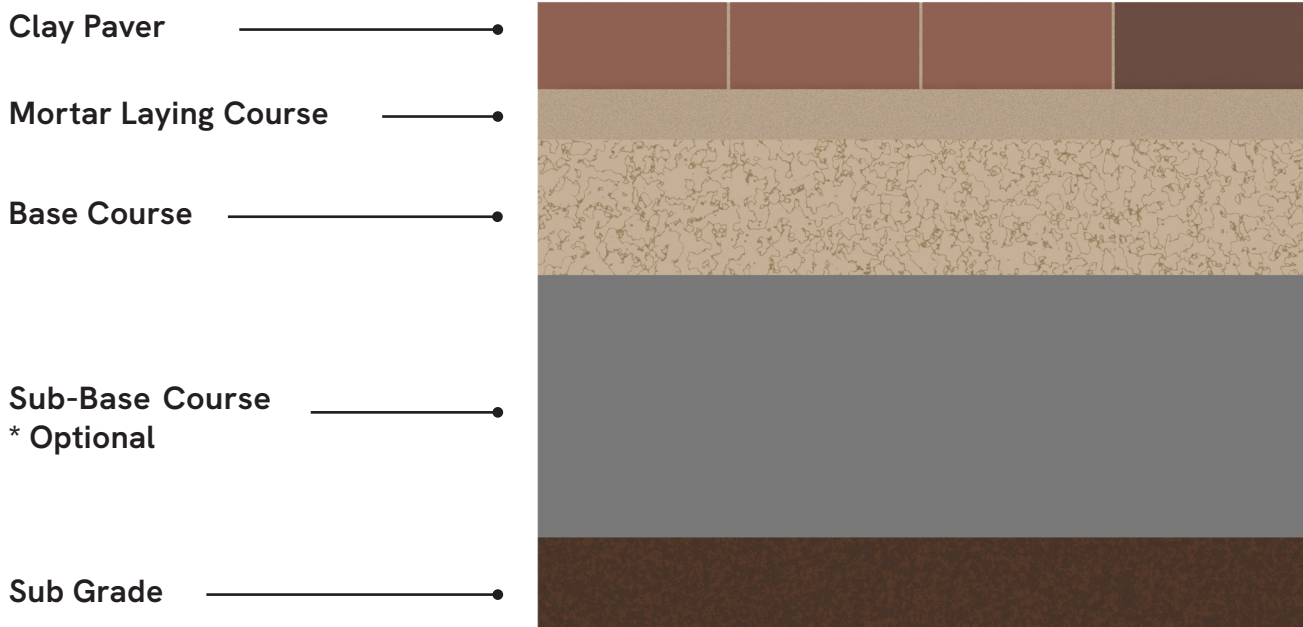
Jointing

- For use on patios and driveways, a strong, rapid setting mortar is recommended, use our Pavetuf Flowable Jointing Mortar. More suited to professional installers, for joint widths of 5mm – 50mm and minimum depth of 200mm. Refer www.talasey.co.uk/knowledge-hub for full installation information.

Fully Bound Rigid Installation

This method is not commonly used in domestic settings. This installation method will often require movement joints (expansion gaps). For a Fully Bound Rigid installation of Baksteen Clay Pavers it is recommended this be designed and constructed by a professional as they consist of 4 or 5 layers depending on the application.

1. Paver surface layer
2. Mortar laying course
3. Base course (C20 concrete or asphalt to structural requirements)
4. Sub-base (optional)
5. Sub-grade (soil)



*Sub-base * Optional in high traffic areas or new concrete or asphalt installations and should be constructed as per Page 3 Groundwork & Foundations.*

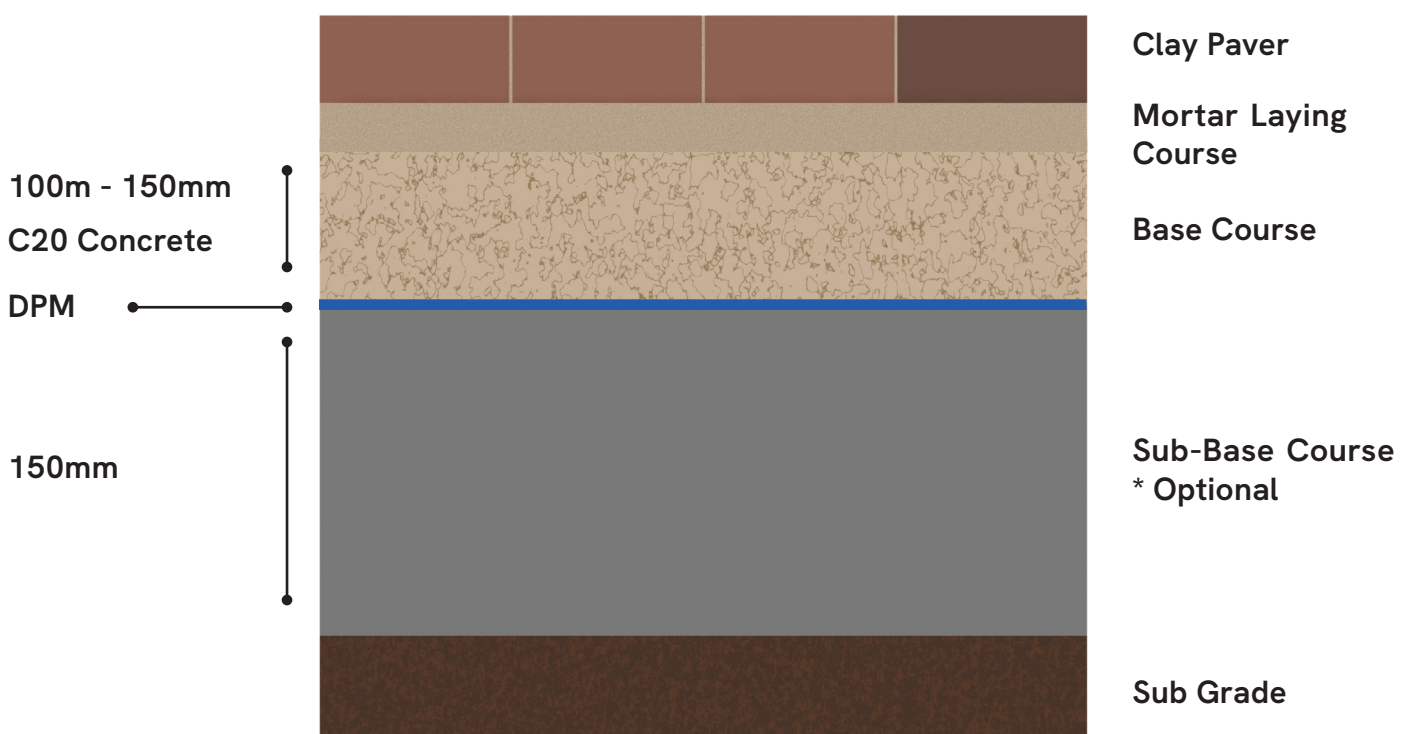
Base Layer Course

Your base layer is an essential part of a Fully Bound Rigid construction. It is constructed from a bound material which in most cases is an asphalt or concrete.

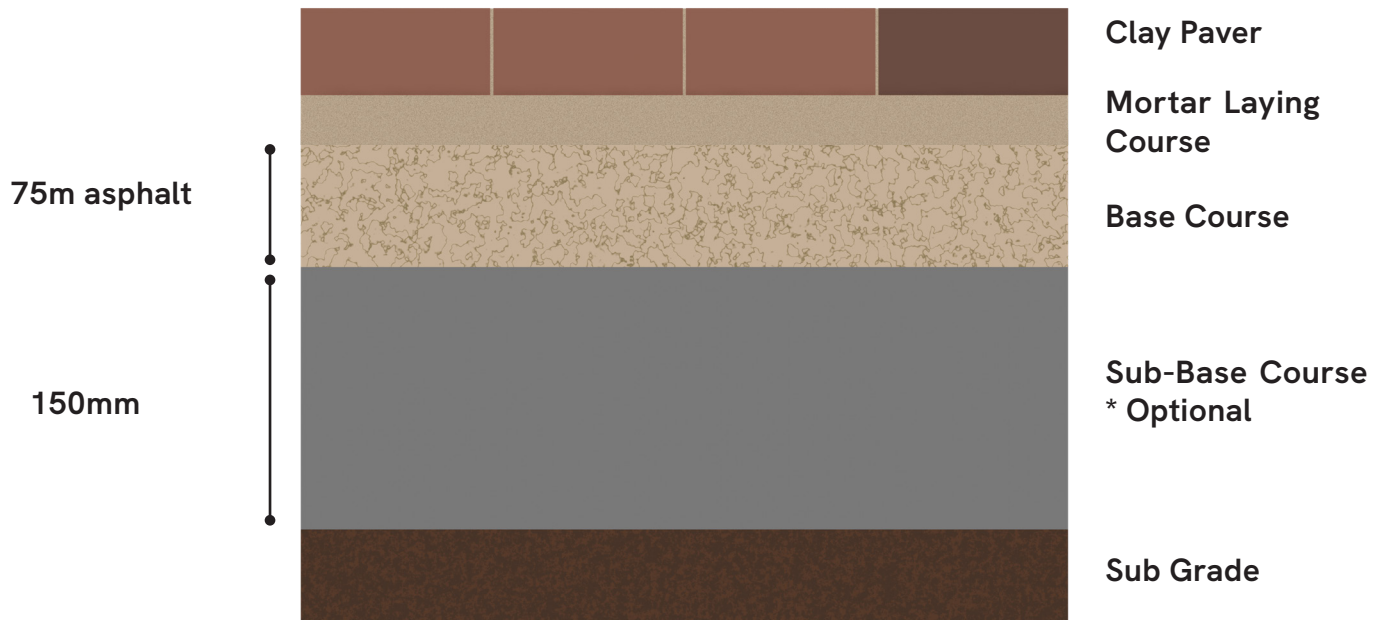
An existing asphalt or concrete surface can be used providing it is in good condition with no cracks, movement or subject to any settlement and when the mortar laying course and clay pavers are laid, they do not compromise the damp proof course. The paving surface must always be a minimum of 150mm below the damp proof course (DPC).

- Always check any existing concrete base has expansion joints (movement joints)
- If using an existing base this must be cleaned with a power washer to remove all debris and any vegetation and organic growth before installation starts.
- New base layer – the usual recommendation is 75-150mm depth.
- Asphalt needs to be laid over a prepared sub-base typically at 150mm depth.
- Concrete – for driveways a minimum of C20 concrete must be used and laid on a damp proof membrane over a prepared sub-base typically at 150mm depth.
- Concrete – for light pedestrian use a 100mm depth of concrete can be laid on a damp proof membrane over a prepared sub-grade.

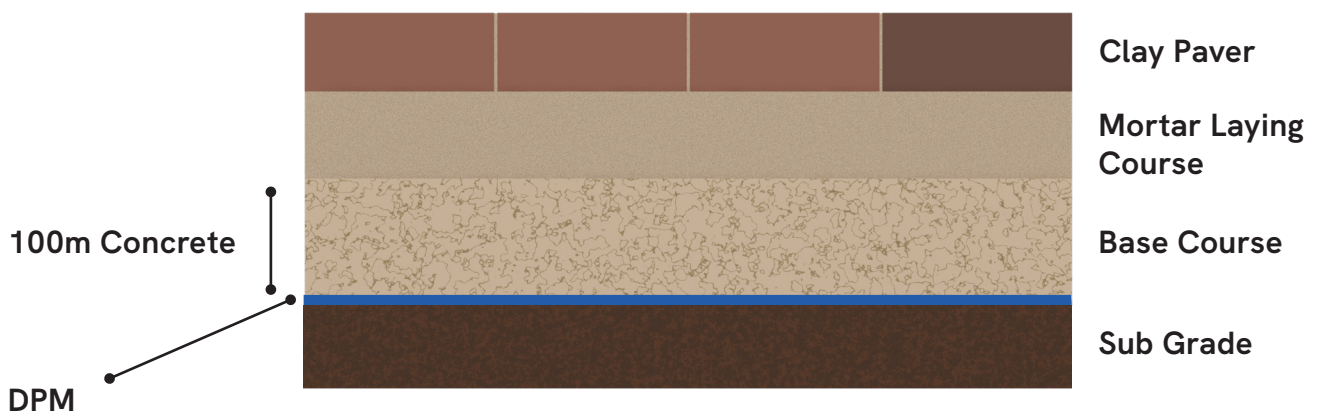
C20 Concrete and Sub-base



Asphalt and Sub-base



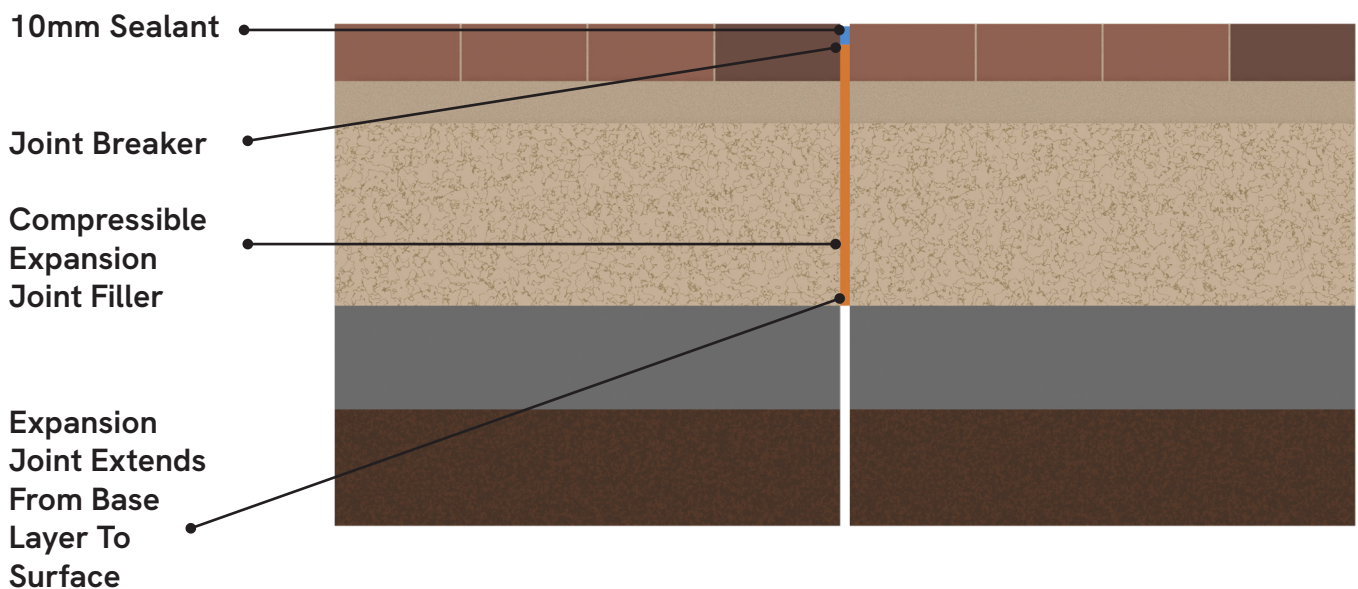
Light Pedestrian Use



Expansion Joints

Expansion joints are an important part of Fully Bound Rigid constructions as they control any movement in the solid base layer.

- Construct expansion joints at no more than every 6 meters.
- Expansion joints should extend through the base layer to the top of the surface clay paver layer.
- Also consider expansion joints around manholes or any other fixtures.



Mortar Laying Course & Clay Paver Layer

- Use stringlines throughout to maintain your lines, we recommend these are placed every 6-8 courses of pavers, adjust joints around 10mm, as required to allow for product tolerances.
- Make up a slightly wet mortar mix. Three-parts sharp sand to one-part cement to $\frac{1}{4}$ part lime is the recommended mix. It is not recommended to replace the lime with plasticising agents in this application. A good guide is that there should be sufficient water to allow the mix to be moulded into a ball without falling apart, but not so much that water would run out of it were it to be squeezed in the hand. Remember, it shouldn't be so wet that it cannot support the weight of the pavers or so dry, it won't bond to the back of the clay and/or can't be tapped down to the desired level.
- Wet the base layer surface prior to placing the mortar to prevent the base layer sucking all the water from the mortar mix. Alternatively, you can Pavetuf Priming Slurry prior to placement to aid maximum adhesion.
- Always prepare a screed bed of mortar for small sections, normally one course at a time or approximately 1m^2 , so it tamps down to approximately 20mm. It must support the entire paver.
- Always mix from as many packs as possible, ensure you have enough product to finish the job.
- Unpack the pavers vertically and not horizontally across the top of the pallet - this will help to maintain the correct bond pattern. Damaged or broken pavers should not be used, however these can be used as cut pieces for infilling.
- Place the pavers and tap down using a rubber mallet. Check the level to your stringlines or using a spirit level.
- Repeat with each small section to your chosen laying pattern and maintaining your joint widths.
- The laying of any clay paver, with or without spacer nibs, will require the opening or closing up of joints to maintain good alignment of joint lines throughout the work - this is normal due to the tolerances of natural clay pavers. Consider using spacers.
- Never butt joint!

Cutting Clay Pavers

- Clay pavers should be cut using a multi bladed mechanical paver splitter or preferably a bench mounted water cooled diamond tipped power saw to achieve the most accurate finish.
- It is recommended clay paving should not be cut less than a third of the length of the paver, small 'infill' pieces avoided and 'in-board' cutting should be used. In-Board cutting is a technique that is used to eliminate small cut pieces at the edge of pavements, and make best use of the paving available.

See page 10 for In-board cutting information

After Laying

- Do not walk on the paving for at least 24 hours.
- Point as soon as possible.

Jointing

- For use on patios and driveways, a strong, rapid setting mortar is recommended, use our Pavetuf Flowable Jointing Mortar. More suited to professional installers, for joint widths of 5mm - 50mm and minimum depth of 200mm. Refer www.talasey.co.uk/knowledge-hub for full installation information.

Domestic Driveways

- Paving surfaces may exhibit tyre marks, particularly lighter colours, and particularly when under braking and power assisted steering.
- Pavetuf Flowable Jointing Mortar is suitable for use on driveways, when laid on a mortar bed/ rigid bound installation, as above.
- Specific consideration is required on the entire foundation and construction for the potential traffic, and it is the responsibility of the user to check its adequacy.

Indoor Use

- Baksteen can be used internally when laid on a rigid construction.

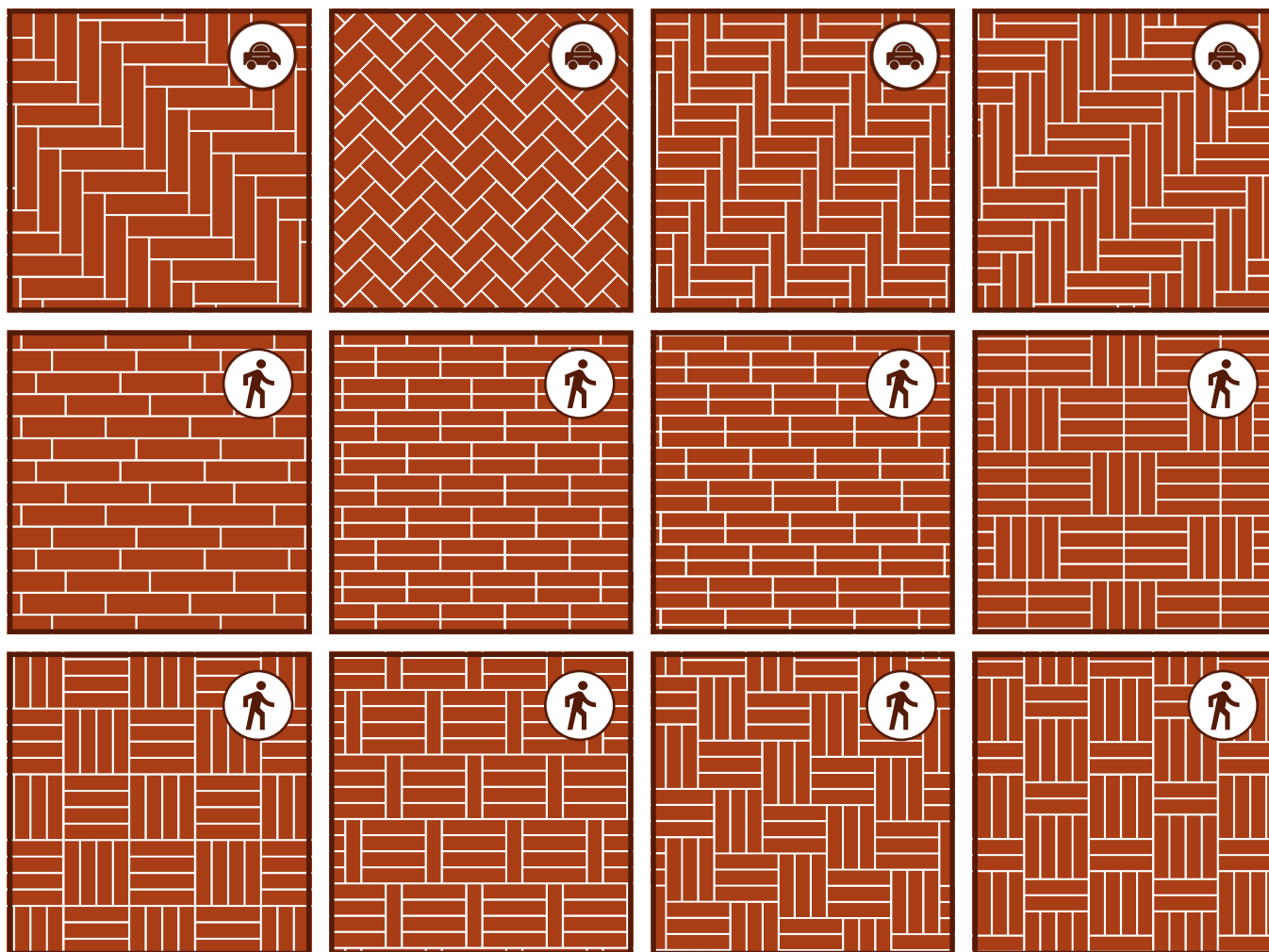
Around Swimming Pools

- Baksteen is suitable for use around swimming pools.



Laying Patterns

There are many ways that Baksteen can be laid, and although most laying patterns are designed with appearance in mind, some are designed specifically for vehicular traffic, others pedestrian.



All the advice in this guide is for guidance purposes only and with domestic installations in mind. Local building regulations should be followed at all times and 'BS7533 -102 Pavements constructed with clay, natural stone or concrete pavers', where appropriate. If in doubt, ask a local expert.

Cleaning

Regular maintenance and cleaning of your clay pavers is recommended to keep the area looking its best. There are various cleaners available on the market. Some cleaners specialise in dealing with specific types of stains, and others are general cleaners.

Our range of Pavetuf Cleaners have been specially designed to make maintenance easy. Use our handy comparison chart to select the right cleaner for your paving.

Power washers are not recommended as these high-power washers can destabilise the jointing sand used in the flexible unbound install method and bedding affecting the performance of your area. If you do choose to use a power washer they should be used with the upmost care, holding 30-45cm away from the surface, with a wide fan on a low pressure. Power washers fitted with a rotary patio cleaner are generally appropriate. Once the area has been cleaned and is completely dry you will need to re-sand the surface, to replace sand lost from the joints during the cleaning process. This is imperative for the longevity of the entire construction, especially if they are on a driveway.

Try and keep the area clear of leaves and debris. Be aware, certain leaves and other plant life can stain any paving type. Some leaves and plant life will leach tannins when they lay on the ground that can discolour paving and standing water. Algae growth is possible on almost any surface, given the right environmental conditions. Pavetuf Green Off Cleaner can be simply sprayed on the surface and left to work. This also works on other hard landscaping areas.

Before using any cleaning products on your Baksteen test a small, discreet area of pavers first to make sure you are happy with the result. We recommend that you do not clean our pavers for the first three months after installation to allow the joints to settle and consolidate.



PAVETUF CLEANERS

COMPARISON CHART



Comparison Chart

	Deep Cleaner*	Resin Bound Cleaner	Green Off Cleaner	Wood Deck Cleaner	UPVC & Fascia Cleaner	Wall & Render Cleaner	Composite Cleaner	General Cleaner*	Rust Remover	Salt Eraser	Porcelain Cleaner*	Sealer & Resin Residue Remover	Cement & Grout Haze Remover
Algae, moss, mildew, fungi			✓	✓	✓	✓							
Black & White spot lichens			✓										
Heavy soiling	✓	✓	✓	✓	✓	✓	✓						
Light soiling	✓	✓	✓	✓	✓	✓	✓	✓			✓		
Grease & Oil*	✓	✓											
Leaf & plant staining	✓		✓	✓	✓	✓							
Bird droppings	✓	✓	✓	✓	✓	✓	✓	✓			✓		
Efflorescence/salts										✓			
Rust/iron ore									✓				
Solvent sealers, paints/varnish												✓	
Mud	✓	✓	✓	✓	✓	✓	✓	✓			✓		
Atmospheric pollution	✓	✓	✓	✓	✓	✓	✓	✓			✓		
BBQ grease, oily food stains*	✓	✓											
Resin based residue												✓	
Cement & grout haze													✓
1 litre									✓		✓		
5 litre	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	

* Can be used internally as well as externally

Sealing

There are many sealers available on the market that offer different finishes. Clay Pavers do not have to be sealed so sealing is a personal choice. Some sealers are designed to affect the appearance of the clay, such as leaving a satin finish. Sealing can help delay the absorption of liquids also.

An important factor to consider if deciding to seal your clay pavers is whether or not the sealer is breathable, because if it is not then mobile salts in solution can be trapped beneath the surface. An example of a potential problem caused by the use of the wrong sealer could be where efflorescence develops but the sealer prevents salts from exiting through the sealed surface. The build-up of the salts not only can result in a difficult to remove stain but can often cause disruption and breakdown of the surface itself.

With unbreathable sealants, merchants will normally recommend that you wait three months before sealing your recently paved area, to allow efflorescence to appear. This can then be washed off before sealing.

If using a breathable sealant, the paved area can usually be sealed straight after installation, but always check with the product manufacturer.

If you make the decision to use a sealer on your Clay Pavers, test the product on a small, discreet area first, to make sure you are happy with the result.

Our Pavetuf range of sealers are all waterbased and have been designed to delay the penetration of water and oily liquids, allowing time to clean up any spillages to prevent staining. Use our handy comparison chart below.



PAVETUF SEALERS

COMPARISON CHART

Comparison Chart		Invisible	Satin	Back to Black	Porcelain pre Grout Protector
FEATURES	Environmentally Friendly	✓	✓	✓	
	Colour Enhancing			✓	
	Waterproofing	✓	✓	✓	
	Breathable	✓	✓	✓	
	Stain Resistance	✓	✓	✓	
	UV stable	✓	✓		
USE ON THESE MATERIALS	Use straight after installation	✓	✓	✓	
	Black slates, granites & limestones	✓	✓	✓	
	Slate & limestone	✓	✓		
	All other natural porous products and stone	✓	✓		
	Masonry	✓	✓		
	Brick work	✓	✓		
	Concrete Paving	✓	✓		
	Tarmac			✓	
	Porcelain Pre Grout Protection				✓
LOOK	Invisible Finish	✓			
	Satin Finish		✓		



OUR SERVICE OFFER

The Talasey Team are a large network of individuals, dedicated to delivering outstanding support to our customers. From our Customer Engagement Team, Area Sales Managers and Landscaping Consultants, to our Designer & Installer Network and beyond, we are fortunate to have a loyal support network behind us. This is further supported by our empathetic corporate social principles driven through our activities with our supply chain and community. Since 2004, these assets have been central to building Talasey and they will continue to shape us for years to come.



See our website for terms & conditions.

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