BANAS PORCELAIN INSTALLATION GUIDE

This guide provides general recommendations on installation methods, tools, and recommended materials.

Please consult a qualified professional contractor to determine the best installation approach for your specific project.

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SAFETY - QUALITY

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DRY INSTALLATION ON GRASS

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Allows repositioning.

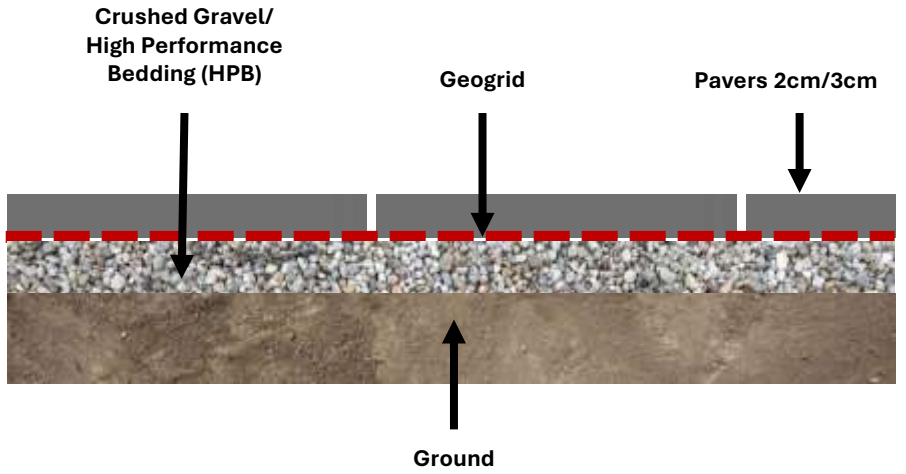
For use by pedestrians or cyclists. No specific skills or equipment are required for installation.

Try out the arrangement of the slabs on the grass to find the best layout. Cut the ground around the edge of each slab with the aide of a spade. Remove the slabs and dig out soil to a depth of about 6 cm in the installation position of each one.

Add a layer of fine gravel (particle size 0.5–1 cm) in the hole made for each slab to provide a level, firm substrate.

Put the slabs in place, making sure that the top face is level with or slightly below the surface of the ground.

If necessary, compact the ground around the edges of the slabs with a rubber hammer.



Use of permanent Banas spacers beneath and between the pavers is required.

Low Height Pedestal

4mm Spacer

8mm Spacer

DRY INSTALLATION ON SAND

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Allows repositioning.

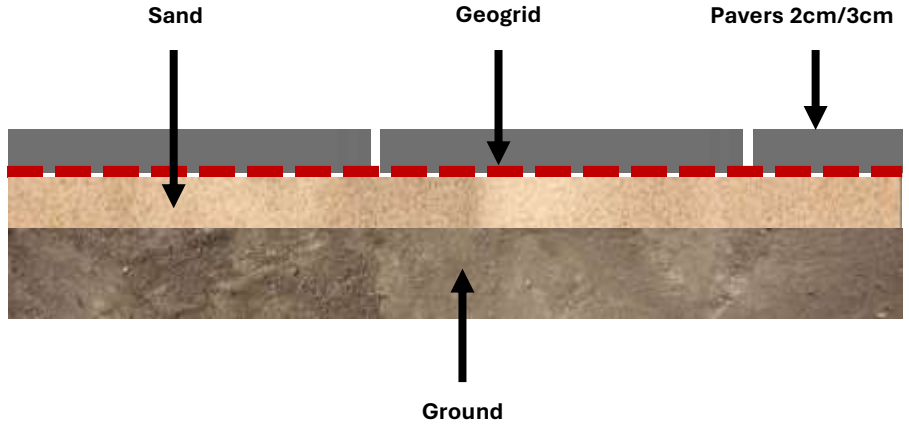
For use by pedestrians or cyclists. No specific skills or equipment are required for installation.

Level the zone for paving with the aid of a straight edge

A layer of sand at least 5–10 cm deep is recommended.

Position the slabs with the aid of spacers or a bar so that the joints are perfectly aligned, and level the surface with the aid of a straight edge. A white rubber hammer can be used for any adjustments.

Fill the gaps between slabs with sand to prevent the risk of tripping.



Use of permanent Banas spacers beneath and between the pavers is required. Not recommended for colder climates with freeze-thaw cycles.

Low Height Pedestal

4mm Spacer

8mm Spacer

DRY INSTALLATION ON GRAVEL

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Allows repositioning.

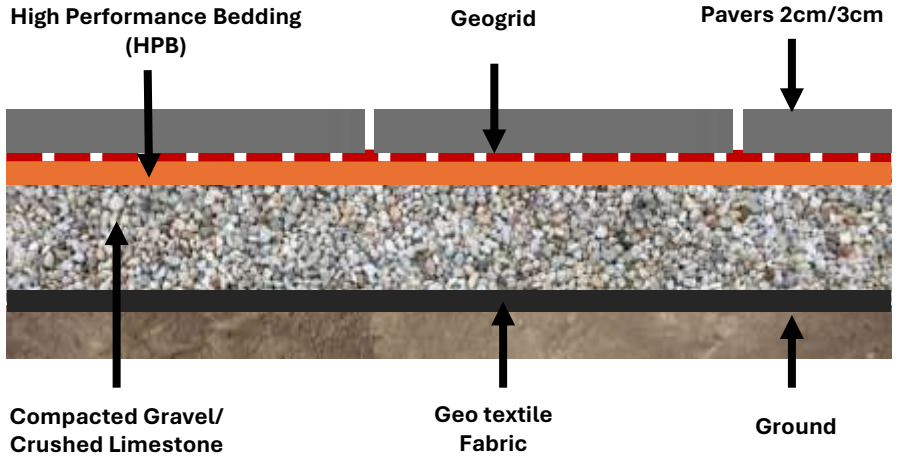
Can be used on soil for front and back porches, around swimming pools, on driveways (with 3 cm pavers), as well as on flat roofs and solid screeds

Excavate the soil to a depth of 8–12”, adjusting according to site conditions. If the paving borders grass or any other loose surface, install a visible or concealed containment curb using stone, metal, or PVC. Once the area is excavated, level and compact the soil, then place a geotextile layer to separate the substrate from the soil and prevent weed growth.

Spread 6–10” of compacted gravel, crushed limestone, or concrete crush over the prepared soil. Compact the material every 2” using a mechanical compactor if necessary. Ensure the High Performance Bedding (HPB) are leveled to 1–2” and use a straightedge to achieve a smooth, even surface, compacting thoroughly to create a stable foundation for the paving.

Lay a geogrid mesh over the HPB, then arrange the slabs according to the chosen layout, maintaining a minimum spacing of 4 mm with Banas Spacers. Use a mallet hammer to level and adjust the pavers as needed, ensuring a uniform and stable surface.

Fill the joints with resin sand or another sand designed specifically for Banas Porcelain installations, which is compact yet allows proper drainage. For wider gaps, use washed sand or gravel, and for very large gaps of 4–5 cm, fill with gravel of suitable particle size to ensure stability and durability of the installation.



Use of permanent Banas spacers beneath and between the pavers is required. Back buttering the pavers with mortar is recommended for a stronger installation

Low Height Pedestal

4mm Spacer

8mm Spacer

WET-LAY (MORTAR) INSTALLATION

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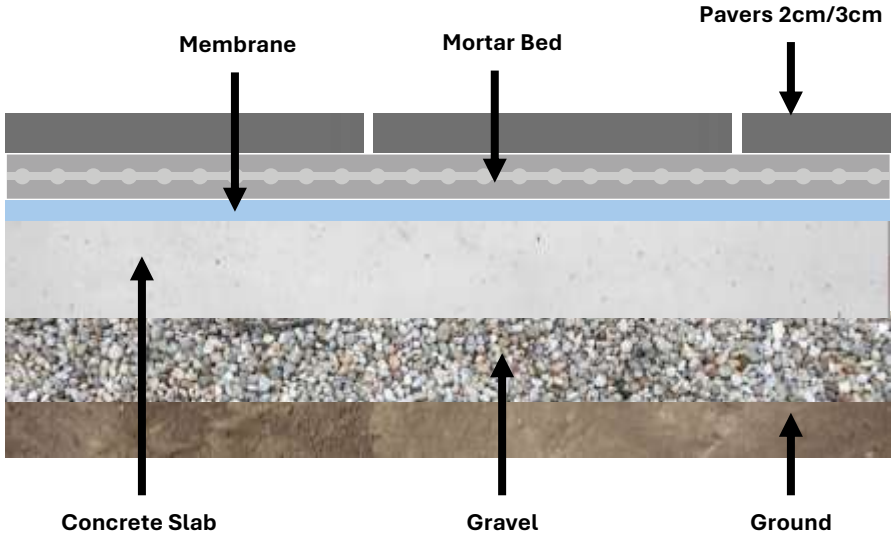
Suitable for use on front and back porches, around swimming pools and on driveways (with 2 cm pavers). Make a careful assessment of the bearing capacity of the surfaces in relation to the expected loads, and the characteristics of the substrate.

Prepare a compact layer of gravel and crushed stone at least 4” deep (loose stone foundation) and cast a layer of concrete with a suitable thickness (usually about 4-8”) on top depending on application and site condition. If waterproofing is required, a layer of bitumen membrane can be added, with a polyethylene separator sheathing on top.

Create a substrate of 5-10 cm with a rebar mesh about halfway through its depth. Ensure a suitable pitch (about 2%). Comply strictly with curing and stabilization times.

Glue the slabs in place, coating both the back of the slab and the substrate. Use a high-performance outdoor adhesive specifically for porcelain stoneware and follow the producer’s instructions. Provide expansion joints as required by the specific context.

Create joints of at least 4-5 mm with the aid of suitable spacers. The joint filler must be a specific product for outdoor use, applied in accordance with the producer’s instructions. Clean after installation with a specific cleaner to remove all traces of adhesive and grout.



PEDESTAL INSTALLATION

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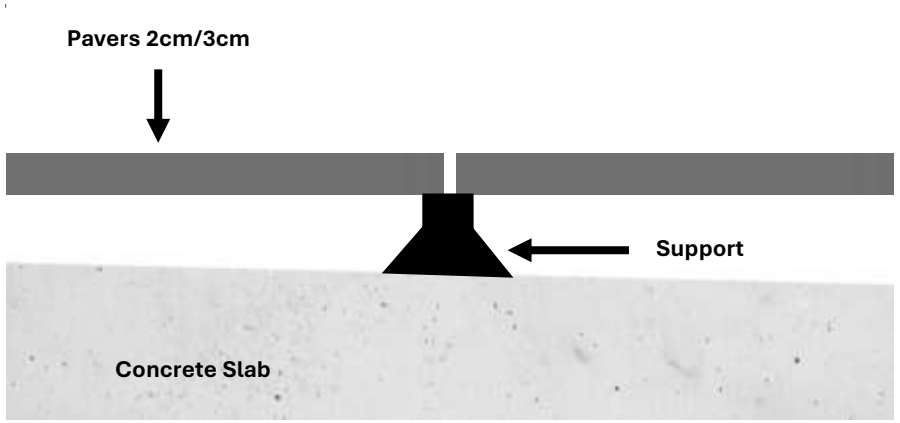
A lightweight, convenient system, with slabs which can be lifted off for inspection. It improves thermal insulation and can accommodate pipes and cables.

For assessments on the type of pedestal (fixed, self-levelling) and the height of the top surface, advice from an expert and/or the pedestal supplier is essential. When calculating the number of pedestals and any edge finishing accessories, bear in mind any offcuts and the size of the area for paving in relation to the installation module.

The substrate must be appropriately waterproofed and have suitable pitch (1.5-2%) and systems for water drainage. The surface must have the strength required to support the concentrated load applied by the pedestals.

Arrange pedestals following the recommended grid, adjusting the layout to fit the paving area and avoiding perimeter cuts under 10 cm (see table ahead). Use spacers to maintain 2–4 mm joints between tiles, allowing rainwater to drain through the gaps below.



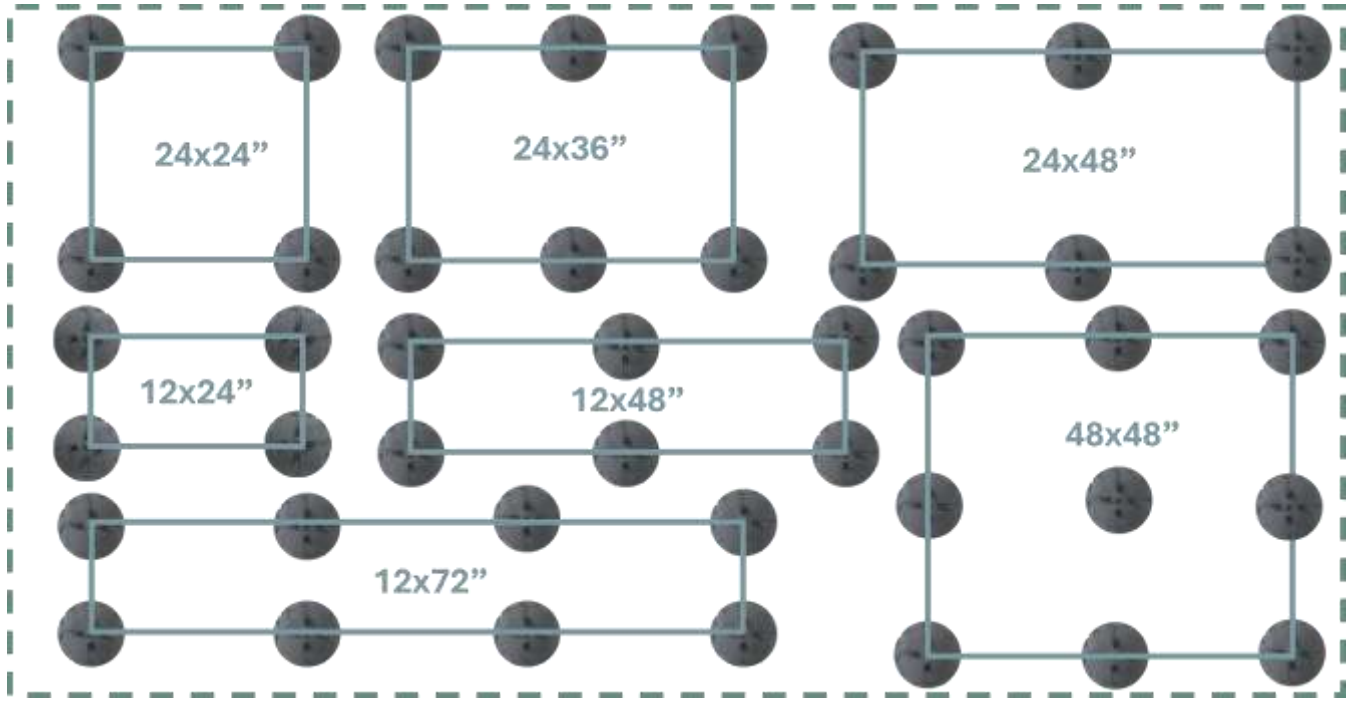
FIXED BANAS PEDESTALS

SELF-LEVELING BANAS PEDESTALS

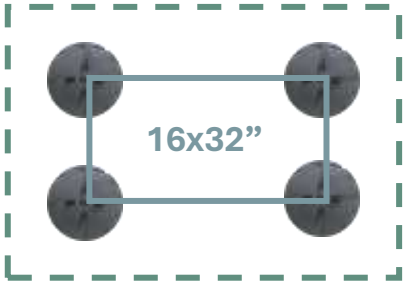
PEDESTAL PLACEMENT & CALCULATION

Thickness	Dimensions	Pedestals/Slab
2 CM	12x24” , 24x24”	1
2 CM	24x36” , 24x48” , 12x48”	2
2 CM	12x72” , 48X48”	4
3 CM	16X32”	1

2 CM



3 CM



Pedestal and slab calculations are based on pedestals spaced every 24", shared between adjacent pavers, and do not include non-shared perimeter pedestals. This provides an estimated count only—the final quantity should be confirmed by the contractor or architect based on site conditions. For added stability on 24"x36" and 24"x48" pavers, an additional central pedestal may be installed.

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PEDESTAL INSTALLATION

Banas Porcelain is not responsible in the case of misuse or reckless use of 20mm slabs: they are a paving system component, and the correct method for their installation must be decided by the architect and/or constructor on a case-by-case basis.

Designing Safe, reliable solutions
Select a safe, reliable outdoor paving installation system. When choosing the installation solution and application method, the architect or constructor must assess every aspect of the product's characteristics and the environmental context in light of the local regulations, to avoid all possible risk of causing damage to property or personal injury.

RISK OF OBJECTS FALLING ON LOAD-BEARING SLABS
When slabs are lead-bearing (e.g. , in raised paving installations), a heavy object falling from a significant height may cause them to break. To avoid risks of injury or damage, the guidelines in the table should be complied with as the size and/or height above the substrate increases. Tiles must be reinforced by combining them with a galvanized metal plate or by applying a fibreglass mesh.

Dry-Installed Paving Above the Ground
Slabs laid without glue or fasteners on patios or balconies located above ground level may be lifted or moved by gusts of wind or other abnormal events, such as earthquakes or structural settling. The architect in charge must assess the risk of hazardous situations on a case-by-case basis and adopt technical solutions which will prevent every possible risk.

Size	Up to 2 cm	From 2 to 10 cm	From 10 to 30 cm
23⁵⁄₈x23⁵⁄₈	4 supports	4 supports	4 supports + double fiberglass mesh or galvanized steel sheets
15⁵⁄₈x31½	6 supports	6 supports + double fiberglass mesh or galvanized steel sheets	6 supports + double fiberglass mesh or galvanized steel sheets
31½x31½	9 supports	9 supports + double fiberglass mesh or galvanized steel sheets	9 supports + double fiberglass mesh or galvanized steel sheets
17¹¹⁄₁₆x35⅜	6 supports	6 supports + double fiberglass mesh or galvanized steel sheets	6 supports + double fiberglass mesh or galvanized steel sheets
7⅞x47¼	6 supports	6 supports + double fiberglass mesh or galvanized steel sheets	6 supports + double fiberglass mesh or galvanized steel sheets
15⅝x47¼	6 supports	6 supports + double fiberglass mesh or galvanized steel sheets	6 supports + double fiberglass mesh or galvanized steel sheets

CUTTING INFORMATION

For best results, use a non-segmented diamond blade and make wet cuts.

Banas Porcelain 14″ Diamond Blade is a high-performance cutting tool designed specifically for cutting porcelain and other hard tiles.

Blade Size: 14 inches (diameter). SHOP HERE
Material: Diamond-tipped for enhanced durability and cutting precision.
Cutting Efficiency: Engineered to provide smooth, chip-free cuts in porcelain tiles.
Usage: Ideal for wet cutting applications, which helps to reduce dust and increase blade life.
Compatibility: Suitable for use with various tile saws and cutting machines designed to accommodate 14-inch blades.
Design: The blade features a continuous rim design, which helps in achieving precise and clean cuts.
Durability: High-quality diamonds and robust construction ensure a long lifespan even under heavy use.
Performance: Known for its fast-cutting speed and ability to handle hard materials with ease.

14” CUTTING BLADE

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TIPS: DRY-LAY INSTALLATION

Low Height Pedestal

4mm Spacer

8mm Spacer

- **Spacer Tabs:** Always use **spacer tabs** between tiles during dry-lay installation. Place the spacers **beneath** the tiles to maintain consistent spacing and alignment.
- **Base Preparation**
  - Ensure the **base is well-built** with proper **compaction, slope (2% recommended), and drainage**.
  - Use **concrete edging** to prevent tile movement or dispersion over time.
- **Grouting:** It is recommended to use **resin sand (polymeric sand)** for joint filling in dry-lay installations. It resists washout, weeds, and insects.
- **Strength Enhancement**
  For improved stability, **back-butter tiles with mortar** before laying. This adds strength, especially in high-load or freeze–thaw areas.

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TIPS: WET-LAY INSTALLATION & GENERAL

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- **Mortar Mix:** Use a mix ratio of **1 part Portland Cement to 3 parts Sand.** Incorporate a bonding agent into the mix **to improve adhesion and overall durability**.
- **Grouting:** For stronger joints, it is **recommended to add additional bonding agent** to the mortar mix during application.
- **Drainage:** Maintain a **2% slope** to ensure **proper water runoff** and **prevent standing water** on the surface.
- **Managing Planarity**
  - Lay tiles in a **1/3 or 1/4 offset pattern** to minimize lippage.
  - **Self-levelling spacers** can also be used on the surface to manage planarity.
- **Drilling**
  Use a **diamond-tipped drill bit** when drilling into **Banas Stone** for clean and precise holes.
- **Coping Installation**
  When installing **Banas Porcelain Copings** (L-Coping, U-Coping, etc.), ensure **both horizontal and vertical faces** are **fully adhered to concrete** for lasting stability
- Banas Porcelain cannot be sealed, as it is non-porous.

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