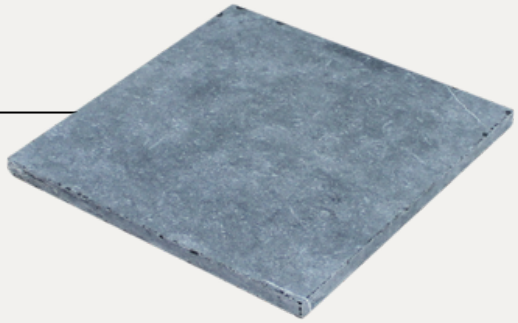
STONE & OUTDOOR

PAVERS & POOL COPING

INSTALATION GUIDE



Understanding the Product

Natural stone pavers and pool coping are commonly used in outdoor paving applications including patios, pathways, courtyards, pool surrounds and entertaining areas.

Pool coping is specifically designed for use around swimming pools and exposed edges where a finished edge detail is required.

Depending on the selected profile, coping may include bullnose, drop face, pencil edge or rebated edge formats.

Natural stone products will display variation in colour, tone, texture, veining, movement and sizing. These variations are an inherent characteristic of genuine natural stone and contribute to the uniqueness and appearance of the finished installation.

All paving and coping should be blended from multiple crates during installation to achieve a balanced overall appearance.

Installation

Please note: The following guide is intended as a general laying recommendation only and due to the variety of products, site conditions and installation methods available, does not include detailed instructions for every step of the installation process.

Further professional advice should be sought prior to installation. Stone & Outdoor strongly recommends engaging a qualified landscaper, tiler or installer experienced in external paving applications.

The installation area should be assessed to ensure the selected product, substrate and installation method are suitable for the intended application, traffic conditions and environmental exposure.

Drainage and finished falls should also be confirmed before installation begins.

Substrate and Base Preparation

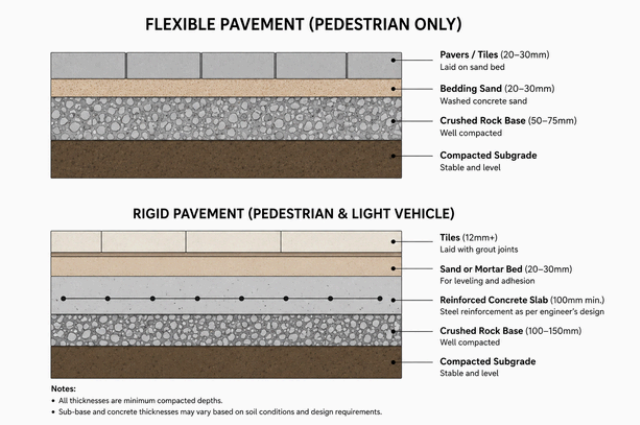
A stable and properly prepared substrate is essential for long term installation performance.
Concrete slabs should be structurally sound, fully cured and free from dust, contaminants and movement.

For non concrete applications, a compacted road base with suitable bedding preparation should be used.

Drainage and falls must be incorporated into the installation area to minimise water pooling and ensure effective runoff.

Subgrades should be firm, evenly compacted and free from loose material, soft spots and organic matter prior to base preparation.

The finished paving surface should remain below damp proof courses and must not obstruct drainage points or ventilation openings.



Concrete Foundation Method

Concrete foundation installations are commonly used for natural stone paving applications where increased stability and long term performance are required.

Pedestrian Traffic

• Approximately 75mm reinforced concrete
• Engineer advice should be sought for slab design and expansion joints

Vehicle Traffic

• Approximately 100mm reinforced concrete
• Engineer advice should be sought for slab design and expansion joints

Concrete slabs should be properly cured prior to installation.

Installing paving over uncured or excessively moist concrete may affect adhesive performance and contribute to moisture related issues.

Concrete Base Preparation

1. Clean and lightly dampen the concrete base prior to installation.
2. Ensure the slab is structurally sound and properly cured.
3. Confirm suitable falls and drainage have been incorporated into the slab design.

Option 1 – Mortar Bed Installation Method (Generally 30mm Pavers)

A slurry and mortar bed installation method may be used for thicker natural stone pavers where adjustment is required to achieve consistent finished levels.

Typical Slurry Mix

• Cement
• Water
• Suitable bonding agent

Mixed into a workable slurry paste.

Typical Mortar Mix

• Approximately 4 parts washed sand
• 1 part GP cement

Mortar beds should provide full support beneath the stone with no significant voids.

Installation Process

1. Apply slurry mix to the concrete slab in an even coat approximately 1–2mm thick.
2. Place mortar bed over slurry mix at approximately 20mm thickness ensuring full support beneath the stone.
3. Apply slurry mix approximately 1–2mm thick to the underside of the paver where required.
4. Position pavers and tap down gently to achieve desired levels and alignment.
5. Maintain approximately 3–7mm grout spacing throughout installation.
6. Remove excess mortar or slurry residue promptly using a sponge and clean water.
7. Grout using a suitable cement based grout designed for external paving applications.

Priming and Slurry Bonding

For mortar bed installations, a priming slurry or bonding coat may be applied to both the substrate and underside of the stone immediately prior to laying.

This process assists in improving adhesion between the stone and mortar bed and may reduce the likelihood of future drumming or bond failure.

Bonding slurry mixes commonly consist of cement, water and a suitable bonding additive compatible with the selected installation products.

Suitable bonding agents should always be confirmed compatible with selected sealers and natural stone products prior to installation.

Option 2 – Adhesive Installation Method (Generally 15–30mm Pavers & Tiles)

For more uniform paving products, a flexible cement based tile adhesive suitable for external paving applications may be used.

General Recommendations

• 10–12mm notched trowels are commonly used depending on paver size and substrate conditions
• The underside of pavers or tiles may be lightly dampened prior to laying where appropriate

Installation Process

1. Apply tile adhesive to the concrete substrate using an appropriately sized notched trowel.
2. Ensure adequate adhesive coverage beneath each paver or tile.
3. Position pavers and tap down gently to achieve desired levels.
4. Maintain approximately 3–7mm grout spacing throughout installation.
5. Remove excess adhesive promptly during installation.
6. Grout using a suitable cement based grout designed for external paving applications.

Back Buttering

Back buttering may be recommended for larger format pavers, coping and products with textured backs to improve adhesive coverage and support.

Adequate adhesive coverage beneath the stone is essential to minimise voids and improve long term performance.

Adhesive Coverage

External paving and wet area applications should achieve full adhesive coverage beneath the stone wherever possible. Incomplete coverage may increase the risk of drumming, cracking or movement over time.

Void Prevention

Care should be taken to ensure all paving and coping pieces are fully supported during installation.

Voids beneath paving may contribute to cracking, drumming, moisture retention and movement issues over time.

Consistent bedding support is essential throughout the installation.

Compacted Road Base Method

Compacted road base installations are commonly used for pedestrian paving applications and selected outdoor paving areas.

Pedestrian Traffic

• Approximately 75mm compacted road base preferably stabilised
• Approximately 25mm compacted paver bedding sand

Vehicle Traffic

Concrete foundation installations are still generally recommended for vehicle traffic applications.

For pavers smaller than approximately 200×200mm only:

• Approximately 100mm stabilised compacted road base
• Approximately 25mm stabilised paver bedding sand

Road Base Installation Process

1. Remove all vegetation, loose soil, debris and organic material from the installation area. Excavate to the required depth.
2. Compact road base thoroughly using suitable mechanical compaction equipment to the recommended depth.
3. Screed bedding sand to the desired height. Bedding sand should generally not exceed approximately 35mm thickness.
4. Lay pavers and tap down level using a rubber mallet. Maintain approximately 3–5mm joint spacing throughout installation.
5. Sweep suitable joint filling sand into joints.
6. Additional compaction and levelling may be achieved using a compactor plate fitted with a protective carpet or rubber mat attachment to minimise surface damage.
7. Leaving additional joint filling sand across the paving surface during compaction may assist with joint stabilisation.

Edge Restraints

Edge restraints assist in maintaining paving stability and reducing lateral movement over time.

Suitable edge restraints may include concrete haunching, kerbing, structural edging or other retaining systems appropriate for the installation type.

Edge restraints are particularly important in road base paving installations.

Falls and Drainage Recommendations

Finished paving surfaces should incorporate suitable falls to assist with water runoff and minimise pooling.

As a general guide:

• External paving commonly utilises approximately 1:80 to 1:100 falls
• Pool surrounds should direct water away from the pool where practical
• Drainage systems and surface water collection should be considered where required

Insufficient drainage may contribute to staining, movement, efflorescence and long term installation issues.

Movement Joints

Movement joints are essential in all paving installations.

These joints assist in accommodating expansion, contraction and substrate movement caused by environmental conditions.
Movement joints should align with the substrate and continue through the paving surface where required.

Movement Joint Spacing

Movement joints are commonly incorporated around wall perimeters, transitions, fixed structures and at regular intervals throughout larger paved areas.

Failure to incorporate suitable movement joints may contribute to cracking, tenting or paving movement over time.

Pool Coping Installation Considerations

Pool coping should be installed with suitable falls away from the pool wherever possible to assist with water runoff.

Care should be taken to maintain straight lines, consistent overhangs and even edge alignment throughout installation.

Coping pieces should be checked regularly during installation to ensure level transitions and visual consistency.

Moisture Mitigation

Moisture management is an important consideration in natural stone paving installations, particularly around swimming pools and wet areas.

Proper drainage, suitable falls, correct adhesive coverage and the use of appropriate sealers may assist in reducing moisture related issues including staining, salt migration and efflorescence.

Pre Sealing Recommendations

Some natural stone products may benefit from pre sealing prior to grouting to assist with grout release and minimise the likelihood of surface staining.

The suitability of pre sealing will vary depending on the selected stone type, finish and installation method.

Testing in a small inconspicuous area is strongly recommended prior to full application.

Dip Sealing Recommendations for Pool Coping

Dip sealing may be considered for natural stone pool coping prior to installation to assist with moisture management and reduce the likelihood of adhesive staining or moisture migration through the stone.

Dip sealing involves coating coping pieces in a suitable penetrating sealer prior to installation.

Where dip sealing is being carried out, suitable bonding agents and installation products compatible with the selected sealer should be confirmed prior to installation.

Testing in a small inconspicuous area is strongly recommended before proceeding with full application.

Professional advice should always be sought regarding compatibility between sealers, adhesives and natural stone products.

Grouting and Jointing

Grouting should only be completed once installation materials have properly set. All joints should be clean and free from debris prior to grout application.

Joint widths should remain consistent throughout the installation to achieve a professional finish.

Excess grout or residue should be removed promptly during installation.

Grout Joint Recommendations

As a general guide:

• Natural stone paving commonly utilises approximately 3–7mm grout joints depending on the selected product and installation method

Suitable cement based grouts designed for external paving applications are recommended.

Cleaning and Timing

Cleaning should only occur once adhesives, mortar beds and grout materials have adequately cured.

Premature washing or excessive moisture exposure during curing may affect installation performance and final appearance.

Pavers and coping should be cleaned prior to sealing to remove installation residue, dirt and grout haze.

General Cleaning Process

Wet down paving surfaces prior to cleaning.
Gently scrub surfaces using a stiff broom or suitable scrubber.

Thoroughly rinse surfaces after cleaning.

Grout Haze and Residue Removal

All grout haze and installation residue should be removed as soon as practical following installation.

Certain stone types may be sensitive to acidic cleaning products.

Acid based cleaners should not be used unless suitability for the specific stone type has been confirmed.

Granite Cleaning Note

Certain granite products may be cleaned using diluted hydrochloric acid solutions where appropriate.

As a general guide:

- Approximately 1 part hydrochloric acid
- Approximately 20 parts water

Hydrochloric acid is a corrosive chemical and should only be used with appropriate safety precautions and professional advice where required.

Acid based cleaners should always be tested in a small inconspicuous area prior to full application.

Suitable PPE should always be worn during handling and application.

Neutralising acid based cleaners with an alkaline product such as detergent may also assist after cleaning.

Acid Sensitivity

Some natural stone products may be sensitive to acidic cleaning products and harsh chemical treatments.

Acid washing should only be carried out where compatibility with the selected stone has been confirmed.

Testing in a small inconspicuous area is strongly recommended prior to full application.

Efflorescence

Efflorescence is a naturally occurring process where salts migrate to the surface of masonry or stone installations.

This may appear as a light powdery residue during the curing and drying process.

Efflorescence is generally temporary and does not affect the structural performance of the installation.

Sealing Recommendations

Sealing is strongly recommended for all natural stone paving and coping installations.

Penetrating sealers are commonly used to assist with stain resistance, moisture management and long term maintenance performance.

Different sealers may produce different visual finishes depending on the selected product and surface finish.

Consult with your sealer supplier to confirm suitability for the intended application.

Sealer Selection

Penetrating sealers are commonly recommended for external natural stone paving applications as they assist with stain resistance while maintaining the natural appearance and slip resistance of the stone.

Some products may also be suitable for enhancing sealers depending on the desired visual outcome.

Sealer suitability should always be confirmed based on the selected stone type, finish and application.

Spot Testing

Where sealers, enhancers, anti slip treatments or specialised cleaning products are being used, testing in a small inconspicuous area is strongly recommended prior to full application.

This assists in confirming compatibility and desired appearance outcomes before treatment of the full installation.

Pool and Salt Exposure

Pool environments may expose natural stone paving and coping to chlorine, salt, minerals and chemical residue over time.

Regular cleaning and maintenance may assist in minimising residue build up and preserving the appearance of the installation.

Salt and Coastal Environments

Installations located near coastal environments may be exposed to elevated salt levels, airborne contaminants and moisture exposure.

Regular cleaning, maintenance and sealing are recommended in coastal environments to assist with long term performance and appearance retention.

Anti Slip Treatment Recommendation

Some natural stone surfaces may become slippery when exposed to water, pool environments or general surface contamination.

Where additional slip resistance is required, professionally applied anti slip treatments may be considered for suitable surfaces.

All anti slip treatments should be tested in a small inconspicuous area prior to full application. Some products may alter the appearance, sheen, texture or overall finish of the surface depending on the material type and application method.

Professional application is strongly recommended, particularly for pool surrounding areas.

Please refer to the Chemron Anti Slip Treatment Application Guidelines for further information regarding compatibility, application methods and maintenance requirements.

Protection During Curing

Freshly installed paving should be protected from heavy traffic, construction activity and excessive moisture during the curing period.

Materials placed over newly installed paving during curing may affect the finish or interfere with proper curing performance.

After Installation

The installation should be allowed to fully cure before exposure to regular use.

Light foot traffic may be permitted after a short period, however vehicle traffic or heavy loading should only occur once the installation has properly cured.

Ongoing maintenance, including regular cleaning and resealing where required, will help preserve the appearance and performance of the installation.

Important Considerations

Correct base preparation, drainage and installation methods are essential to achieving long term paving performance.

Blending materials from multiple crates is strongly recommended to minimise visible variation throughout the installation.

Natural stone products are subject to variation and may respond differently to environmental conditions including temperature, moisture and site movement.

Minor tonal variation, movement and natural weathering are considered normal characteristics of external paving installations.

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