→ INSTALLATION GUIDE

Cobblestone Flooring

Aussietecture LIFESTYLE

ABOUT THIS GUIDE

This guide is intended as general guidance only. Before commencing work, confirm the current Australian Standards and any applicable requirements for trade practices.

The information has been prepared in good faith and must be considered alongside the specific conditions of each site. It is not a substitute for advice from qualified contractors or consultants, nor does it replace the relevant product technical data sheet or the manufacturer's prescribed installation method.

Aussietecture reserves the right to amend, remove or update information in this guide without prior notice.

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PRODUCT CONSIDERATIONS

Aussietecture cobblestones are natural materials, with individual characteristics shaped by their geological composition and formation. Differences in colour, tone, texture, veining and surface detail are inherent to natural stone, and variation between batches should be expected. These variations contribute to the individuality of each installation.

Split loose cobblestones can display additional variation due to the methods used to produce their split edges and surfaces. A small proportion may arrive with chipped corners or cracks. Inspect the material before laying and set aside any pieces that are unsuitable, or adjust them where appropriate.

Samples provide an indication only of the stone's general colour and character. Check all material on delivery to confirm it meets the project's expectations, and blend cobblestones from different crates as work progresses to achieve an even distribution of natural variation.

If the supplied material is not as expected, contact Aussietecture before installation begins. Installing the product is taken as acceptance of its appearance and condition.

STORAGE

Keep cobblestones in a dry, sheltered location until required. Store them away from direct sunlight and exposure to the elements, single-stacked on a stable, level surface.

SUBSTRATES & FOUNDATIONS

A durable installation relies on a suitable, well-prepared base. A qualified structural engineer should assess site conditions, including the ground, anticipated traffic loads, site levels and drainage requirements.

As a general guide, reinforced concrete slabs at 25 MPa may require the following minimum thicknesses:
Pedestrian areas only: 75 mm reinforced concrete.

Vehicle areas with vehicles below 3 tonnes gross mass: 100 mm reinforced concrete.

Reinforcement requirements depend on the intended use and site conditions. Allow the substrate to dry for the period specified by the relevant part of AS 3958 before fixing. Before work starts, ensure the base is suitable for its intended purpose, sound, clean and free from dust, dirt, oil, grease, curing compounds, release agents and any other materials that may interfere with adhesion.

CONTROL & MOVEMENT JOINTS

Movement and control joints accommodate changes caused by temperature, ground movement and movement within the substrate, bedding materials or stone. They are an essential part of a properly detailed installation. Before laying, check that existing joints remain clear and have not been bridged by hardened adhesive or mortar.

Remove any material obstructing a joint where necessary, taking care not to damage or penetrate the waterproofing membrane.

All existing control and movement joints must continue through to the finished cobblestone surface as flexible joints. Where a cobblestone bridges an underlying joint, cut the finished surface directly above it and form a suitable flexible joint. Joint design and placement must comply with AS 3958 and project-specific requirements.

DRAINAGE

Appropriate drainage helps protect the subgrade and bedding layers, reduces the risk of surface deterioration and efflorescence, and supports the long-term performance of the installation. Provide adequate falls to suitable drainage points in accordance with applicable Australian Standards and the project design.
Seek project-specific advice when selecting a drainage solution.

SCREED & BONDING SLURRY

Where a screed is required, allow the concrete base to cure for the period stated in the relevant manufacturer's instructions. Use an approved cement-based slurry coat to bond the screed to the concrete. Screed preparation, mix design and installation must follow applicable Australian Standards and the recommendations of the product manufacturers.

WATERPROOFING MEMBRANE

Install a compliant under-tile waterproofing membrane wherever required. Depending on the system, the membrane may be applied to the concrete base or the screed bed. Confirm the correct substrate and preparation method with the membrane manufacturer, and follow its installation instructions in full.

Aussietecture recommends considering Ardex or Mapei waterproofing systems. Confirm the system is suitable for the substrate, stone and installation conditions, and follow the manufacturer's instructions.

Ardex: www.ardexaustralia.com
Mapei: www.mapei.com

PRE-SEALING & PRE-GROUT SEALING

Whether pre-sealing is appropriate depends on the selected stone and the conditions in which it will be installed.

Pre-sealing or pre-grout sealing may help with installation and reduce the risk of grout affecting the stone's surface.

Pre-grout sealing is recommended for cobblestone products. Select a sealer that is compatible with the stone, adhesive and grout being used, and apply it in accordance with the sealer manufacturer's directions, including any required curing time.

The original guide identifies Aqua Mix cleaning and sealing products as an option: aquamix.com.au

WEATHER CONDITIONS

Check the forecast and site conditions before installation. Temperatures below 10°C or above 30°C may affect bonding and adhesion. Rain and excess moisture can also compromise the performance of adhesives and grout. These temperature ranges are indicative; always refer to the current technical data sheets for the products being used.

CUTTING

Use a quality blade designed for the stone being cut, and confirm that it is suitable for the equipment in use. A bench saw is recommended where practical. For split-edge cobblestones, a partial cut from the reverse followed by carefully snapping the piece through to the face can help preserve the natural-looking edge. Clean or perimeter cuts may require a different method. Small shape adjustments can be made with a brick hammer where suitable.

Silica Safety: Stone, sand, concrete and mortar may contain crystalline silica. Cutting, drilling, grinding, crushing or sawing these materials can release fine airborne particles that may cause serious lung disease, including silicosis. Use appropriate dust controls, personal protective equipment and safe work practices, and comply with current workplace health and safety requirements. Refer to Safe Work Australia for further guidance.

WET BED INSTALLATION

Split loose cobblestones should be installed using a wet-bed method to accommodate the greater variation in thickness typically found in this product format. Before beginning, ensure the substrate is sound and free of dust, dirt, oil, grease, curing compounds, release agents and other contaminants that could affect the bond.

Wet-bed mortar mix

- 3 parts coarse washed sand meeting relevant Australian Standard requirements
- 1 part general-purpose (GP) Portland cement
- 1 part clean water, with additional water only as needed to achieve the required consistency

Blend the sand and cement thoroughly while dry. Add the water and continue mixing until the mortar is evenly combined and free of lumps. The original guide notes that Mapei Planicrete SP latex additive may be used to improve mortar strength; where used, it is premixed with water at a ratio of 3 parts water to 1 part additive. Confirm suitability and follow the additive manufacturer's current instructions.

Bonding slurry

Prepare a workable paste using cement and Planicrete SP, in accordance with the product manufacturer's directions.

Fixing procedure

- Apply an even 1–2 mm coat of bonding slurry to the concrete substrate in the area where the mortar bed will be placed.
- Spread the wet-bed mortar evenly to a consistent thickness of approximately 25 mm, ensuring there are no voids.
- Remove loose material from each cobblestone and clean the back of the stone thoroughly.
- Apply bonding slurry across the entire back surface of the cobblestone.
- Set the stone into the wet mortar bed and gently tap it into place with a rubber mallet. A white mallet is recommended to reduce the risk of marking the stone. Ensure the stone is fully supported, with no voids beneath it.
- Adjust the cobblestone to the required level.
- Maintain consistent joint widths using plastic spacers or pre-soaked timber wedges.
- Pack any gaps around the newly placed stone with mortar and remove excess material.
- Keep the work clean. Immediately remove mortar from the stone surface using a clean sponge and clean water.
- Work in manageable sections so the mortar does not dry before the cobblestones are placed.

Remove spacers and wedges once the adhesive has set, but before it has fully cured. For project-specific advice on the appearance and layout of split loose cobblestones, consult Aussietecture before work begins.

Aussietecture recommends Mapei Adhesive Systems for Split Loose Cobblestones.

Mapei: www.mapei.com

GROUTING

Choose a grout suitable for the stone, joint dimensions and installation environment. Aussietecture recommends Ardex WJ50 used with Grout Booster for cobblestones.

Ardex: www.ardexaustralia.com

Confirm compatibility and suitability for the specific project with the grout manufacturer.

Mixing

For two-part grout systems, combine the grout powder with the specified additive, or with the additive-and-water mixture where required. Measure all components accurately and follow the manufacturer's mixing ratios. Place the required additive in a clean container; if dilution is specified, blend it with clean, cool water first. Gradually add the powder while mixing slowly. Mix with a low-speed mixer until smooth, creamy and uniform in colour. Allow the mixture to stand for two minutes, then remix.

Application

- Check that all joints are clean before grouting
- Confirm that pre-grout sealing has been completed as directed and that the required curing time has elapsed
- Dampen the stone surface with a sponge. Do not flood the cobblestones or allow water to pool in ungrouted joints
- Use a rubber grout float to work grout firmly into the joints, ensuring they are compacted and free of voids
- Remove excess grout by drawing the float diagonally across the joints
- Allow the grout to firm in accordance with the manufacturer's instructions
- Prepare two buckets of water: one for removing most grout residue from the sponge and one for rinsing or moistening it
- Wring out the sponge thoroughly and wipe diagonally across the joints in a single pass. Turn the sponge and repeat on an adjacent area, rinsing it through the two buckets as needed
- Avoid excess water and replace it regularly
- Remove all grout residue within the cleaning window specified in the grout manufacturer's technical data sheet

Aussietecture recommends Ardex for grout systems .

Ardex: www,ardexaustralia.com

CLEANING

Once grout and silicone joints have fully cured, carry out a final clean using a product suitable for the particular stone and installation materials. Follow the cleaner manufacturer's instructions.

- Brush or remove loose dirt and debris from the cobblestone surface.
- Apply the recommended cleaner as directed.
- Agitate the surface with a suitable scrubbing brush and leave the cleaner for the specified dwell time.
- Remove the cleaner and rinse the surface in accordance with the manufacturer's directions.

Final cleaning generally removes light grout residue and surface marks, but cleaning requirements differ between stone types. Check product compatibility before use. Do not use acid without first obtaining specialist advice: acid may damage the stone, installation materials and sealers.

Aussietecture recommends Aqua Mix for cleaning and sealing products

Aquamix: www.aquamix.com.au

POST-INSTALLATION SEALING

Post-installation sealing is recommended for natural stone and can help protect the surface and maintain its appearance over time. Select a sealer appropriate for the stone and intended application. Carefully follow the manufacturer's instructions for preparation, application, drying and curing.

MAINTENANCE

Maintenance needs vary according to the stone, finish, location, exposure and level of use. Depending on these factors, ongoing care may involve regular cleaning, periodic resealing, or both. Use cleaning and sealing products specifically suited to the installed stone and follow their directions.

Contact Aussietecture to discuss a maintenance approach suited to the selected product and installation environment.

Important: This guide provides general installation guidance only and is not a substitute for project-specific design, professional advice, applicable Australian Standards or the current technical data sheets for the products used. The installer is responsible for confirming suitability of the substrate, materials, methods and site conditions before commencing work.

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