artisan EXTERIOR

INSTALLATION GUIDE

STONE CRAZY PAVING

Please note, all information given in this document should be considered as a guide only and should be checked against the relevant Australian Standards for trade practices at the time of installation.

All information is provided in good faith and should be used in conjunction with site specific considerations. Tips and Guides included do not replace the services of professional contractors/consultants, or the relevant manufacturer's technical data sheet or recommended method of application.

Artisan Exterior reserves the right to change, delete or otherwise modify any information in this document without prior notice.

CONTACT:

Artisan Exterior
1300 301 898
artisanexterior.com.au

PRODUCT CONSIDERATIONS:

The Artisan Exterior range of Stone Crazy Paving is sourced from varying quarries and manufacturers in several countries across the globe. Each stone has unique properties and characteristics dependent on its inherent geological make up.

Our crazy pave is the result of thousands of years of formation in all types of weather conditions, as such, variation from batch to batch is expected, in fact it's a big part of what we love about natural stone and what makes it so uniquely beautiful.

Crazy paving products can feature various degrees of surface and thickness variation due to the manufacturing methods used. Samples should only be taken as indicative of colour and variation.

Artisan Exterior recommends inspecting all product upon delivery to ensure the colour and characteristics of the stone meet client expectation. Always mix crazy paving evenly from all crates during installation.

If the product received does not meet expectations, notify Artisan Exterior PRIOR to installation. Installation of the product constitutes acceptance of the product.

STORAGE:

Upon delivery, we recommend storing uninstalled product in a dry, protected environment, away from exposure to weather and direct sunlight, single stacked on a firm level surface.

SUBSTRATES & FOUNDATIONS:

Successful installation begins with a high-quality substrate. A site investigation should be undertaken by a qualified structural engineer, in most cases there will be three key considerations: soil investigation, traffic estimation and a site survey, to examine the topography of the site and the drainage requirements.

A typical guide for slab thicknesses at 25mpa is as follows:

Pedestrian traffic only: Minimum 75mm thickness reinforced* concrete
Vehicle Traffic below 3t gross mass: Minimum 100mm thickness reinforced* concrete

**Reinforcement grades will vary dependant on use.*

Ensure that the substrate's required drying time, as given in the relevant part of AS 3958, is allowed to elapse prior to fixing. The substrate must be fit for purpose prior to installation and should be clean, firm and free of dust, dirt, oil, grease, curing compounds, release agents and other barrier materials.

CONTROL & MOVEMENT JOINTS:

Control and movement joints allow the absorption of variance in the flooring caused by temperature swings and movement in the sub-grade, substrate, adhesive/mortar or the stone itself.

Check all control and movement joints to ensure no adhesive/mortar has dried in the joint connecting the crazy paving pieces together, this would render the joint ineffective for expansion and contraction. An angle grinder may be required to clean out any joints that are occupied with adhesive/mortar. When grinding out a joint the waterproofing membrane should not be penetrated, this would compromise waterproofing integrity.

When laying crazy pave, all control joints and movement joints must be transferred through to a flexible joint in the surface of the finished flooring. Where the crazy pave covers a control joint, a cut and flexible joint must be made in the finished surface directly above the control joint to create a movement joint. Movement joints and control joints should be carried out in accordance with AS3958.

DRAINAGE:

Drainage is an important consideration for preventing softening of subgrades, deterioration of surfacing layers and efflorescence and will ensure the longevity of the installation. Minimum surface crossfall, to adequate drainage points, should be carried out in accordance with Australian Standards.

Please contact Artisan Exterior to discuss suitable drainage systems for your project.

SCREED & BONDING SLURRY:

Where a screed bed will be installed, allow the concreted base to cure for the time period defined in the manufacturer's specifications. An approved cement-based slurry coat should be used to bond the screed to the concrete base. Screed mixes and application methods should comply with the relevant Australian Standards and manufacturers recommendations.

WATERPROOFING MEMBRANE:

A compliant under tile waterproofing membrane should be used as required. This can be applied to either the concrete base or the screed bed (check manufacturer's instructions). Whether installing the waterproof membrane directly onto the concrete or onto a screed bed, installation of the waterproofing membrane should be carried out in strict accordance with the manufacturer's instructions.

Artisan Exterior recommends Ardex and Mapei Waterproofing Systems.

Ardex: www.ardexaustralia.com

Mapei: www.mapei.com

PRE-SEALING & PRE-GROUT SEALING:

Dependent on the stone selected and the environment it is being installed in, pre-sealing or pre-grout sealing can assist installation and product stability. This process can be performed prior to adhesion or grouting as applicable.

Pre-grout sealing can be helpful for crazy paving products depending on their surface finish, although it's not always required. Artisan Exterior recommends Aquamix products for pre-sealing, pre-grout sealing and post installation sealing of natural stone, however it is important to confirm that any pre-sealer or pre-grout sealer chosen is compatible with the intended stone, adhesive or grout. Application should be carried out in strict accordance with the manufacturer's guidelines.

Artisan Exterior recommends Aquamix Cleaning and Sealing Solutions:

Aquamix: www.aquamix.com.au

WEATHER CONSIDERATION:

Consider expected weather conditions prior to installation. Conditions below 10 degrees and above 30 degrees Celsius can inhibit adhesion or bonding, rain can cause excess moisture which in turn can weaken the bond strength of adhesive and grout.
Temperature ranges are indicative only, for further information, consult the relevant data sheet of the intended product(s) being used on-site.

CUTTING:

It is recommended to use a specialist, high-quality, product specific blade for cutting. Ensure the blade is compatible and approved for use in conjunction with the machinery you intend to use it with. Artisan Exterior recommends the use of a bench saw where possible.

In most cases, excluding where clean cuts or perimeter cuts are required, Artisan Exterior recommends part cutting split edge crazy paving from the reverse side and snapping the piece through to the face edge, this will retain the natural edging of the stone. A brick hammer can be used to make small adjustments to shape as required.

Please note: Crystalline silica (silica) is found in sand, stone, concrete and mortar. It is also used to make a variety of products including composite stone, bricks, tiles and some plastics. When cutting, crushing, drilling, polishing, sawing or grinding products that contain silica, dust particles are generated that are small enough to lodge deep in the lungs and cause illness or disease including silicosis. Correct PPE should always be worn and work health safety measures adhered to. For more information visit safeworkaustralia.gov.au

WET BED INSTALLATION:

Crazy Paving products that feature a wider degree of surface and thickness variation will require installation on a wet bed to allow for the larger variance in thickness tolerance inherent to the product.

Prior to starting, ensure the substrate is clean, firm and free of dust, dirt, oil, grease, curing compounds, release agents and other barrier materials, this is essential for creating a strong bond.

WET BED MORTAR MIX:

3 parts coarse washed sand (to Australian Standard requirements)
1 part General Purpose (GP) Portland cement
1 part clean water (additional water can be added as required)*

Pre-mix coarse sand and cement until fully combined, add water and continue mixing until material is free of all lumps and is completely blended.

**Mapei Planicrete SP latex additive can be used to improve mortar strength, additive should be pre-mixed with water at a ratio of 3:1 (3 parts water, 1 part additive).*

BONDING SLURRY:

Cement and Planicrete SP mixed into a workable paste.

FIXING

1. Apply an even coat of bonding slurry 1-2mm thick to concrete substrate where the mortar will be applied.
2. Apply the wet bed mortar mix evenly, at a consistent thickness of 25mm, with no voids.
3. Remove any loose pieces and thoroughly clean the back of the stone.
4. Back butter the entire surface of the stone with the bonding slurry.
5. Place the stone onto the wet bed mortar mix and gently tap into position using a rubber mallet (a white rubber mallet is recommended to avoid marking the stone). Ensure there are no voids under the newly seated product as this will inhibit full adhesion and support.
6. Tap the stone to the desired level.
7. Joint width will vary due to the nature of the product but should not exceed maximum width specification outlined in manufacturer's instructions.
8. Fill voids around newly seated product and remove excess mortar mix.
9. Work cleanly to avoid staining. Immediately remove any excess material from the surface of the stone using a clean sponge and clean water.
10. If required, apply joint spacers or wedges to achieve consistent grout joint spacing*.
11. Work in controlled areas to avoid mortar mix drying prior to installation.

**Remove spacers and wedges once adhesive has set but not fully cured*

For additional information on aesthetic considerations for the installation of Crazy Paving, contact Artisan Exterior.

Artisan Exterior recommends Ardex and Mapei Adhesive Systems for Crazy Paving Installation.

Ardex: www.ardexaustralia.com

Mapei: www.mapei.com

ADHESION:

Crazy Paving products that feature a smaller degree of surface and thickness variation can be direct fixed using a two-part adhesive such as Ardex X18 with E90 additive or Mapei Keraquick Maxi S1.

Always follow the manufacturer's instructions carefully, mix in small batches and follow the ratios for powder and additive usage accurately.

MIXING:

Pour the required amount of additive into a clean mixing container, gradually add the proportionate amount of powder to the additive while slowly mixing. Mix thoroughly with a low-speed mixer until there is a smooth, creamy, homogeneous consistency. Allow to stand for 1-2 minutes and re-stir the mixture.

FIXING

1. Ensure the substrate is clean, firm and free of dust, dirt, oil, grease, curing compounds, release agents and other barrier materials and that the crazy pave is free from dust or contaminants.
2. Whether installing onto a waterproofing membrane, concrete base or onto a screed bed, the immediate surface that the tile adhesive will be adhered to must be allowed to cure according to manufacturer's specifications.
3. The adhesive should be worked/keyed into the substrate using a 10-12mm or 15mm notch trowel depending on thickness variation of the Crazy Paving product installed. Back butter the underside of the Crazy Paving to be installed, taking care to cover the back surface entirely.
4. The Crazy Paving should be sunken into the freshly notched adhesive bed to ensure good contact with the adhesive, a rubber mallet may be required to move crazy pave into final position.
5. Joint width will vary due to the nature of the product but should not exceed maximum width specification outlined in manufacturer's instructions*.
6. Work in controlled spaces with consideration for adhesive open time (pot life).
7. Use a spirit level to maintain desired levels and falls.
8. Lift a piece of crazy pave from time to time to check that there are no voids beneath the pieces. Do not spot fix.
9. Any surplus adhesive must be removed from the surface of the paver and joints, before the adhesive sets.

**Remove spacers and wedges once adhesive has set but not fully cured*

For additional information on aesthetic considerations for the installation of Crazy Paving, contact Artisan Exterior.

Artisan Exterior recommends Ardex and Mapei Adhesive Systems for Crazy Paving Installation.

Ardex: www.ardexaustralia.com

Mapei: www.mapei.com

GROUTING:

Artisan Exterior recommends Ardex WJ50 with Grout Booster for use with all Crazy Paving.

MIXING:

A two-part grout will require mixing with either an additive or an additive combined with water. Always follow the manufacturer's instructions carefully and follow the ratios for powder, additive and water usage accurately.

Pour the required amount of additive into a clean mixing container, if mixing with water, add the required amount of additive to clean, cool water and mix until blended. Gradually add the proportionate amount of powder to the additive or diluted additive solution while slowly mixing.

Mix thoroughly with a low-speed mixer until there is a smooth, creamy, homogeneous consistency and uniform shading of the coloured grout. Allow to stand for 3-5 minutes and re-stir the mixture.

APPLICATION:

1. Check all joints are thoroughly cleaned prior to starting.
2. For products that do require pre-grout sealing, confirm it has been carried out in accordance with the manufacturer's guidelines and the required curing period has elapsed.
3. Moisten the surface with a damp sponge, do not flood the cobblestones or allow water to stand in the un-grouted joint.
4. Work grout into the joint with a rubber grout float. Note, when using Crazy Paving products that require grouting of the entire top surface of the stone, ensure this is carried out during the grouting process. Make sure all joints are well-compacted and free of voids or gaps.
5. Remove excess grout from the surface by moving the float diagonally over the joints.
6. Allow grout to firm (typically 10-15 minutes, based on weather consideration, cleaning may be required sooner for moisture sensitive Crazy Paving products).
7. Fill two buckets of water for cleaning. Use one bucket for cleaning the majority of the grout residue from the sponge, use the other for moistening the sponge.
8. Dip sponge and wring out excess water. Wipe diagonally across the joint in a single stroke, reverse the sponge and repeat the process in an adjacent area. After using both sides, rinse the sponge in the bucket allocated to cleaning the majority of the grout residue, then dip into the second bucket, wring out the excess and repeat the process.
9. Avoid using excessive water and replace water regularly.
10. Ensure all grout residue is cleaned from the surface of the stone within the time limit specified in the manufacturers data sheet.

Artisan Exterior recommends Ardex Grout Systems for Crazy Paving.

Ardex: www.ardexaustralia.com

CLEANING:

A final clean of your product should be undertaken once all grout and silicone joints have fully cured (see relevant manufacturer guidelines).

It is important to consider all surfaces/materials (framework, trims, fences etc) that may come into contact with the cleaning product and remove or protect them as required

1. Remove excess dirt from the surface of the stone.
2. Apply the appropriate cleaner* as outlined in the manufacturer guidelines.
3. Agitate the surface with a scrubbing brush and allow to sit as directed.
4. Remove the cleaner and rinse as outlined in manufacturer guidelines.

**Generally speaking, a final clean will require the removal of minor grout residue and surface staining. Each product has different requirements and will dictate which cleaning product is most appropriate. Please contact Artisan Exterior to determine the cleaner best suited to your project.*

Please note: Acid should never be used without consultation of Artisan Exterior. Acid can damage product surfaces, installation products and sealers and should therefore only be used when applicable.

Artisan Exterior recommends Aquamix Cleaning and Sealing Solutions.

Aquamix: www.aquamix.com.au

POST INSTALLATION SEALING:

Artisan Exterior recommends post installation sealing for all Natural Stone products and considers it an essential step to ensuring the longevity and beauty of the product. Manufacturer instructions should always be followed carefully to achieve the best results for appearance and protection of the stone. For more information on the most appropriate sealing options please contact Artisan Exterior.

MAINTENANCE:

All products will require some form of maintenance over time, this will vary from surface to surface and will be heavily dependent on use, location and product type. The product type and maintenance requirement may require cleaning only or a combination of both cleaning and sealing.

Please contact Artisan Exterior to discuss the best suited product to your needs.



1300 301 898
artisanexterior.com.au