

Technical Guidelines

Pavers & Cobbles on a Non-Concrete Substrate.
For Pedestrian Use Only

Vol 1. 2023

INSTALLATION GUIDELINES FOR PAVERS AND COBBLES ON A NON-CONCRETE SUBSTRATE FOR PEDESTRIAN USE.

IMPORTANT NOTES

Please note, all information given in this document should be considered as a guide only and will be required to use in addition to the relevant Australian Standards for trade practices.

Our recommendations are made without full knowledge of your project environment and conditions. Our guides have been provided in good faith and should be used in conjunction with site considerations, services of professional contractors and consultants or the relevant manufacturer's technical data/ application method.

THICKNESS

Minimum thickness for pavers:

- 30-40mm for pedestrian use.
- 65-75mm for light weight vehicle use.

Cobbles on compacted based must be a minimum depth of 65-75mm, as small formats tend to be less stable and the vertical dimension "locks" in the grid.

Vehicle traffic is not recommended on a compacted aggregate substrate of this kind and should be limited to light weight lawn mowers, wheelbarrows, or trolleys.

Residential driveways or other paved areas that have regular traffic are recommended on a concrete substrate. (Specification should be approved by consulting engineers for the project & see separate guidelines for paver install on concrete substrate).

PRE-SEALING

Depending on the Stone and installation environment, pre-sealing can assist in installation and product stability. Including minimising the risk of pitting or corrosion from rising moisture with salts and impurities.

It is recommended that if installing limestone, white or light coloured Marble or Granite (that could be at risk of colour contamination or corrosion), pool or pond copings and any item regularly exposed to water to be 6 sided dip sealed in **Sealers Plus Ultra Block**. (see further details under Dip Sealing).

For Porphyry Stone & some Marble and Granite products this may not be essential, however if in doubt due to risk of colour contamination or corrosion please contact our office to discuss.

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EFFLORESCENCE

Minimise risk of Efflorescence by use of Efflock as an additive to water when used at any stage of the install process.

SUBSTRATE

It is a crucial step to prepare and provide a suitable foundation to ensure the end quality of your stone flooring.

Provide a stable, well drained substrate, of compacted crushed granite aggregate road base/blue metal fines, to a nominal depth of 70-100mm. (beware of variations that include limestone, cracker dust which may include salts or mineral impurities that could result in colour contamination or corrosion of the finished surface when rising moisture escapes).

Extend the compacted substrate 50 to 80mm beyond the perimeter of the paving or path to minimise risk of perimeter breakdown.

Pavers are then installed on a compacted bed of course white river sand, (approx. 50mm), which is considered the most effective levelling agent & also compacts well, adding to stability. (Yellow sand may cause staining & is not recommended).

Secure the perimeter by providing a concealed mortar edge with some depth and using white, river sand and white cement, (consider 2-3 times the depth of the paver).

Failure to provide suitable preparation for any given application may result in “stepping” or collapse over time. Use of even light vehicles on paving prepared only for pedestrian use may also result in settling, “stepping”, or collapse.

NOTE:

- Any of the above recommendations for products are intended to be indicative only of product type as, generally, there will be equally approved options from other manufacturers. For further clarification regarding suitability please consult the manufacturer, your builder or installation contractor.
- The above recommendations are made without full knowledge of your project environment and conditions. For a complete and conclusive specification for your project please contact the manufacturer for a project specification and full guidelines and procedures for the related products.

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GROUT & SAND FILL

Fill joints using white washed river sand.

Cobbles installed with wider joints will require grouting with a 3:1 sand cement mix, (consider risk of colour contamination with lighter colours or limestone and to minimise risk use white river sand and white cement). Use Efflock.

While traditional concrete or brick pavers are often finished with additional compacting over the finished surface, this is not done on natural stone. (Particularly on thin format travertine, marble, limestone, or basalt pavers).

INSTALL CONSIDERATIONS

Quoted rates for installation do not usually include earthworks or compacted substrate however the whitewashed river sand is often included by the installer.

This type of installation is ideal to accommodate any movement as well as flexibility for removing and replacing to accommodate reticulation or other services.

Generally, the above guidelines, refer to products with minimal tolerance in thickness, (between + or – 1mm and + or – 2mm).

Some cobbles such as Porphyry or similar will have bigger variation in thickness & install is necessary in a mortar bed. Recommended 3;1 sand cement (consider risk of colour contamination with lighter colours or limestone and to minimise risk use white washed river sand and white cement). Otherwise, we suggest direct install in mortar bed should be avoided.

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GENERAL SEALING

Sealing on completion is recommended for natural stone pavers with **Sealers Plus Aqua-Seal Gold +**.

It is recommended that a professional cleaning and sealing contractor is engaged to ensure the ultimate finish and longevity to your natural stone. Contact our showroom representatives for a list of contractors.

DIP SEALING

Limestone, white marble & granite, pool or pond copings and any item that is regularly exposed to water are recommended for six sided dip sealing done prior to installation, where the material is dipped into the sealant to coat all sides of the product.

Any stone requiring dip sealing is to be sealed with **Sealers Plus Ultra Block**.

Minimise excess sealer drying on the surface by standing upright with spacers in between and or also wiping excess sealer from the surface with a cotton cloth. Note this applies to both the top surface for visual reasons and the underside to ensure adhesion is not affected.

Any installation Dip Sealed with Ultra Block still requires sealing on completion with a standard penetrating sealer such as **Sealers Plus Aqua-Seal Gold +**.

COLOUR ENHANCE

Enrich the depth of colour and highlight natural stone variations with a two in one sealer and colour enhancer **Sealers Plus Enhance 'N' Seal**.

The only exception being where there is a preference for a lesser degree of colour enhance in which case we suggest you contact us to consider the requirement and make a recommendation.

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PRODUCT CONSIDERATIONS

Natural stone is a naturally occurring material and it is typical for the stones characteristics to have variation in colour/tone and or surface finish. Materials may also vary in appearance from the original sample as no two pieces are the same. It is encouraged that the client inspects the material prior to purchase.

Minor marks and small chips are nonstructural and typical of natural stone and not considered a defect. Due to variations of natural stone it is recommended that tiles & pavers are blended between all crates or pallets prior to installation.

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 sealing only or a combination of both cleaning and sealing by a professional contractor. We suggest you contact us to consider the requirement and make a recommendation.

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