



Flagstone

Installation Guide



BOSUN

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FLAGSTONE INSTALLATION GUIDE

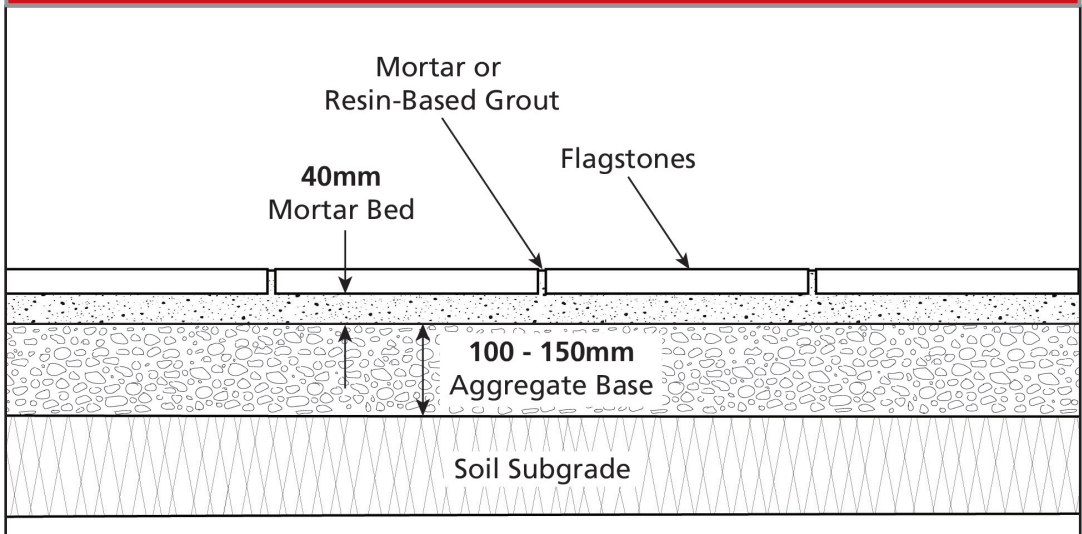
BOSUN FLAGSTONES ARE INSTALLED USING A RIGID INSTALLATION METHOD

Bosun flagstones are 35mm thick and don't have spacer nibs. Therefore, the installation of these pavers is similar to the installation of tiles and requires attention to detail. Contractors specialising in the installation of interlocking paving (flexible method) are probably not skilled in these methods. Therefore, please ensure your contractor familiarises themselves with these guidelines.

WHAT'S THE DIFFERENCE BETWEEN INSTALLING FLAGSTONES AND OTHER PAVERS?

1. Flagstones are installed on a **mortar (river sand and cement mix) bed** instead of just river sand.
2. Flagstones are **jointed/grouted with a rigid jointing** material like mortar or specialised resin-based grouting.
3. Flagstones **cannot be grouted with sand**.
4. **Tile spacers** must be used between flagstones in order to **achieve straight lines and even spacing**.
5. The paved area cannot be trafficked immediately - **do not traffic the area for at least 7 days**.

COMPONENTS OF A RIGID PAVING INSTALLATION



What is similar?

Even though the flagstones are installed on a rigid bed, you still need to remove topsoil and install an aggregate foundation/base in order to prevent settlement, manage moisture and accommodate for movement under the earth's surface.

CREATING THE FOUNDATION

If earthworks have not been done prior to the installation of flagstones, remove topsoil and excavate to a depth of $\pm 200\text{mm}$, or more to achieve the required level of the paved area.

Construct a 100-150mm thick layer using G5 (or similar) material that does not contain organic matter and will compact well to form a solid base/foundation. **Refer to pages 14-16 in the *Bosun Paving Installation Guide* for more information on foundation construction.**

In certain instances, existing concrete slabs or structures can be used as a base, provided they are approved for use by an engineer.

SETTING OUT

Setting out is similar to setting out tiles – start from the centre and work outwards. **Refer to page 11 in the *Bosun Paving Installation Guide* for a comprehensive overview of setting out of a paving site.**

INSTALL A MORTAR BED

Bosun Flagstones must be installed on a 40mm thick mortar bed. Use a 1:4 mix of well-draining river sand and cement. **DO NOT USE BUILDING SAND.** Building sand contains fines which will hold moisture.

Using a trowel, **spread just enough mortar in order to lay one flagstone at a time.** Level this mortar with the trowel.

The mortar mix should be moist. You must be able to form a ball in your hand. If too dry or too wet, the mortar will be difficult to work with.



Mortar might stain pavers. Be careful to ensure the mortar mix does not come into contact with the face of pavers.

RIPPLE THE MORTAR BED BEFORE PLACING FLAGSTONES

Using a trowel, ripple the mortar bed. This ensures better bedding and adhesion between the mortar bed and the flagstone.

When installing flagstones on a hardened concrete slab / screed, use an appropriate tile cement or concrete adhesive to adhere flagstones to the slab.



PLACING FLAGSTONES



It is crucial to ensure that flagstones adhere to the mortar bed sufficiently.

What options are there to increase adhesion?

- 1 - Paint the back of the flagstone with bonding liquid before placing it on the mortar.**
or, for even better results:
- 2 - Paint the back of the flagstone with a mix of cement and bonding liquid, but be careful not to stain the pavers.**

Once placed on the mortar bed, **tap the flagstones down with a rubber mallet.** Use a spirit level or straight edge in order to ensure the flagstones are level, without highs and lows. Repeat the process above and **use 6-10mm tile spacers to ensure consistent spacing between flagstones.**

When paving large areas, allow for expansion joints. If installing on an existing concrete slab or structure, expansion joints in the paving layer must coincide with the expansion joints in the substrate. Use a matching-coloured silicone to create the flexible joint.

Once all the flagstones have been laid on the mortar, ensure they adhere properly. **Lift and re-install loose flagstones.**

CUTTING FLAGSTONES

Flagstones should be cut with a masonry saw. Accuracy in measuring is essential when cutting flagstones. Measure the dimension to be cut; mark the dimension onto the flagstone; measure the dimension to be cut once again; and check that this is what has been marked.

Mark and cut one paver at a time. Do not use tiny cut pieces. Neat cutting calls for accuracy and patience. **Do not cut on paving already installed, as fine concrete dust will stain the flagstones.**

JOINTING/GROUTING



Ensure that joints are sufficiently wet while grouting. Failing to do so can lead to cement staining known as "picture framing".

Cement-contaminated water from the grout migrates into the flagstones. This water then evaporates but the cement does not - it cures, leaving behind a cement stain.

Do not grout in the heat of the day or when rain is imminent. Use a moist mix of 1:4 cement and plaster/building sand. Again, you should be able to make a ball in your hand. Work this mixture into the joints with a small trowel and smooth with a grouting tool.

Do not wash a cement slurry into joints. It will stain the pavers, is sure to be weak & will fail quickly. A specialised resin-based grout is much easier to install and eliminates problems associated with mortar grouting.



The Proven Professional Paving Jointing Mortar



- Self-compacting and suitable for joint widths from 3mm or larger.
- Resin-based solution that does not lift, crack and stain like cement slurry grout.
- Ideal for flagstones, natural stone and other precast concrete pavers and surfaces.
- Resistant to ants, weeds, frost and is high-pressure cleaner safe.
- Ideal for light to medium traffic loads.

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CLEANING

Clean grouting off flagstones as you work. Don't let resin or cement grouting dry on top of the flagstones.







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