Installation methods for reuse

CIRCULAR CONSTRUCTION WITH SLATE

REUSE

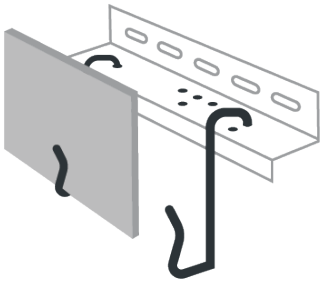
The natural durability of slate makes it particularly well-suited for reuse in new projects. Provided that a suitable fastening method is used, the stone can be dismantled, cleaned, and reused without loss of function or quality – often for generations.

Below are installation methods designed with full dismantlability and reuse in mind (100%), applicable to façades, paving, roofing, stairs, walls, and slab installations. Each method is described with both the installation principle and the recommended procedure for dismantling, cleaning, and storage.

FAÇADES

HORIZONTAL MOUNTING WITH HOOKS

Installation principle:
The slate slabs are hung on hooks attached to perforated battens on the supporting wall, ensuring ventilation behind the façade. Custom hooks make installation straightforward. The system has a total build-up of only 57 mm and weighs approximately 39 kg/m² when using slabs that are 300 mm wide, 12 mm thick, and with 20% overlap. Suitable for both new and existing buildings.



Technical guide:
Horizontal mounting with hooks

Dismantling and storage:
Start from the top. Lift the slabs straight up from the hooks. Clean as needed using coarse cleaner, scrub with a brush, and rinse with water. The slate should be stored on pallets with spacers or vertically against a stable surface. Cover if stored outdoors for an extended period.

FAÇADES

HORIZONTAL/VERTICAL WITH SCREWS

Installation principle:
The slabs are fastened with two acid-resistant screws (6 mm) in pre-drilled holes at the top. Installation begins at the bottom with a minimum 50 mm overlap to conceal the screws. A 2–3 mm vertical gap ensures expansion and drainage. If needed, metal flashing or membrane is placed behind the slate to prevent water ingress at joints, and additional fastening at the lower edge can be added in areas with high wind loads.

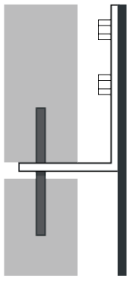
Dismantling and storage:
Unscrew from the top. Lift down the slabs. Clean with coarse cleaning agent, scrubbing brush and water if necessary. Store on pallets with spacers or vertically. Cover during long-term outdoor storage.

Technical guide:
Horiszontal with screws

Technical guide:
Vertical with screws

DOWEL FIXING

Installation principle:
The slabs are pre-drilled for dowels (steel or titanium bolts) that are anchored into a supporting aluminium or steel structure. This provides concealed fixing and accommodates thermal movement.



Dismantling and storage:
Dowels are cut in the joints using an angle grinder with a metal cutting disc, and the slabs are lifted down. If installed with looser tolerances, the dowels may be pulled out. Clean with coarse cleaning agent, scrubbing brush and water if needed. Store flat or vertically with spacers, and cover during long-term outdoor storage.

Technical guide:
Dowel fixing

FAÇADES

EXPANSION ANCHORS

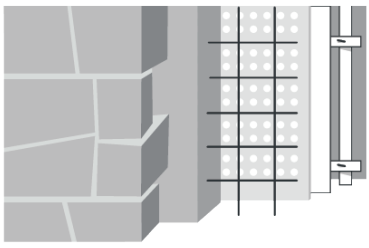
Installation principle:
A conical undercut hole is drilled on the back of the slate slab, mechanically locking the fixing in place. An expansion anchor is inserted and tightened using special tools. The slabs are mounted to an underlying aluminium structure via the anchors, allowing for adjustment and thermal movement. This solution provides strong, concealed fixing and is well suited for ventilated facades where both aesthetics and structural integrity are important.

Dismantling and storage:
The screws that connect the anchors to the aluminium profile can be easily removed. The anchor usually remains in the slab but can often be extracted using special tools. If it remains, the slab can still be reused with new anchors in a new project. Clean the slabs as needed with coarse natural stone cleaner, brush, and plenty of water. Store flat or vertically with spacers, and cover during long-term outdoor storage.

Technical guide:
Expansion anchors

MASONRY WITH SLATE WALL BRICKS

Installation principle:
The slate is built as a facing layer against an existing structure. The system is constructed with a wind barrier, battens, and OSB boards, creating a ventilated cavity for drainage. Foundation plastic protects against moisture from behind. The slate is laid in running bond – with or without mortar joints (dry stone) – and backfilled with mortar. For additional strength, reinforcement mesh and wall ties are used, and reinforcement mats provide extra stability. The solution results in a solid, moisture-protected, and durable construction.



Dismantling and storage:
Dismantling begins from the top. The uppermost course is loosened using a hammer and chisel. The stones are then taken down manually. Mortared stones often need to be cleaned of mortar, either manually with a scraper or with a chisel hammer. The slabs are cleaned with coarse cleaner, brush, and water as needed. For storage, the slate can be stacked on pallets, placed in pallet boxes or big bags, and should be covered if stored outdoors for a long period.

Technical guidance:
Dry-stacked facade

OUTDOOR PAVING

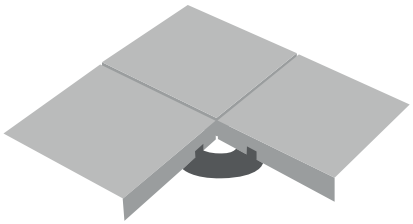
IN LOOSE AGGREGATE

Installation principle:
The base is built up with draining materials such as crushed stone or sand, which are compacted for stability. The slate is laid directly onto the base, and the height is adjusted by leveling the material under each stone. Joints can be filled with sand, soil, fine gravel, sedum, or hard grout – depending on the desired look and function. This method provides flexibility and good drainage.

Dismantling and storage:
The stones are lifted by hand or with a spade/pry bar. Sticking material is brushed or rinsed off. The slate is stored on pallets with spacers or vertically against a stable support. For long-term outdoor storage, it is recommended to cover the slate to protect it from dirt and moisture.

ON PEDESTALS (RAISED FLOOR SYSTEM)

Installation principle:
Slate slabs are installed on adjustable pedestals without casting or grouting. The pedestals are placed on a stable base and adjusted in height to ensure an even surface and good drainage. Each slab is supported at its corners, with four pedestals bearing one slab. This system is well-suited for rooftop terraces, balconies, and other areas where drainage and flexibility are essential.

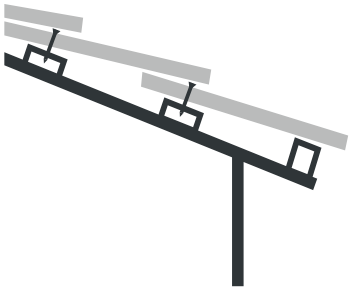


Dismantling and storage:
The slabs are lifted by hand or using suction cup tools. The pedestals are disassembled and can be reused. Cleaning is carried out using a coarse cleaning agent, a brush, and water. The slabs are stored on pallets with spacers and should be covered for long-term outdoor storage.

ROOFING

FLAGSTONE ROOF

Installation principle:
Flagstone roofs are installed on a substructure with counter battens and battens that ensure proper ventilation and drainage. Counter battens are nailed to the rafters, and the battens are placed close together to allow secure and simple fastening of the slate. The slate slabs are shaped as needed and fastened with stainless steel screws directly into the battens, with an overlap that hides the fastening. Holes are usually drilled below the fastening point. The roof is finished with ridge stones or flashing for a durable and weatherproof finish.

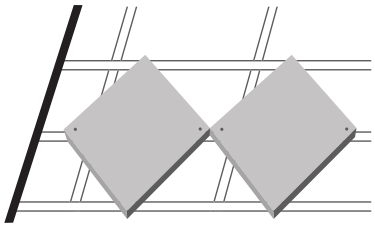


Dismantling and storage:
First remove flashing, snow guards, and other roof details. Screws are loosened, and the slate slabs are removed from top to bottom, row by row. The slabs are cleaned as needed with a coarse cleaning agent for natural stone, a brush, and plenty of water. Assess the cleaning needs based on the level of dirt. The slate is stored flat and securely, preferably on pallets with spacers for ventilation, and should be covered for long-term storage.

TTechnical guide:
Flagstone roof

SQUARE TILE ROOF

Installation principle:
The slate is built as a cladding against an existing structure. The system is constructed with a wind barrier, battens, and OSB boards, which provide an air gap for drainage. A foundation wall membrane protects against moisture from the back. The slate is laid in a running bond – with or without joints (dry wall) – and backfilled with mortar. For additional strength, reinforcement mesh and wall anchors are used, and reinforcement mats provide increased stability. The result is a solid, moisture-protected, and long-lasting construction.

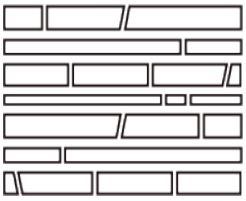


Dismantling and storage:
Dismantling begins at the top. The uppermost course is loosened with a hammer and chisel. The stone is then taken down by hand. Jointed stones often need to be cleaned of mortar, either manually with a scraper or with a chisel hammer. The slabs are cleaned with coarse detergent, a brush, and water as needed. For storage, the slate can be stacked on pallets, placed in pallet boxes or big bags, and should be covered for long-term outdoor storage.

WALL

MACHINE-BUILT WALL

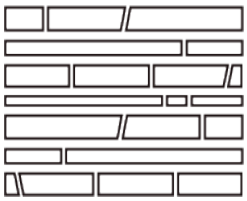
Installation principle:
Machine-built walls are constructed using large, irregular slate blocks stacked against terrain or soil using machinery—typically an excavator with a clamp or lifting hook. The stone is adjusted and laid in layers to ensure stability, with friction and self-weight holding the structure in place. No mortar or fastening is used, allowing for a flexible and efficient construction process.



Dismantling and storage:
The stones are removed one by one using the excavator's clamp or hook. The slate is brushed clean and stored on pallets, in stacking crates, or on a flat surface, ready for reuse.

DOUBLE WALL

Installation principle:
The wall is built with two parallel layers of slate wall bricks, with or without joints. The cavity between them is either filled with mortar for increased stability and binding or with crushed stone if the bricks are 15–30 cm deep. This results in a stable structure with good drainage and strength.



Dismantling and storage:
Start from the top and loosen the upper course using a crowbar, hammer, and chisel. The stones are then removed by hand. Mortared stones often need to be cleaned of mortar—either manually with a scraper or with a chisel hammer. Clean if needed using heavy-duty cleaner, brush, and water. Store securely on pallets, in pallet crates, or big bags. Cover if stored outdoors for extended periods.

STAIRS

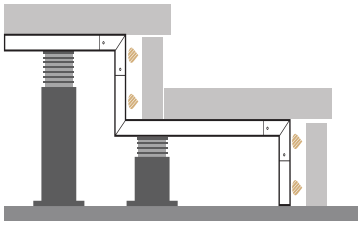
TERRAIN STEPS IN LOOSE AGGREGATES

Installation principle:
Massive slate steps (natural steps) are placed directly in stable loose aggregates such as sand or crushed stone. The steps are positioned using machinery and adjusted for height, slope, and stability.

Dismantling and storage:
The steps are removed in reverse order using an excavator or crane truck. The steps are brushed clean and stacked on pallets for further storage.

SLATE STEPS ON RAILS/PEDESTALS

Installation principle:
A stable sub-base is prepared, typically with crushed stone or sand. Adjustable pedestals are placed and adapted to match the staircase incline. Aluminum rails are mounted on the pedestals, and slate steps are laid on top. Each pedestal allows for millimeter adjustments for precise placement. The system is flexible and easy to adapt to different heights and base conditions.



Dismantling and storage:
The steps are lifted off the rails manually or with a vacuum lifter. The pedestals can be removed once the steps have been taken off. Components are cleaned with water and a brush. The steps are stacked on pallets with spacers and should be covered during long-term outdoor storage.

SLABS

SPOT GLUED / GRAVITY FIXED

Installation principle:
Slate slabs such as countertops, hearthstones or windowsills are installed on a stable base. Fixing is done either by gravity (weight alone) or spot gluing with special adhesive, depending on use and placement.

Dismantling and storage:
The slabs are lifted from the base. Spot-glued slabs are carefully loosened with wedges and/or a pry bar. It is important to avoid damage during dismantling. The slabs are cleaned if needed and stored dry and stable, preferably on pallets with spacers between the slabs.

REUSE

The high durability and timeless appearance of slate make it ideal for circular construction. By choosing solutions that allow for dismantling, the slate can be reused with minimal intervention – in new buildings, new contexts, and for new generations.

This overview demonstrates that reuse does not have to be complicated, as long as material choices and fastening methods are well planned from the start. We hope the methods and recommendations presented here provide inspiration and practical support for projects aiming to reduce resource consumption and extend material lifespan.