

Product & Installation Guide

Important Information



Thank you for choosing RiffSystem® reef ceramics.

Our reef ceramics are prepared so that they are suitable for direct use in a marine aquarium. Additional soaking or pretreatment is not required.

To ensure that your reef ceramics are installed safely and to create the best possible conditions for a successful start to your aquarium, please observe the following information.



01 **Before Installation**

Handle ceramics safely



02 **Reef & Ceramic Adhesive**

Bond & repair ceramics



03 **Aquarium Silicone**

Secure reef ceramics
to glass



04 **Reef Design**

Large & cantilevered reef
structures



05 **The Start-up Phase**

Create good conditions



06 **Stocking & Nutrients**

A reef needs balance



01 Before Installation

Handle ceramics
safely

Reef ceramics are harder than glass.

Protect the viewing panes of your aquarium during installation and avoid direct contact between ceramic and glass.

Always lift larger ceramic elements and columns from underneath and support them with the flat of your hand.

Never use delicate branches or protrusions as handles.

Also avoid hard or blunt impacts, for example when setting the ceramics down carelessly.



Rinse the ceramics?

Due to the production process, fine dust may be present on or in the porous surface.

Additional particles may also occur during finishing, cutting or from packaging material.

Therefore, rinse the ceramics thoroughly with tap water or reverse-osmosis water before installation.

During the start-up phase, we additionally recommend using a silicate adsorber. Once loose particles and production-related residues have been removed or filtered out, this abrasion will no longer affect the silicate level.



Working with the ceramics

Our goal is to prepare your reef ceramics so that on-site adjustments are generally unnecessary.

If small changes are nevertheless required, edges can be carefully adjusted with side cutters. Breaking the ceramic preserves a natural-looking edge structure.

Larger adjustments are possible with an angle grinder and a suitable stone or diamond cutting disc. We recommend working as wet as possible to reduce dust. Always use suitable eye, respiratory and hand protection.



02 Reef & Ceramic Adhesive

Bond & repair
ceramics

Due to their highly porous structure, reef ceramics can be damaged by heavy loads or during transport. Minor breakages can easily be repaired with RiffSystem® reef and ceramic adhesive. The adhesive can also be used to join individual ceramic elements and to expand existing reef structures.

Step 1 | Keramik positionieren

Prepare the ceramic elements so that they do not need to be held or moved while the adhesive sets.

Small wedges or supports made of cardboard or suitable packaging material can help secure the desired position.

Step 2 | Klebeflächen anfeuchten

Generously moisten the areas to be bonded with water until the surfaces are saturated.

The moistened, porous surface allows the adhesive to bond intensively with the ceramic.

Step 3 | Mix ceramic adhesive

Mix the adhesive with water until a homogeneous, thick / kneadable consistency is achieved and the mixture pulls away easily from the edge of the mixing vessel. Add small amounts of water or powder as needed until the desired consistency is reached.



Step 3 | Mix ceramic adhesive



Step 4 | Apply adhesive

Apply sufficient adhesive to the joint. There should be enough material between the ceramic elements to create a stable connection.

The adhesive can then be shaped and pressed slightly wider onto the adjoining ceramic surfaces. This creates an even and stable transition between the elements.

Step 5 | Curing phase

Do not move the ceramics while the adhesive is setting!

The adhesive warms up during curing. Wait until the bonded area has completely cooled and hardened before moving or loading the ceramics again.

With prolonged contact with air, the surface of the adhesive may turn slightly brown. This does not affect the quality of the bond.

Please see the next page for further information




02
Reef & Ceramic Adhesive
Important information
Hazard information
TIP
Invisible bonding points

The ceramic adhesive is initially slightly darker than the reef ceramics and becomes lighter as it dries. Sprinkle a little coral sand onto the freshly applied adhesive before it begins to set. This allows the bonding area to blend visually with the surrounding ceramic.

The bonding areas will also quickly become naturally overgrown with coralline algae and will become "invisible" on their own.

Processing instructions

RiffSystem® reef and ceramic adhesive can be used above and below water. We recommend wearing disposable gloves during application, as the adhesive can severely dry out the skin while wet.

Hazard information:

R 37/38: Irritating to respiratory system and skin.

R 43: May cause sensitisation by skin contact.

Keep out of reach of children.

Store in a dry place, protected from light and frost.


03
Aquarium Silicone*
Secure reef ceramics to glass
SILIKONE* Use high-quality aquarium silicone*

Reef ceramics can be attached to back panels or overflow shafts, for example, using suitable aquarium silicone*. This also makes cantilevered structures possible. Before bonding, both the ceramic and the glass must be completely dry. The glass surface must be clean and free of grease.

Apply silicone over the full surface. Depending on the size and weight of the ceramic element, apply an evenly thick layer of silicone to the bonding surface.

Do not use only individual dots of adhesive. Then press the element onto the glass pane in the desired position.

Position während der Aushärtung sichern

Fix the ceramic element so that it cannot move while the silicone cures. Suitable adhesive tape or bracing against the opposite pane can be used for this purpose. Always observe the complete curing time specified by the silicone manufacturer.

After curing, the reef structure can be expanded as desired. Moisten the ceramic and connect additional elements using RiffSystem® reef and ceramic adhesive.

Important:

Only use silicone that is expressly suitable for aquarium construction. Based on our experience, we do not recommend so-called underwater adhesives or underwater silicones for permanently load-bearing connections.



04 Reef Design

large structures, cantilevered
and free-standing areas

Stability | through connections!

RiffSystem® reef ceramics can also be used to create large, widely projecting and cantilevered reef structures. The key is a structurally sensible design.

Multiple connections provide stability
For larger or cantilevered elements, do not rely on a single bonding point. The highly porous ceramic can crack under concentrated loads. Every larger branch or free-standing element should therefore be connected to the supporting structure, back-wall elements or additional ceramic branches at several points wherever possible.

Distribute / transfer loads sensibly

More solid ceramic areas can be used as structural supports. Additional supports can often be positioned so that they later lie in the visual shadow of the finished reef.

Always consider larger structures as one connected construction: the better the forces are distributed across several elements, the more stable the entire reef will be.

Many more design examples and the corresponding parts lists can be found on our website.



For this example, a more solid supporting structure was used on the right-hand side and elements in the “visual shadow” of the reef were bonded to the pane for support. The main reef was then connected to all elements, creating a 150 cm cantilevered reef arm. A time-lapse video of the construction can be found on our website.



Example of extending back-wall panels

A completely free-standing version with a large cantilevered overhang





05 Die Startphase

**gute Voraussetzungen für
Biologie schaffen**

Nach dem Aufbau beginnt die biologische Entwicklung des Aquariums. Für ein neu eingerichtetes Aquarium empfehlen wir die Verwendung eines geeigneten Bakterienpräparats.

Während sich die Biologie entwickelt, kann es vorübergehend zu Algenbildung auf den neuen Oberflächen kommen.

Step 1 | Start lighting

For the first 2–3 weeks, we recommend a daily lighting period of no more than 5–6 hours at reduced intensity. The lighting period can then be increased by about one hour per week until the regular lighting schedule is reached. We also recommend this approach after major stocking changes.

Step 2 | Monitor water parameters

The first animals can be introduced once the relevant basic water parameters are within the intended range. A general time recommendation is not possible. How quickly an aquarium stabilises depends, among other things, on the technology used, the preparations used and the individual starting conditions. Therefore, check the water parameters regularly, especially during the first few weeks.

Step 3 | Silicate during the start-up phase

Our ceramics are manufactured so that they should not release any undesirable substances into the aquarium water. Nevertheless, an elevated silicate level can initially occur if fine ceramic abrasion or production-related kiln dust is present in the aquarium. Such particles can occur, for example, when cutting back-wall panels or during other finishing work. We therefore recommend using a silicate adsorber during the first few weeks. Once the corresponding particles have been removed or filtered out, this abrasion will no longer affect the silicate level.

Please note that other factors can also influence water values, e.g. sea salt, source water, sand or additionally added rock

Step 4 | Elements during the start-up phase

The raw material for our reef ceramics is obtained from natural earths and processed. As a natural material, it may contain small amounts of various trace elements, such as manganese or vanadium. Especially during the start-up phase, individual elements may temporarily appear elevated in a water analysis. As these are elements that are bound or consumed comparatively quickly in a marine aquarium, the values usually decrease again within a short time. Through regular laboratory analyses of our raw materials and ceramics, we take great care to ensure that no problematic substances such as copper, lead, nickel or phosphate, as well as other potentially harmful substances in higher concentrations, enter our reef ceramics in relevant quantities.



06 Nutrients & Stocking

A reef needs
BALANCE

Aquariums with reef ceramics can start with very low nutrient levels because the ceramics contain neither nitrate nor phosphate. However, undetectable nitrate and phosphate do not automatically mean optimal conditions for corals. Corals also require nutrients. Therefore, make sure that nitrate and phosphate remain available in a small amount suitable for your system. If necessary, supplement them with suitable products

IMPORTANT | Balance

Keep consumers and producers in balance



When stocking gradually, we recommend maintaining a balanced ratio between consumers and producers. Consumers include corals in particular. Producers include fish, snails, crabs and shrimp. If nutrient levels rise, the proportion of consumers can be increased accordingly. If the levels fall too much, additional producers or adjusted feeding can help stabilise them. In this way, stocking can develop gradually while at the same time reducing the formation of uncontrolled nutrient deposits

IMPORTANT | Start-up phase

Reduce algae growth



Algae grazers as the first livestock

A suitable selection of algae grazers can help keep young surfaces clean and limit unwanted algae growth during the start-up phase. Depending on the aquarium and planned stocking, suitable algae snails, crabs, sea urchins or algae blennies, for example, may be appropriate.

Any questions?

Every aquarium develops individually. Technology, water, lighting, stocking and maintenance all influence how a new reef system develops. If you have questions about working with our reef ceramics, reef construction or the start-up phase, please contact your specialist retailer or contact us directly.

We hope you enjoy your own personal underwater world.