

How does shrinkage reinforcement reduction work?

When calculating the correct amount of reinforcement for watertight concrete structures, two factors are relevant: watertightness requirements and environmental requirements. The maximum allowed crack width is not determined by the environmental requirements, but by the watertightness requirements, because the latter are more stringent.

Limiting the crack width is usually achieved by using more shrinkage reinforcement in the design. By adding Basilisk Healing Agent to the concrete mixture, this is not necessary anymore. Cracks in concrete seal themselves and the concrete becomes waterproof. This means that on average 40% less shrinkage reinforcement is required, adhering to existing standards and guidelines.

Curious about what we can offer for your project?

We are happy to provide you with insight into the benefits and possibilities for your project, without any obligation. Please contact us to discuss the details.

Contact us

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STONIX

Basilisk
self healing concrete

Restoration Partners LLC is the exclusive distributor of Basilisk Self-Healing products in the Americas.

Basilisk Healing Agent

Admixture for self-healing concrete mixes



Watertight concrete

Shrinkage reinforcement reduction

Reduced CO2 footprint

Less maintenance

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Basilisk Healing Agent

With Basilisk Healing Agent, any concrete mix can easily be converted to a concrete with self-healing properties. Basilisk Healing Agent is a bio-based granular additive that repairs cracks in concrete and makes it waterproof. It autonomously fills crack widths up to 1 mm (0.03937 in) with limestone.



Advantages of self-healing concrete

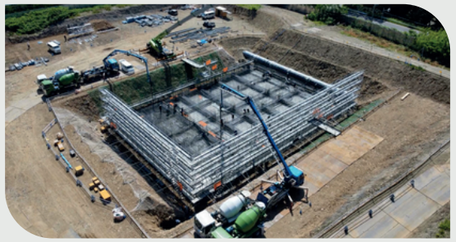
One of the properties of concrete is that it will always crack. With a good design, this cracking can be limited, but even small cracks cause problems. With Basilisk Healing Agent, cracks in concrete structures repair themselves and this leads to a number of advantages.

- Watertight concrete
- Shrinkage reinforcement reduction
- Reduced CO2 footprint
- Less maintenance

Applications and markets

- Floors and parking decks
- Wastewater treatment plants
- Airports, ports and maritime structures
- Tunnels and bridges
- Basement constructions and diaphragm walls
- Liquid containing resevoirs





Reference project: Hulstkamp building

A distinctive reference project is the Hulstkamp building in Rotterdam, the Netherlands. During the renovation of this building, the entire basement construction, used as a parking garage, was renewed. Concrete with Basilisk Healing Agent added to the mix was used for this project. Because self-healing concrete is watertight, it was possible to reduce 36% on shrinkage reinforcement. Using less shrinkage reinforcement in the construction leads to almost 50% reduction of CO2 emissions and also to cost savings, because less steel is needed. The images below are from this project.





Adding value to concrete

Waterproof concrete
Self-healing concrete seals cracks. This saves the costs for special coatings or waterproof membranes. Furthermore, there are no additional costs for injection works to repair cracks that appear before delivery of the project.

40% less shrinkage reinforcement
Due to the self-healing properties, larger crack widths can be accepted in the design. As a result, approximately 40% less shrinkage reinforcement is required. In addition to environmental and cost benefits, this also minimizes the risk of rock pockets.

30-50% CO2 footprint reduction
Self-healing concrete with a longer design life, without membranes and with less shrinkage reinforcement, will result in significant savings on the CO2 footprint.

Less maintenance & shorter downtime
Concrete structures with Basilisk Healing Agent require less maintenance and have a shorter downtime. In addition, their design life is longer. All these benefits contribute to a reduced Life Cycle Cost.