



**Basilisk**  
self healing concrete

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# Product Data Sheet

## Basilisk Liquid Repair System ER7

Basilisk Liquid Repair System ER7 is a 2-component low viscosity solution which contains natural enzymes and nutrients. It is specifically developed for sealing and waterproofing of cracks (up to 0.8 mm wide) in horizontal concrete structures and to decrease permeability of porous concrete surfaces.



### Advantages in application

- Quick and easy application allowing fast accessibility of structure.
- Seals (static) cracks in horizontal surfaces up to 0.4 mm in one treatment and up to 0.8 mm (max) in a minimum of 3 treatments.
- Penetrates deep into cracks and pores.
- Densifies (damaged) porous cementitious surfaces and increases frost damage resistance.
- Limits chloride attack and delays rebar corrosion.
- Has no aesthetic influence on surface or crack after complete treatment.

### Application areas

Particularly suitable for repair of concrete structures suffering from cracking and porous surface induced by drying, shrinkage and wear. Can be applied on porous surfaces or directly into cracks. Typical application areas are: parking decks, roofs, galleries and balconies, concrete pavements and roads, maritime structures (salt water applications) and infrastructure and industry bridges, foundations, etc.)

### Remarks and limitations

- Crack repair with Basilisk ER7 is only suitable on horizontal surfaces without active leakage at the time of application. Basilisk ER7 is not able to permanently seal dynamic cracks.
- Full treatment of Basilisk ER7 includes an conditioning time of 6 weeks after application in which the treated surface must stay wet or damp (conditioning). Measures to minimize evaporation or additional moist supply are essential for an effective result.
- Application temperature: product is functional in temperature range of 10 - 40°C.
- Sealing efficiency of Basilisk ER7 is between 85 – 100 %. Sealing of cracks occurs internally and is usually not visible at the crack surface.
- Understanding the cause of crack formation, early wear, possible reoccurrence and its consequences for functional performance and durability aspects of concrete structures requires inspection by trained specialists. Type, position, amount, and size of cracks must be inspected and established prior to repair in order to ensure proper and functional application of Basilisk ER7.

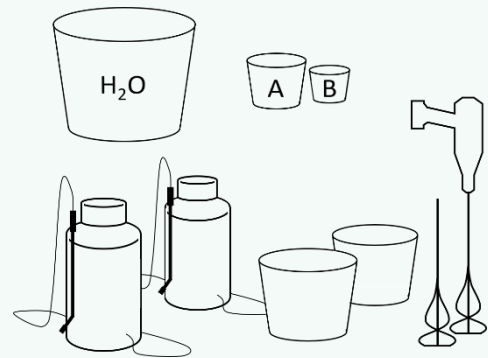
## Application Instructions

Powder mixtures of both components must be dissolved separately in specified quantities directly before application and be applied with pressurized spray units. Please find below a step by step guide on how to correctly mix and apply Basilisk ER7.

Before mixing and/or applying Basilisk ER7 please consult the latest MSDS of Basilisk ER7!

### Requisites

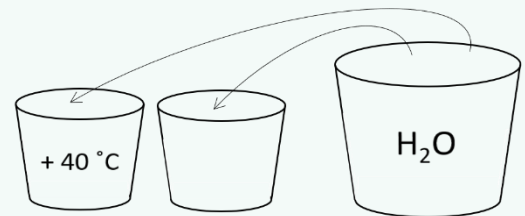
Requisite	Small set	Large set
Mixing container (2x)	2x 10 l	2x 60 l
Pressurized spray unit (2x)	Min. 5 l	Min. 5 l
Mixer		
Mixer (2x)		
Hot water (40 °C) for comp. A	5 l	50 l
Cold / lukewarm water	2.5 l	25 l



### Application steps

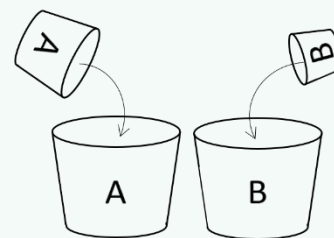
#### Step 1: Preparation

Cracks and pores of concrete surfaces must be clean and dry or slightly damp prior to treatment to allow effective penetration of the liquid repair system.

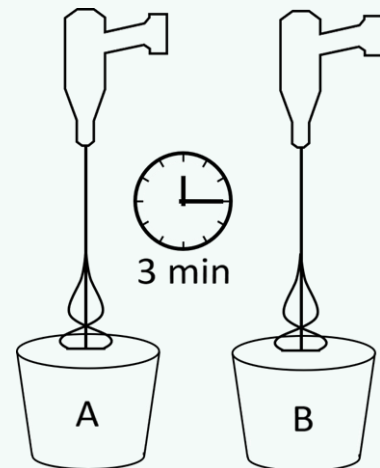


#### Step 2: Mixing

Powder mixtures of both component 'A' and 'B' must be dissolved separately in specified quantities of hot and lukewarm water just before application (pot life = 3h) in separate mixing containers (buckets). When mixing a small set of Basilisk ER7 use 5 liters of water for mixing component 'A' and 2.5 liters of water for component 'B'. When preparing a large set of Basilisk ER7 the volume is ten folded (A = 50 l, B = 25l).



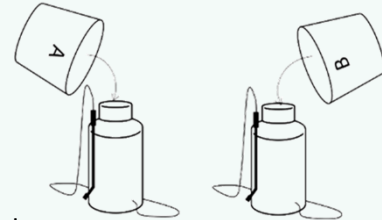
Prepare mixing container for component 'A' by pouring the hot water (min. 40 °C) into its designated container. Add component 'A' (powder) gradually to the water while mixing to prevent formation of lumps. Use a handheld or stabilized mixer and thoroughly mix the solution till the powder is dissolved (approximately 3 min.) The mixing will be sufficient when the solution will no longer appear to be turbid (Note: small brownish particles may remain at the bottom). It is advised to let the mixture rest for a minute before applying a sequential short mix. Component 'A' will consist of a beige milky solution when properly mixed.



Prepare a separate designated container for the mixing of component 'B' following the same procedure as described for component 'A'. Use of lukewarm or cold water will suffice for this component. Use a separate clean mixers for component 'B' to minimize contamination between components. Component 'B' will consist of a clear (like water) solution when properly mixed without any residue.

**Step 3: Preparing handheld pressurized spray units**

Once the components are properly mixed the handheld pressurized spray units can be filled with solution 'A' and be 'B' in separate sprayers. It is advised to always use one designated spray unit for one specific component.



**Step 4: Application of ER7**

Cracks and pores of to be treated concrete surfaces must be clean and slightly damp before treatment to allow effective penetration of ER7.

Application method 1: Crack repair

A first layer of solution 'A' should be directly sprayed onto the crack with a direct jet spray. A second layer should be applied once the first layer has penetrated the crack, normally this takes about 5 to 60 minutes depending on permeability of the to be treated surface and crack width.

Sequentially, within 5 minutes of the last application of solution 'A', solution 'B' should be applied by spraying directly onto the crack with a vaporized spray (wet on wet). Application of solution 'B' results in formation of a firm gel, covering and sealing cracks and pores, as soon as brought into contact with component 'A'.

Application method 2: Surface densification

Apply first and second treatment of component 'A' onto the surface the same as for crack repair treatment, but now covering the entire surface with a vaporized spray.

Sequentially, within 5 minutes of the last application of solution 'A', solution 'B' should be applied by spraying directly onto the crack with a vaporized spray (wet on wet).

Used spray units must be emptied and thoroughly rinsed with lukewarm water directly after use to allow re-use of sprayers. For handling of any surplus material please see the latest MSDS and PDS of the ER7 Liquid Repair System.

Application volume

Application	Volume Basilisk ER7 (Component A + B)
Crack treatment	0.25 – 0.3 l/m <sup>1</sup>
Surface treatment	0.45 – 0.75 l/m <sup>2</sup>
* The ratio of component 'A' to 'B' is 2:1 (same ratio as each set is supplied)	

**Step 5: Cleaning of surface**

The gel that is formed after the application of solution 'B' can be removed after a minimum of 24 hours. The gel can be removed by using excessive water and a wiper (do not scrub). Only clean the surface, not the inside of the crack. Preferably only use water to clean the surface. In any case make sure not to use anti-bacterial products.

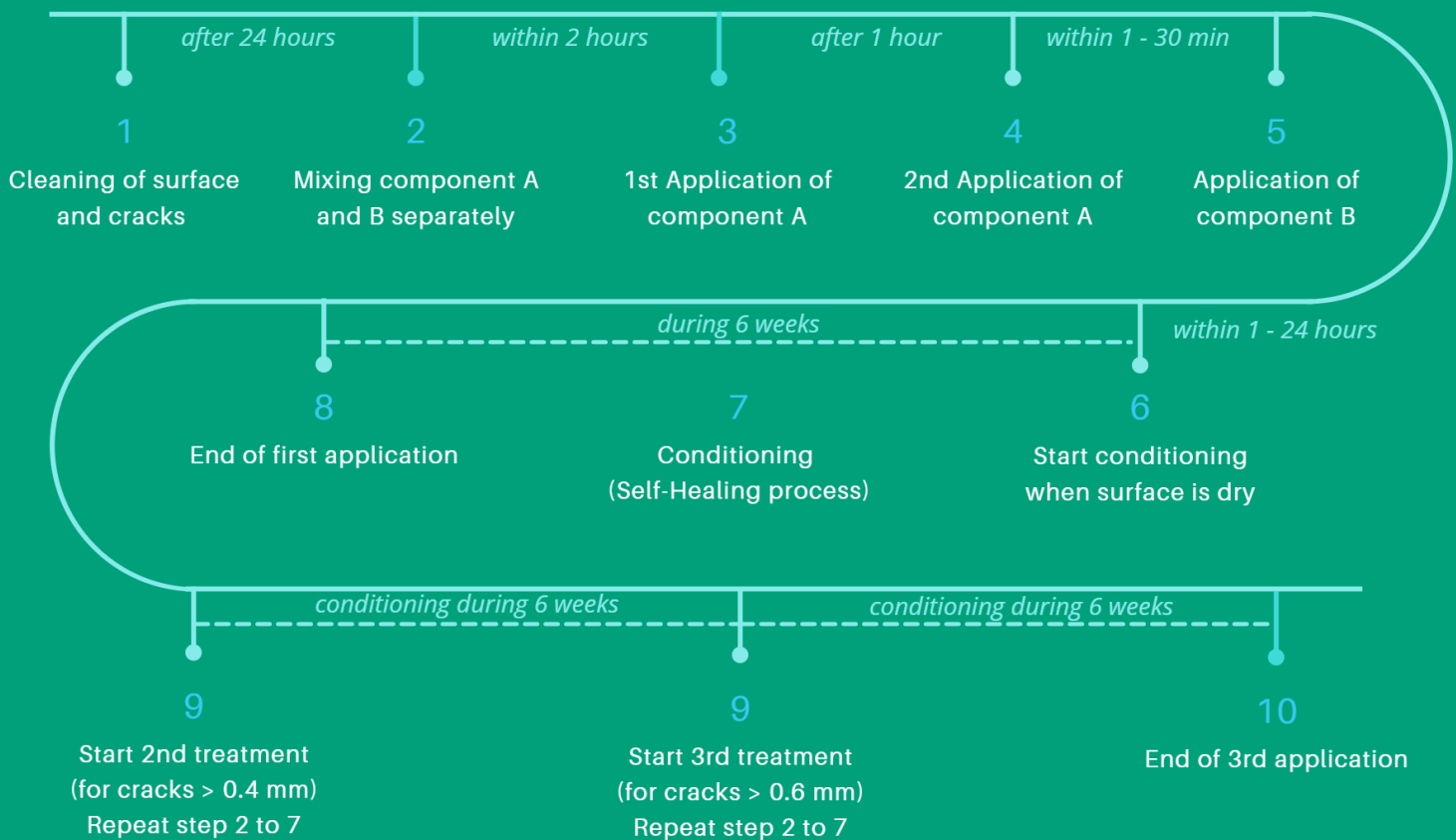
Surplus gel formation on top of the surface can cause for slipperiness.

### Step 6: Conditioning

In the period of 6 weeks after application the product will seal the crack or surface autonomously. During this entire period moisture must be available to prevent the cracks/ pores from drying out. If moisture is not naturally available it must be provided actively. Additionally, evaporation of moisture should be limited by using coverage or curing.

## TIMELINE

### Application Basilisk ER7



### Amount of treatments

Depending on the crack width multiple applications might be necessary. Each additional treatment may be started after the conditioning (6 week period) of previous treatment.

Amount of treatments	Healing capacity (range of crack width)
1	Up to 0.4 mm
2	Up to 0.6 mm
3	Up to 0.8 mm

## Product characteristics

- Description: powder mixtures components 'A' and 'B'.
- Penetration depth solution 'A': Class II  $\geq 10$  mm water absorption.
- Low viscosity, colourless liquid solution, organic solvent-free.
- Viscosity solution 'A': 1,1 mPa.s .
- Viscosity solution 'B': 1,1 mPa.s .
- Viscosity after mixing solutions 'A' and 'B': increasing to ca. 1000 mPa.s .
- Solid powder content after dissolution: 0- 2 %.
- Odour: mild yeast extract.
- Volume - weight ratio (kg/l) : 1,1.
- Boiling point solutions 'A' and 'B': 100 °C.
- Freezing point solutions 'A' and 'B': 0 °C.
- Flashpoint: non-flammable.
- Reaction time: ca. 6 weeks (at 20°C in situ temperature, lower temperatures will extend reaction time).
- Application temperature: product is functional in temperature range of 10 - 40°C.
- During reaction time sufficient moisture must be available to prevent the cracks/ pores from drying out. If moisture is not naturally available it must be provided actively and/or evaporation of moisture should be limited by using coverage or curing.

## Packaging

Available in 2-component sealed containers:

- Small set: 1.4 kg = 7.5 l  
Powder mixture component 'A': 0.9 kg and powder mixture component 'B': 0.5 kg for respectively 5 l and 2.5 l solutions.
- Large set: 13.9 kg = 75 l  
Powder mixture component 'A': 8.9 kg and powder mixture component 'B': 5 kg for respectively 50 l and 25 l solutions.

## Storage conditions

Powders are protected against moisture in sealed containers.

Containers holding mixed powders of both component 'A' and 'B': between 0°C and + 40°C.

Shelf life: 18 months (in sealed container).

Full content of container must be used at once when container has been opened.

## Waste disposal

Excess and left over aliquots of both component 'A' and 'B' solutions can be mixed (beware of gel formation) prior to discarding. Waste must be labelled as 'alkaline- organic salt-containing, organic solvent-free, water based solution' and discarded according to national waste treatment regulations.

## Health and environmental aspects

See Material Safety Data Sheet.