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Circularity

Many governments encourage contractors to make their process more sustainable. To reduce the consumption of raw materials, their policy is aimed at promoting the circularity of building materials. We often get the question: what is Green-Basilisk's contribution to circularity in the construction sector.
In this fact sheet, we explain how we bring sustainability to a higher level (see Figure 1, Basilisk contribution in the circular construction).

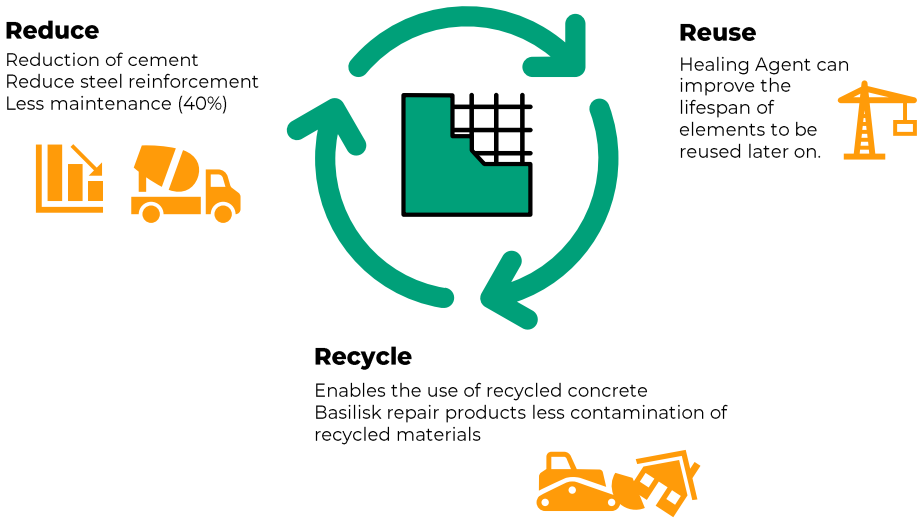

Figure 1, Basilisk contribution in the circular construction

Reduce

If it takes longer, you don't have to replace it! This sounds simple but very true. Basilisk Self-Healing concrete extends the lifespan of concrete by 30-40%. It will result in less cement usage as a construction can be used longer time.

Moreover, the maintenance actions will decrease by 40%. Although it requires no action at all, it will greatly improve performance on the sustainability index.

Concrete with Healing Agent in it can reduce the reinforcement needed to prevent shrinkage cracks.

Re-use

When using Healing Agent, the elements of a construction have a longer lifespan and can be reused.

To keep existing structures/elements in good condition, maintenance is a must. The repair products from Basilisk (ER7 and MR3) are specially designed for a robust and sustainable construction.

Recycle

Apart from buildings that have become a monument (such as the Sagrada Familia in Barcelona, which is likely to remain forever), most of the buildings had to be replaced. In most situations it is not possible to reuse the concrete elements. Demolishing the concrete is the last option. However, after crushing the concrete, it can be used to make new concrete. Basilisk Healing Agent adds extra value to the process;

- Avoid cracks
  Due to the crushing of concrete, the end product contains hydrated cement particles in addition to gravel, small concrete parts and a lot of dust. Besides that the end product also contains non-hydrated cement particles. These particles were completely packed in the dry centre of the concrete element and by crushing this cement particle will be available in the recycled concrete mix. This is not a problem, accept that due to this phenomenon the exact amount of cement in the recycled concrete mixture is unknown. We know one thing for sure; a concrete technologist will never take the risk of using less cement (due to the need for a minimum compressive strength of the concrete). The result is that there is a high risk of overdosing cement in recycled concrete. This overdose can lead to unexpected cracks. Adding 4-5 kg of Healing Agent to the recycled concrete mixture can solve this problem.
- Demolition of concrete
  Demolition of concrete is an intensive process that takes a lot of energy and time. A major problem is the (steel) reinforcement in the concrete. The more steel, the more effort you have to put into the process. Concrete with Healing Agent in it can reduce the reinforcement needed to prevent shrinkage cracks. Less steel makes concrete easier to crush.

Figure 2, Demolition of concrete

In addition, concrete with healing agent has also no additional technical need for protection by a coating (most concrete structures must be protected by coatings, e.g. for resisting carbonation or chloride penetration). No coating means increased recyclability as risk of contamination by coating compounds in the crushed concrete can be avoided.

The repair products from Basilisk (ER7 and MR3) do not contain synthetic compounds such as epoxy or polyurethane. So if eventually the repaired concrete has to be demolished, the repair material can be added to the recycled concrete without the risk of contamination.