

# RE-CON LINE

Recirculation of concrete production



# RE-CON LINE VALUE

## RECLAIM

Saves costs through cost-effective handling of returned concrete, creating a valuable material that can replace virgin aggregates and be used for further cleaning of concrete trucks.

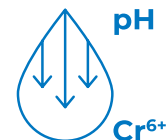
MAPEI product:  
*Re-Con Zero Evo US*



## CLEAN

Saves costs by reducing the expenses of handling truck-washing slurry waste and water treatment.

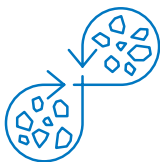
MAPEI method:  
*Re-Con dry washing*



## RECYCLE

Saves costs by reducing cement consumption and the need for high-quality, virgin, raw materials.

MAPEI product:  
*Re-Con AGG 100*



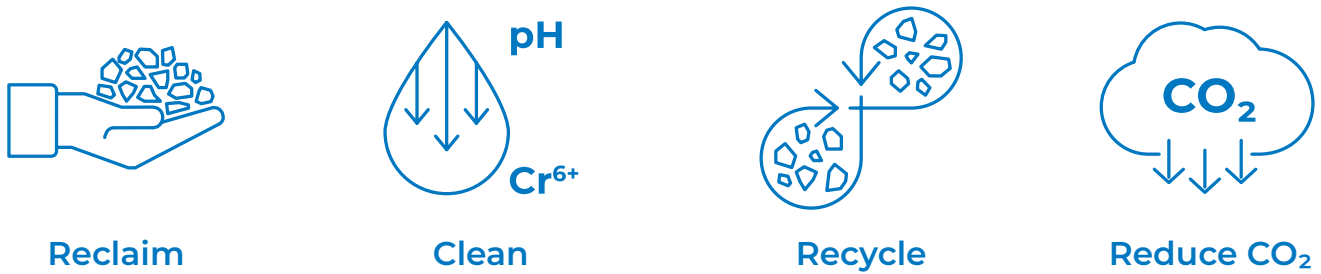
## REDUCE CO<sub>2</sub>

Lower GWP per m<sup>3</sup> of concrete using aggregates produced by *Re-Con Zero Evo US* and *Re-Con dry washing*.

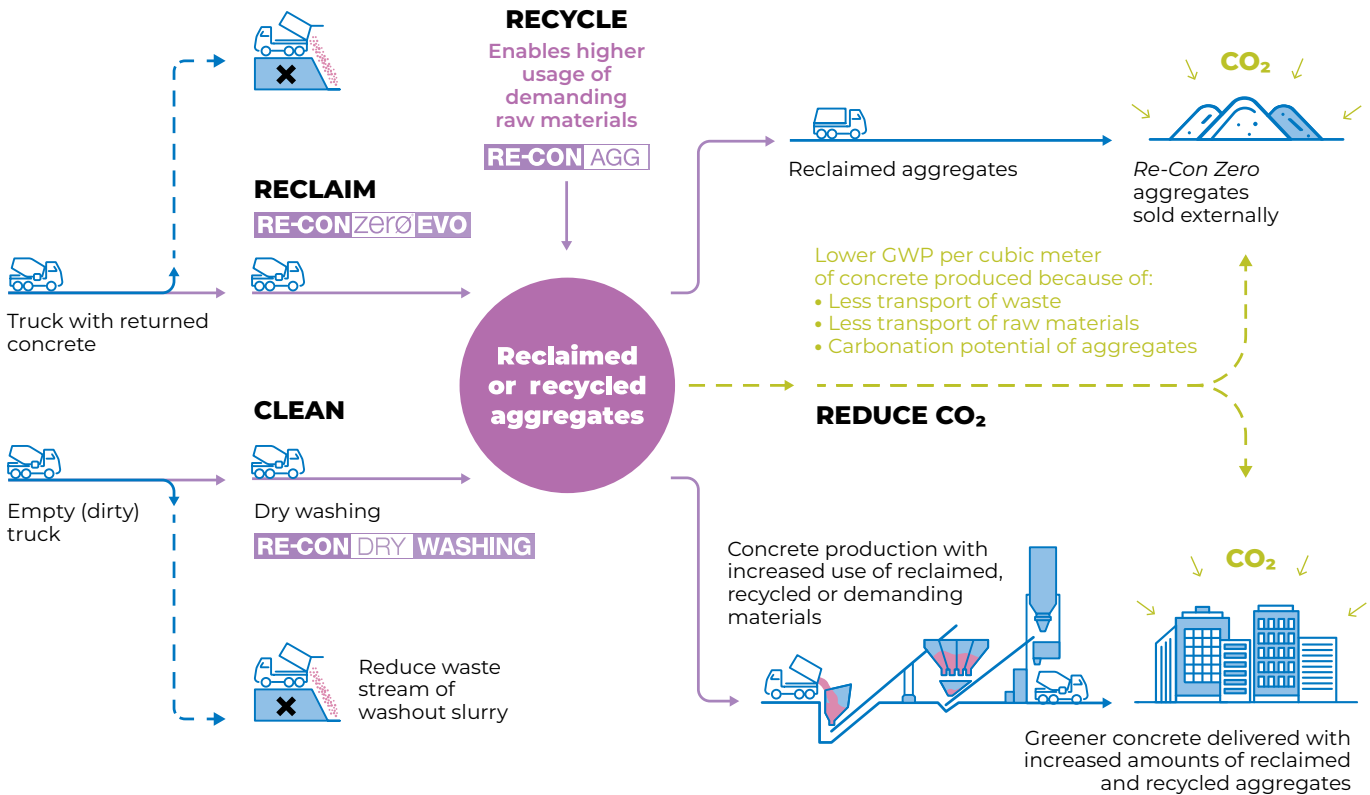


## Moving toward the future

MAPEI's *Re-Con* line helps concrete producers to move toward a more circular and effective production model by offering cost-effective and sustainable solutions. Under the four key concepts of Reclaim, Clean, Recycle and Reduce CO<sub>2</sub>, substantial savings in waste-handling costs can be made by transforming returned concrete and truck-washing slurry into valuable material. The *Re-Con* line also offers products that enhance circularity of material flows by reducing the need for high-cost, virgin, raw materials... mitigating the problems of using recycled concrete, manufactured sand or clay-contaminated sand in new concrete.



## Sustainable concrete production from linear to circular material flows



## Re-Con Dry Washing

### Reducing truck-washing slurry and water-treatment pollution

This dry method is an innovative way to reduce truck-washing slurry by up to 70% and does not require a reclaiming system with filter presses or other costly and complex process equipment.

#### Reduces hazardous waste and lowers water consumption



Pictured: A simple feed-hopper and conveyor solution to feed dry washing aggregates into a dirty truck



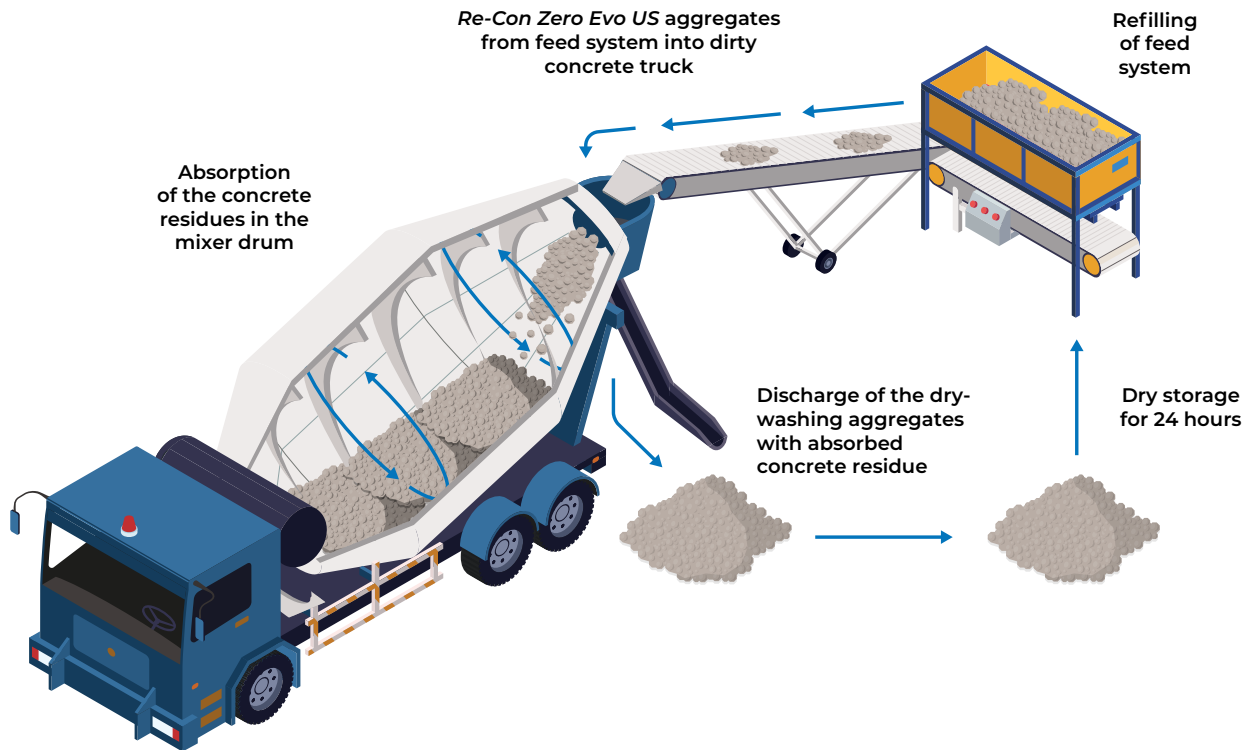
Pictured: The end result of the *Re-Con* dry-washing process, producing recycleable aggregates with increased carbonation potential by absorption and hardening of the cementitious waste from concrete truck washing.

- Greatly reduces slurry waste with high pH and potential high content of Cr VI
- Increases the potential for higher ratios of recycled process water in concrete



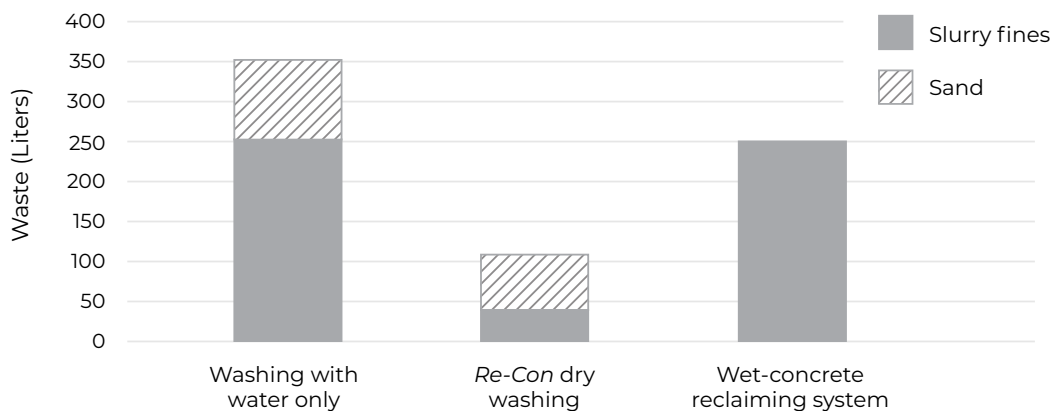
Removes 70% of the problems related to washout of trucks, without the use of wet reclaimer equipment, resulting in lower disposal and transport costs

## Method to reduce truck-washing slurry



## 70% less cementitious waste in every truck washout

Re-Con dry washing utilizes the absorption capability of the Re-Con Zero Evo US aggregates to clean trucks of cementitious waste that is otherwise washed out. Using the Re-Con dry-washing process followed by a light wash with water will greatly reduce the truck washout solids that lead to a high pH and increased pollution risk of heavy metals such as hexavalent chromium. With Re-Con dry washing, the root cause of truck washout pollution is removed by transforming waste into aggregates in a repeatable process.



## Re-Con Zero Evo US

### Transforms returned concrete into reclaimed aggregates

This 2-component system consists of a superabsorbent polymer and a hardener. It transforms fresh returned concrete into a granular material by chemically binding the free water (Part A) and by stabilizing and accelerating the process (Part B).

#### Reducing the environmental impact of concrete production



- Transforming waste stream to resource material
- Increasing material circularity



Pictured at left: Reclaimed aggregates produced without crushing

## Re-Con AGG 100

### Contributes to higher dosages of recycled aggregates or other demanding raw materials

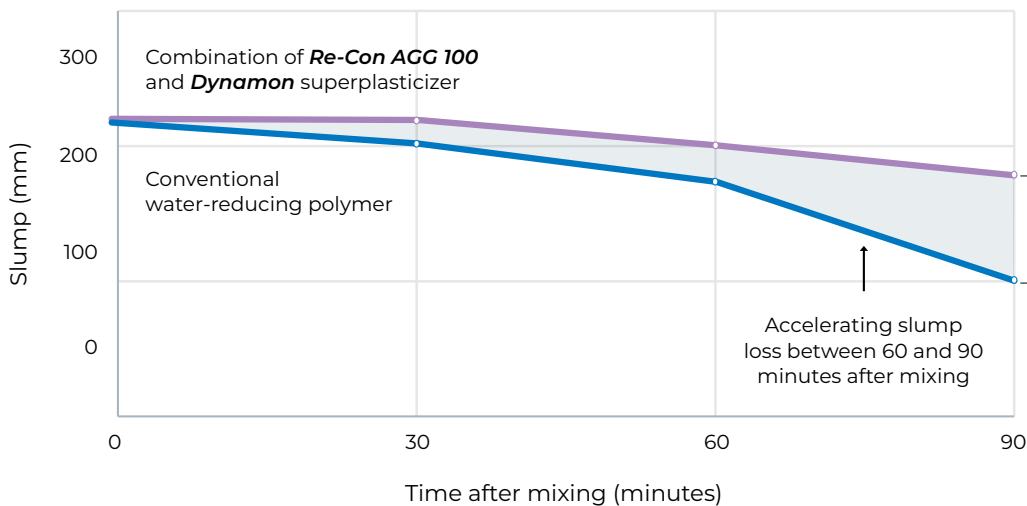
Re-Con AGG 100 has proven to be very effective in combination with superplasticizers in the *Dynamon* line, to retain the workability of concrete when using demanding sand or coarse aggregates without reducing the compressive strength at 24 hours or later. The workability retention effect of *Re-Con AGG 100* has been proven in a number of different applications.



- Manufactured sand
- Clay-bearing sand
- Recycled concrete aggregates
- Supplementary cementitious materials

### Typical slump development over time with and without *Re-Con AGG 100*

TYPICAL SLUMP DEVELOPMENT OVER TIME  
WHEN USING DEMANDING RAW MATERIALS



The slump retention offered by usage of *Re-Con AGG 100* with a *Dynamon* superplasticizer increases the potential for saving water and cement in mix designs that typically demand high amounts of raw materials.

The combination of *Re-Con AGG 100* and *Dynamon* superplasticizer helps concrete producers to use higher amounts of sustainable raw materials... without having to compromise on concrete workability or cost due to increased cement usage.



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