

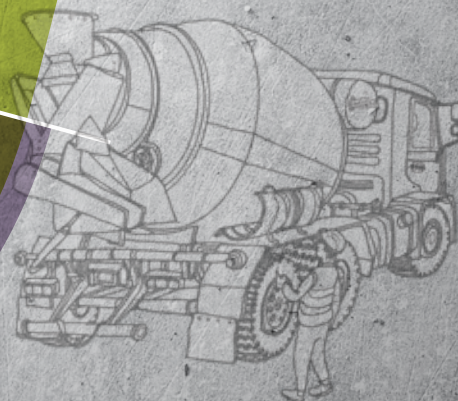
RE-CONLINE

SOLUTIONS FOR
SUSTAINABLE CONCRETE

RE-CON AGG 100

RE-CON AGG 200

RE-CONzero EVO



MAPEI

ADHESIVES • SEALANTS • CHEMICAL PRODUCTS FOR BUILDING

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SUSTAINABLE CONCRETE IS THE QUESTION...

RE-CON LINE MAPEI ADMIXTURES ARE THE ANSWER.

The use of sustainable, durable materials is becoming an increasingly real need, since consumption of the natural resources available must be reduced.

Over the years, the level of attention the building sector has been paying to the issue of environmental sustainability has progressively increased. With this in mind, the level of interest has also grown in sustainable building protocols, such as **LEED**, **BREEAM**, **ITACA** and various other protocols, which use Environmental Product Declarations (**EPD**) as part of the criteria when awarding certification.

An **EPD** is based on **LCA** methodology (Life Cycle Assessment), which measures the level of impact a product has on the environment, from extraction of the raw materials used to make the product up to the final disposal/recovery of the product. Environmental product declarations represent the measurements made with the **LCA** method. These documents are certified by third-party organisations according to international standards (ISO 14025), they are the maximum expression of transparency of the company that issues and uses them.

Apart from the aforementioned voluntary rating systems, since 2017 Italy has issued the **CAM** (Criteri Ambientali Minimi, or Minimum Environmental Criteria) in the building sector, which are a legal obligation for all those companies taking part in public tenders, as well as being the national implementation instrument of the GPP (Green Public Procurement) process. For the building sector, **CAM** were made mandatory with the introduction of the new Public Tender Code and take into consideration all interventions involving new constructions and renovation work or maintenance work on buildings by adopting the life-cycle approach in order to reduce their impact on the environment.

The **CAM** applied to the building industry have specific prescriptions that defines the characteristics of concrete in paragraph 2.4.2.1 "Site-mixed concrete and ready-mixed concrete".

Limits have been set for these types of concrete which specify the minimum amount of recycled materials 5% by weight that must be present in the finished product.

To show that this particular criteria has been met, a manufacturer must supply a type III environmental declaration (e.g. EPD) or an environmental declaration compliant with ISO 14021 standards verified by a third-party organisation with the goods supplied.

In the case of concrete, recycled material regards mainly recycled aggregates from demolished buildings and aggregates from excavated material, but also from recovered waste concrete generated during the actual production process.

Mapei admixtures allow a high proportion of recycled materials to be used within the ecodesign of concrete; Mapei is also able to supply an EPD for their admixtures as further proof of the company's transparency and high level of commitment to safeguarding the environment.

MAPEI has the answer

Recycled materials are obtained by processing inorganic materials previously used in construction work. For this reason, their physical and performance characteristics are often inconsistent over time and they may have an influence on the performance characteristics of concrete.

Often, the use of recycled aggregates means considerably higher water demand for the further mix, due to it being more porous, and because of the higher amount of fines contained in the aggregates workability retention is negatively affected and concrete strength is reduced.

The presence of recycled aggregates in a concrete mix must be taken into consideration when designing the mix and it is important, therefore, to adopt the most innovative solutions in order to achieve the best results.

To meet the needs of concrete manufacturers who encounter problems associated with the use of fine aggregates on an increasingly regular basis (recycled materials or aggregates containing clay), Mapei has developed the **RE-CON** line, a series of products specifically developed to mitigate the negative effects of using recycled materials.

The current **RE-CON line** includes the following:

RE-CON AGG 100

This absorption-inhibiting liquid admixture, if used in combination with a super-plasticising admixture from the **DYNAMON** line, allows for better control of the increased amount of water required when using recycled aggregates and/or aggregates containing clay, bringing therefore the water/cement ratio back within the design limits.

RE-CON AGG 200

Super-plasticising and absorption-inhibiting admixture. Thanks to its combined action of reducing the amount of water required and controlling the absorption rate, when using recycled aggregates and/or aggregates containing clay, it brings the water/cement ratio back within the design limits.

RE-CON zero EVO

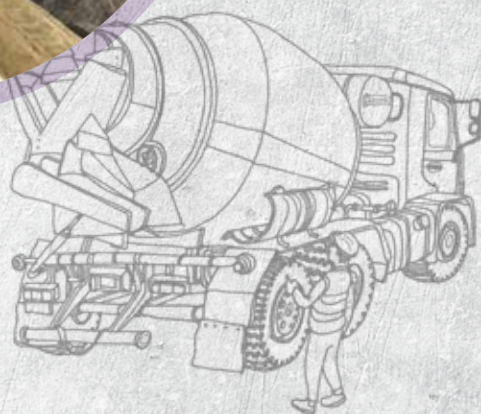
Two-component powdered product to recover returned concrete. This system allows fresh concrete returned from site, which would normally have to be scrapped, to be transformed into new material that can be used again without producing waste. The new aggregate may then be used to partially replace normal aggregate or as material to form road beds or subgrade.



RE-CON AGG 100
RE-CON AGG 200

FOR MIXING
CONCRETE MADE
FROM AGGREGATES
CONTAINING CLAY
OR RECYCLED
AGGREGATES FROM
DEMOLITION WORK

FOR THE COMPLETE
RECOVERY OF RETURNED
CONCRETE IN TRUCK
MIXERS



EVERYTHING'S OK WITH MAPEI

HEADQUARTERS

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