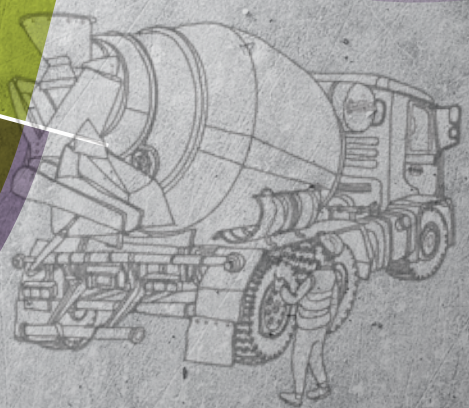
RE-CON LINE

SOLUTIONS FOR
SUSTAINABLE CONCRETE

RE-CON AGG 100
RE-CON AGG 200

RE-CON zerø EVO



www.mapei.com

MAPEI®

ADHESIVES · SEALANTS · CHEMICAL PRODUCTS FOR BUILDING

RE-CON LINE

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 last few years, all those operating in the concrete sector have become increasingly sensitive to the theme of "sustainable building", whereby a great deal of attention is paid to the life cycle of a "from cradle to grave" structure. This approach is known as **Life Cycle Analysis (LCA)** and adopts analysis processes, such as **LEED**, Itaca or similar, so that a structure, material or type of concrete may be certified on a voluntary basis as sustainable.

In the Public Works sector this type of approach is now becoming mandatory through the implementation of a standardised system, which starts from **Public Tender Guidelines** and the application of a **Green Public Procurement** policy, to arrive at the definition of a tool to adopt this approach: **CAM** (Minimum Environmental Criteria). In the building industry, **CAM** were introduced with an Italian Ministerial Decree on the 11th of January 2017, allowing bidders to reduce the impact new builds, renovation work and maintenance work have on the environment, by viewing them through the "life cycle" approach.

The main objective is to reduce the impact a structure or building has on the environment, from the design phase right up to the actual construction phase, by providing all the stakeholders in the building process with guidelines to help potential bidders monitor the work, and by giving clear indications of the environmental characteristics required by those issuing tenders.

The **CAM** applied to the building industry, which have now become mandatory and are no longer voluntary, indicate the minimum criteria in order to certify a building or product and verify whether it may be defined as sustainable.
They also establish other criteria so that a building or material that achieves a sustainability rating higher than the minimum required receives extra credits.

The **CAM** applied to the building industry have specific prescriptions in paragraph 2.4.2, "specific criteria to building components", and defines the characteristics of concrete in paragraph 2.4.2.1 "Site-mixed concrete and ready-mixed concrete".

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

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 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 more water is required for the mix and it is difficult to maintain workability of the concrete due to it being more porous, and because of the higher amount of fines contained in the aggregates.

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

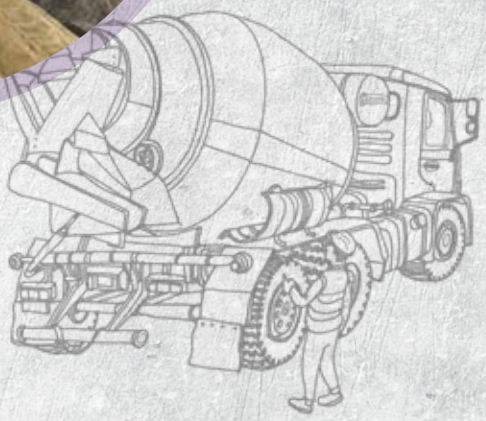
Super-plasticising and absorption-inhibiting admixture. Thanks to its combined action of reducing the amount of water required and controlling the absorption rate, when using recycled aggregates and/or aggregates containing clay, it brings the water/cement ratio back within the design limits.

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.

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

FOR THE **COMPLETE RECOVERY OF RETURNED** CONCRETE IN TRUCK MIXERS



C.P. MK 664230 (GB) 12/18

HEADQUARTERS
MAPEI SpA
Via Cafiero, 22 - 20158 Milan
Tel. +39-02-37673.1
Fax +39-02-37673.214
Internet: www.mapei.com
E-mail: mapei@mapei.it