

# eQUALITY CONTROL

THE EVOLUTION IN CONCRETE SPECIMENS' CONTROL

SMART TRACEABILITY,  
GUARANTEEING TRANSPARENCY  
IN THE PRODUCTION PROCESS

The **QUALITY CONTROL** system, patented in 2008, brings automation into the process of controlling the concrete specimens, simplifying its logistics and management. The system, which makes use of state of the art RFID technology, introduces many advantages: for the **Ready Mixed Concrete Manufacturer** who wants to manage the specimens quickly and properly, with the elimination of printed material for the internal control on production; for the **Technical Project Manager** or Main Contractor who needs to unambiguously identify the authenticity of the specimens during the acceptance tests; for the **Official Laboratory**, who needs quick and effective management of the specimens entrusted to it; for the **Technological Laboratory**, in order to feed the data base for the generation and optimization of mix designs.



**PATENTED SYSTEM**



**MAIN CHARACTERISTICS** The **QUALITY CONTROL** system is composed of a software application module with SERVER functions for data storage and management, and a CLIENT module for the collection of the specimens and data management in the field, plus a series of hardware components such as reading terminals, data printing equipment, sensors etc. For marking of concrete specimens, the system uses RFID technology TAGs of two types:

- ♦ UHF technology TAGs that can be reused up to 10,000 times, normally placed on any external side of the specimen;
- ♦ LF technology TAGs, disposable, for unambiguous marking of the specimen, to be placed inside the concrete specimen.

For applications in small operating structures, the SERVER software module can also act as CLIENT.

- ♦ **QUALITY CONTROL** is different, depending on various scenarios.
- ♦ **QUALITY CONTROL** used by the Ready Mixed Concrete Manufacturer for the internal control on production,
- ♦ **QUALITY CONTROL** used by the Technical Project Manager or Main Contractor.

**CONTROL OF THE SPECIMENS CYCLE** The proposed control method responds to the needs of the Ready Mixed Concrete Manufacturer, both for direct verification and through the Official Laboratory in charge of the testing of specimens. This control involves the application of a reusable UHF TAG on the concrete specimen, in order to uniquely link the specimen with the specific sampling.

**QUALITY CONTROL** SERVER database, or when the specimen information is entered in the CLIENT for the first time, automatically generates the deadlines for the testing, associating also the number of specimens for each test. These dates are displayed in the SERVER application in a specific calendar section. The deadlines can also be exported to calendars such as **MICROSOFT OUTLOOK**®, generating a series of appointments in the user's calendar.

At the beginning of the testing, the specimen is identified either through the common external paper label or through reading of the TAG with the appropriate UHF antenna.

After reading of the TAG, **QUALITY CONTROL** shows all the information associated to the specimen, or only a subset of them, according to the access rights granted to the operator. During the crushing of the specimen, the operator will have to enter the weight of the specimen and the measured characteristic resistance through a specific form in the **QUALITY CONTROL** software.

**QUALITY CONTROL** is a **CONSISTECH** patent, developed and distributed by **Eletttrondata**.

