WHAT IS SMART CONCRETE™ ?

Measuring and monitoring the in-place strength of concrete is a critical step for construction operations such as formwork removal and post-tensioning. The current methods such as breaking field-cured specimens are not efficient as they offer delayed information which could have significant financial implications.
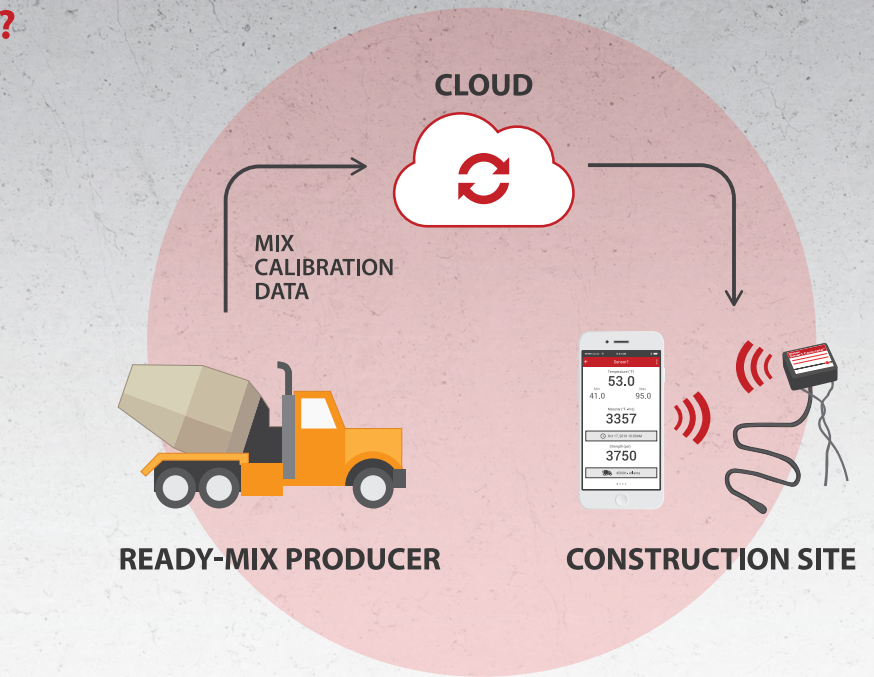
Smart Concrete™ is a new value-added solution that is designed to address these challenges by offering real-time concrete strength results on the job-site. This is made possible through a combination of wireless smart sensors and the Smart Concrete™ mobile app. Contractors benefit from Smart Concrete™ through:

- Access to Real-Time Strength Results
- Better Control on Project Scheduling
- Mobile-Based Wireless Connectivity
- Early Project Completion Time
- Reduced Labor Cost and Break Tests

CLOUD

MIX CALIBRATION DATA

READY-MIX PRODUCER   **CONSTRUCTION SITE**

REAL-TIME STRENGTH

Smart Concrete™ uses the well established method of concrete maturity based on the ASTM C1074 standard practice in order to measure the in-place strength of concrete. This method, which is adopted by ACI as well as many DOTs in the US, uses pre-calibrated information to correlate the temperature history of concrete to its compressive strength.

Through the Smart Concrete™ solution, contractors only need to install smart sensors within the formwork, and use the Smart Concrete™ app to select the Smart™ mix used with that sensor. The mobile app then analyzes the data obtained from the wireless sensor to show concrete strength, instantly.

Sensor1

Temperature (°F)
53.0
Min. 41.0   Max. 95.0

Maturity (°F - hrs)
3357

Oct 17, 2016 10:00AM

Strength (psi)
3750

4500H - Atlanta

HOW TO USE
SMART CONCRETE™ SENSORS

❶ Install Sensor¹

❷ Place Concrete

❸ Read Sensor

📋 PROJECT COLLABORATION AND REPORTING

The Smart Concrete™ mobile app has many advanced features to help contractors save time. In addition to access to temperature and strength history of concrete, the Smart Concrete™ app generates full PDF reports on the sensor results including graphs, summaries, and pictures that are ready for print and submission. Projects can also be shared with other collaborators through the cloud so that all the team members have access to the latest updates on the results from the sensors.

FEATURES

📶 Wireless Technology

💧 Rugged and waterproof design

🕐 Real-time temperature/strength display

➤ Easy data sharing and reporting

▯ Free Android and iOS apps

⚓ Easy activation by tying the wires

🎖 Based on ASTM C1074 Standard

TECHNICAL SPECIFICATIONS²

Reading Range	–22 to +176 °F (-30 ~ 80 °C)
Accuracy	± 1.8 °F (± 1 °C)
Measurement Frequency	Once every 30mins for 1 month
Wireless Signal Range¹	20-26 feet (6-8 meters)
Dimensions	1.5 x 1.5 x 0.5 inches (38 x 38 x 12 mm)
Temperature Cable Length	16 inches (40cm) or 10 feet (3 meters)
Battery Life	Up to 4 months after installation

¹Sensors should be installed within 2 inches (5cm) from the surface of concrete
²Subject to change

POWERED BY GIATEC