SmartRock™

GIATEC

Wireless Temperature and Strength Sensor for Concrete

SmartRock™ is a rugged, mobile-based wireless sensor that is fully embedded in fresh concrete to monitor its in-place temperature and strength during construction.

How to use SmartRock™ in 3 Easy Steps

1. Install Sensor[1]
2. Pour Concrete
3. Obtain Sensor Data

Overview

SmartRock is the most widely used wireless concrete sensor in the world, helping construction companies build structures faster, safely, and more efficiently. These user-friendly sensors are easily installed in the concrete formwork (on the rebar) before pouring to monitor in-situ temperature and maturity according to ASTM C1074. The wire-free logger continuously records the measured temperature of any concrete pour in real-time. These results are then downloaded and analyzed automatically onsite (to determine the in-place concrete strength) using the free SmartRock app (available for both Android/iOS mobile devices).

Applications

- Formwork removal timing
- Post-tensioning
- Optimizing curing conditions
- Saw cutting
- Controlling quality in the field
- Monitoring temperature gradients in mass concrete
- Opening roads to traffic

"The SmartRock has been a good investment in that it's extremely user friendly, convenient, and saves us time. I especially love that it's wireless because now we don't have to go looking under blankets to find sensors or worry about making a physical connection. This alone saves us an hour every time we record temperature."

Allan Hayes
Construction Quality Manager at Regional Rail Partners

Features

Hardware

- Wire-free and wireless technology
- Rugged and waterproof design
- Easy installation and activation by tying the wires together
- Extended temperature sensor cable for mass concrete
- Long battery life
- Patents pending

Software

- Real-time data display (e.g. temperature, strength, max-min values, and graphs)
- Maturity calibration database
- Free Android and iOS apps for smartphones and tablets
- Project management tools including live data sharing
- Full PDF reporting and CSV data exporting
- Giatec 360 Cloud Dashboard (user/data management, predictive analytics, and more!)
- Integration with project management applications (e.g. Procore)

Technical Specifications

Reading Range	-30 to 80 °C (-22 to +176 °F)
Accuracy	± 1°C
Measurement Frequency	Once every 15 mins (for 2 month of data)
Wireless Signal Range	Up to 8 meters (26 feet)
Dimensions	38 x 38 x 12 mm (1.5 x 1.5 x 0.5 inches)
Temperature Cable Length	40cm (16 inches)/ 3m (10 feet)
Battery Life	Up to 4 months after installation
Data Communication and Analysis	Android and iOS app Giatec 360 Cloud Dashboard
Standards	ASTM C1074 (Approved by ACI 318, CSA A23.1, most of USDOT specifications)

Wire-Free Wireless Technology

Free Android and iOS App

Easy Activation and Installation

Cloud Dashboard

[1] The SmartRock sensor should be installed at a max depth of 5cm (2 in) from the surface. The temperature/maturity sensor can be embedded as deep as 3m (10 ft) in the concrete.

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Giatec Scientific Inc.
245 Menten Place, Suite 300 • Ottawa, ON, Canada, K2H 9E8

+1 (877) 497-6278
www.giatec.ca • info@giatec.ca