



# SmartRock2™ On the Job

DIVCON Inc. Uses SmartRock2 for Accurate Real-Time Monitoring of Concrete Maturity, Strength & Temperature

When DIVCON Inc. underwent the build of a 40,000 square foot elevated post tension podium slab deck, they reached for Giatec Scientific's SmartRock2 concrete monitoring technology. Using wireless real-time reads of the concrete's maturity, strength, and temperatures, the team was able to reduce liability and make fast, accurate decisions to ensure the complete safety and integrity of the concrete they were delivering.

## The Situation

Prior to using SmartRock2, DIVCON Inc., like many other construction companies, was using wired sensors for monitoring the temperature and maturity of poured concrete. For decades, these wired sensors were the only option available and site crews had to work around the many challenges of the physical wires poking out of the concrete; including, easily mis-labelled wires, accidental cutting or damage of the sensors, and reading errors caused by wire cross-over. Working in Washington State with varying ambient temperatures that can affect the maturing of concrete, DIVCON Inc. wanted a better, more accurate way to monitor the strength of the concrete in the field.

DIVCON Inc. site Project Manager, Jeremy Kinney, learned about SmartRock2 through an article in the Concrete Construction magazine and decided to adopt the technology for the build of a 40,000 square foot elevated post tension podium slab deck in a lower retail area below a hotel.

## Getting Started with SmartRock2™

Kinney's team got started with SmartRock2 by tagging 18 wireless sensors and tying them directly onto the rebar throughout the perimeter of the slab's frame. Once the sensors were connected, Kinney and his team used their smartphones' Bluetooth to pick up the sensor reads instantly. "It popped right up on my phone, it was that easy," said Kinney.

### About DIVCON Inc.

Located in Spokane Valley Washington, DIVCON, Inc. is a full-service general contractor. Since 1976, the company's mission has been to deliver professional construction services utilizing innovative solutions in response to customer needs and operations.

[www.divcon-inc.com](http://www.divcon-inc.com)

Kinney worked with Giatec's support team to ensure mix calibrations were inputted correctly the first time around, and now has concrete maturity curves he can reuse going forward. "Now we have a few mix designs that we always use on post tension and tilt-up walls so that we can monitor their maturity curves to allow us to use this for real-time strength monitoring going forward," said Kinney.

## The Results

Using SmartRock2, DIVCON Inc. realized several benefits for not only ensuring quality, but also increasing project efficiencies.

Using SmartRock2, DIVCON Inc. was able to:

- Enable real-time collaboration & information sharing
- Monitor concrete maturity from anywhere
- Ensure the safety of the concrete structure
- Reduce liability & avoid unexpected costs

### Remote Monitoring & Collaboration:

The ability to share data instantly across the site team was a big time-saver for Kinney. "When I was 400+ miles away from the jobsite and not able to be there all the time, I was able to get the Foreman and Superintendent to adopt the technology and share with me remotely for real-time information sharing and decision-making," said Kinney.

### Reduced Liability:

SmartRock2 monitoring offered DIVCON Inc. a layer of validation for showing consistent temperature control, which can reduce liabilities if disputes ever arise. "Using the easy-to-read SmartRock report that is automatically generated, we were able to show that the temperature of the ready-mix concrete never dropped."

### Accurate Reads for Safety & Reduced Costs:

Kinney also noticed a significant variance in the accuracy of break tests. By comparing the test results from the field-cured cylinders taken from the interior versus the readings from the SmartRock2 sensors, Kinney realized that the break-tests were off, which could have resulted in injury or unexpected costs.

DIVCON Inc. had a very successful experience with SmartRock2 and plans to use the sensors for future projects involving post tension concrete and tilt-up walls.

## About Giatec

Giatec Scientific Inc. is a leading provider of advanced concrete testing solutions to the global construction industry. By combining wireless concrete sensors and mobile apps, Giatec's unique smart monitoring solutions provide invaluable real-time information on concrete properties.

Our knowledge-based solutions include laboratory devices, Non-Destructive Testing equipment, and wireless sensors for the accurate assessment of various parameters including concrete electrical resistivity, permeability, rebar corrosion potential and corrosion rate, as well as wireless monitoring of concrete temperature, maturity and humidity.

Contractors, builders, and ready-mix providers in over 70 countries use Giatec's smart monitoring solutions to save time, reduce their labour investment, energy and material costs while measurably increasing the profitability of their building projects.

For more information on SmartRock2™, please visit:

[www.giatecscientific.com/concrete-sensors/smartrock2/](http://www.giatecscientific.com/concrete-sensors/smartrock2/)



Construction workers setting up the formwork for the elevated slab.

"Using the easy-to-read SmartRock report that is automatically generated, we were able to show that the temperature of the ready-mix concrete never dropped."



Construction workers collecting concrete temperature strength data after pouring.

"SmartRock2 offers a much more accurate version of the strength measurement in the concrete," said Kinney.