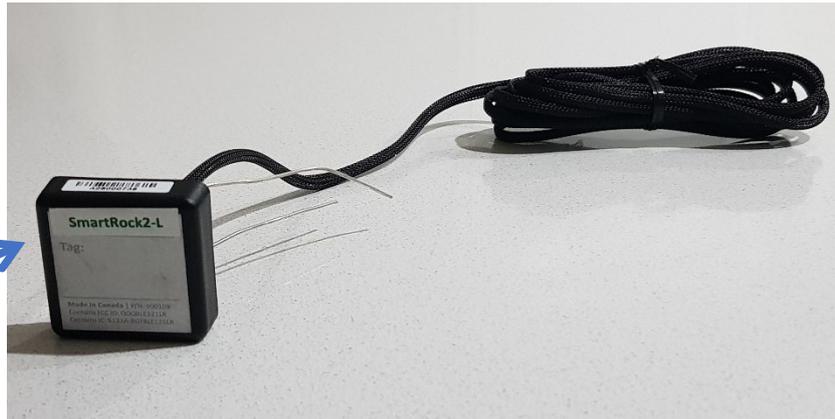


Sensor that attaches to steel reinforcement and transmits real-time information about Concrete Strength and Temperature.



Concreting testing is an everyday occurrence on construction sites, and the methodologies haven't changed for a long period of time. So, when we came across an innovative testing method, we jumped at the chance. The sensor is attached to the steel reinforcement via the two exposed wire (these wires secure the sensor and turn on the sensor). There is a mobile application which you also download and register/ tag the sensor. The long trailing insulated wire is a temperature sensor. Once you pour the concrete you basically can view both the strength and temperature of the concrete in real time. There are many advantages to using the sensor, which include access to real-time information, non-destructive testing, reduced labour costs, reduced testing timeframes or in turn acceleration of the construction program, among many others.

The concrete strength and temperature are estimated based on the ASTM C0174 standard specification (using the maturity method). As we were using this product in Australia (it is a Canadian product) the Concrete Mix being used, and a new calibration was required. Although we utilised one of the standard concrete mixes in the App and completed core testing to compare results. Whilst we trailed this at only a handful of slab replacement projects, the results for the concrete strength were comparable. Admittedly this is not the best method as the strength estimation is made based on a calibrated maturity strength correlation for a specific concrete mixture. Although we believe this was a great product which was fit our needs at the time.

Further Reading

<https://www.giatecscientific.com/products/concrete-sensors/smartrock-maturity-meter/>