



**GIATEC
SCIENTIFIC**

**Smart Concrete
Testing Technologies™**

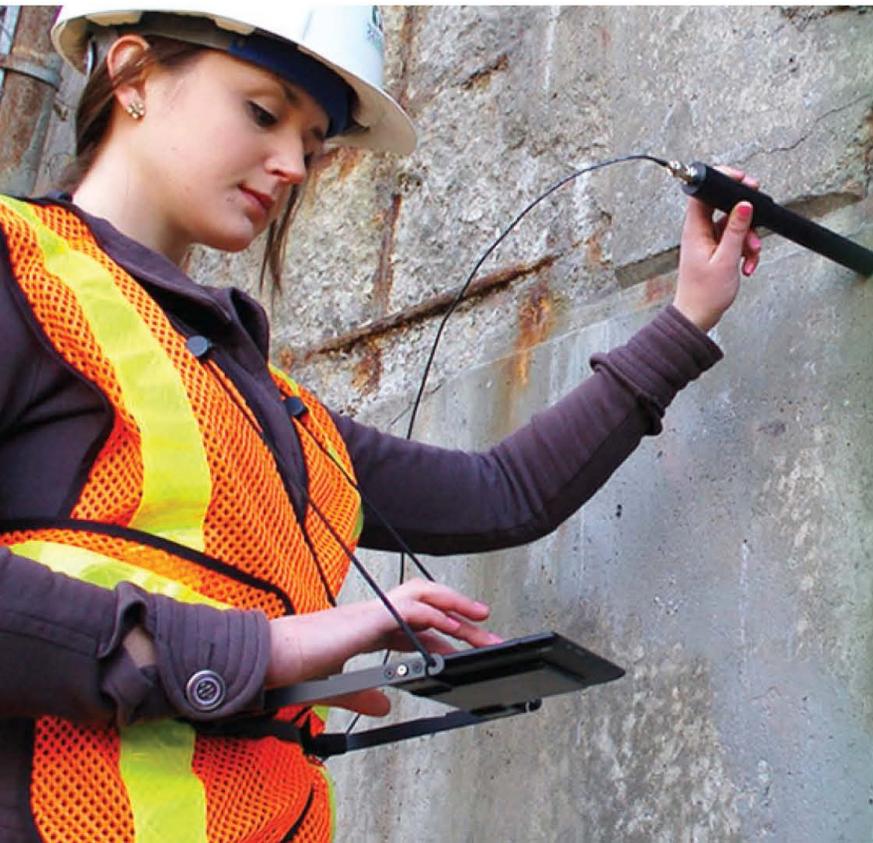
XCell™

Smart Half-Cell Potential Mapping

Giatic offers a novel tool for fast, accurate and efficient detection of corrosion in reinforced concrete structures according to ASTM C876. Giatic XCell™ is an advanced Bluetooth-enabled maintenance-free sensor that measures the corrosion potential and sends it wirelessly to a tablet for generating half-cell contour plots (i.e. corrosion maps) in real time. The results can be shared easily with the engineering office. Giatic XCell™ significantly reduces the labour cost associated with the data collection and subsequent contour plotting and reporting.



XCell™ makes half-cell potential mapping more efficient and accurate while significantly cutting from the labour and maintenance cost.



wireless technology



maintenance-free electrode



rugged tablet system



easy grid generation



fast data assignment to grid points



real-time contour mapping



easy data sharing

iCOR™

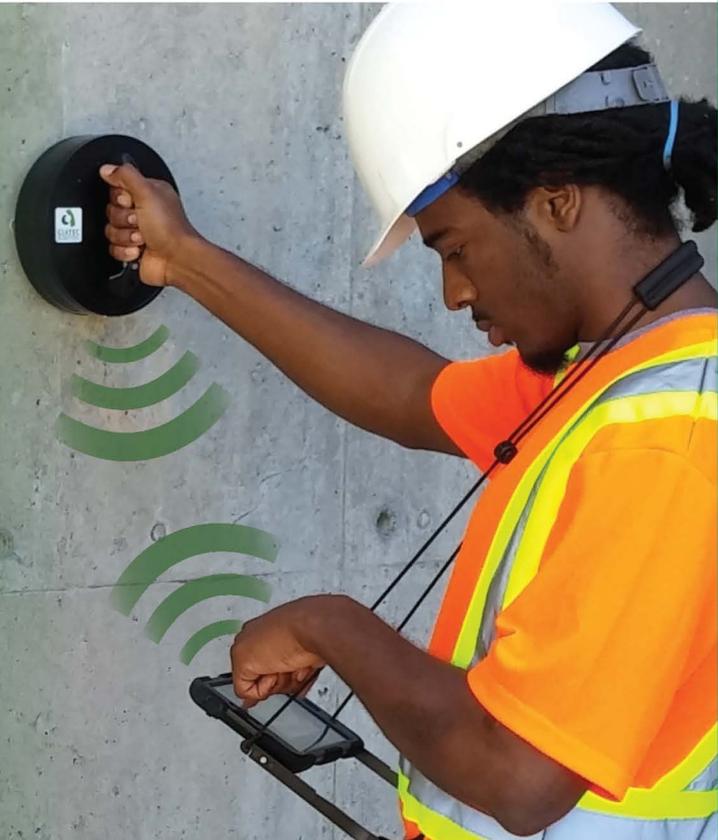
Corrosion Rate Measurement of Reinforced Concrete

Giatec iCOR™ is a novel compact non-destructive device for detailed corrosion evaluation of reinforced concrete structures without the need of having an electrical connection to the rebar. iCOR™ can detect the early signs of corrosion which can help reduce infrastructure repair costs. By obtaining accurate information from iCOR™ on the rebar corrosion in concrete, infrastructure inspectors can accurately evaluate the state of deteriorations. iCOR™ can significantly save time, human resources and cost in the condition assessment of concrete structures.



iCOR™ utilizes a patented technology that makes it possible to detect corrosion without having a connection to rebar.

-  fast measurement (6-20sec)
-  real-time contour mapping
-  connectionless NDT
-  accuracy comparable to lab techniques
-  algorithm-based interpretations
-  detects initial signs of corrosion
- 3in1** measures three parameters all at once



RCON2™

Performance-Based Quality Control of Concrete

Giatic RCON2™ provides a reliable method, based on bulk electrical resistivity measurement, for the quality control of concrete. The electrical resistivity is correlated with durability properties such as permeability and diffusivity. RCON2™ utilizes an advanced variable frequency technique for electrical resistivity measurement. RCON2™ can be used to investigate the micro-structural properties of concrete to assess chloride diffusion, detect crack formation, evaluate setting time of fresh concrete, and study moisture transfer.

-  fast measurement (<5 seconds)
-  AC measurements (1Hz – 30kHz)
-  continuous measurement
-  adjustable sample holder
-  data monitor software
-  phase detection (0-180 degree)
-  stand-alone operation

RCON2™ is the most easy-to-use multifunctional concrete electrical resistivity device.



Laboratory Testing

Perma2™

Rapid Chloride Permeability Test

Giatic Perma2™ is a laboratory test device for measuring the resistance of concrete against chloride penetration. Perma2™ complies with ASTM C1202 (RCPT), AASHTO T277 and ASTM C1760 standards. The measurements can be used to estimate the chloride diffusion coefficient of concrete for service life prediction, durability-based design and quality control of concrete materials and structures.



Perma2™ is an accurate device for testing the permeability of concrete based on ASTM and AASHTO standards.

-  stand-alone operation
-  easy-to-assemble
-  accurate (± 0.1 mA)
-  automatic temperature control
-  data monitor software
-  Electrical Safety Certification

Surf™

Surface Electrical Resistivity



Surf™ is a versatile device for easy and accurate testing of concrete surface electrical resistivity.

Giatic Surf™ is a laboratory test device for rapid, easy and accurate measurements of the surface electrical resistivity of concrete, based on the four-probe (Wenner-Array) technique. Surf™ utilizes a patented technology to measure resistivity values automatically around the concrete specimen using four channels of a 4-probe array (located at 90° from each other). The data monitor software can be used to perform the test and generate reports.

-  meets AASHTO TP95 standard
-  fast measurement (8 measurements <15s)
-  four-channel surface resistivity meter
-  limiting moisture loss
-  automatic report generation
-  variable frequency (13-100Hz)

SmartRock™

Wireless Concrete Temperature Sensor

Giatec SmartRock™ is a rugged mobile-based wireless sensor for monitoring the temperature of concrete from fresh to hardened stage. SmartRock™ can be used to estimate the concrete strength based on maturity method. The SmartRock™ can be placed in the concrete formwork (installed on the rebar), before pouring, to monitor the temperature of concrete in situ. The continuous measurements are stored on the SmartRock™ memory and can be downloaded at any time during concrete setting and hardening using the mobile app (Android and iOS) on a smartphone or tablet device.



SmartRock™ helps monitor temperature variations in fresh concrete as well as optimize removal time of formwork.



wireless technology



rugged and waterproof design



real-time temperature/strength display



easy data sharing



Android and iOS apps



easy activation



long battery life

SmartBox™

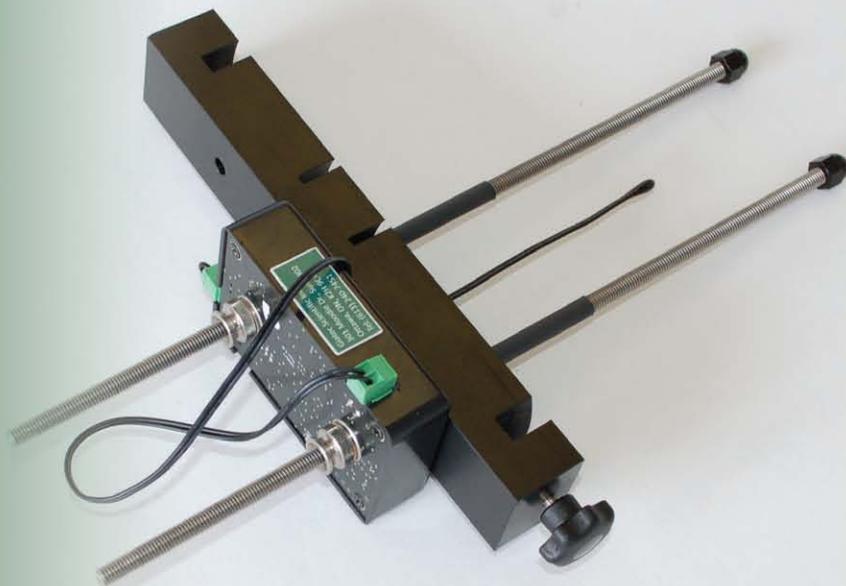
Wireless Monitoring of Fresh Concrete Properties

Giatic SmartBox™ is a compact wireless device for the measurement and monitoring of electrical resistance and temperature of fresh concrete. The electrical resistivity of fresh concrete has been shown to provide a good indication of the water to cement ratio as well as setting and hardening time of concrete. SmartBox™ is an efficient tool for various industrial and research applications in these areas. The SmartBox™ unit can be easily set up on a concrete mold. It can record continuous measurements which can be downloaded from the mobile app.



SmartBox™ is a compact wireless device for simultaneous measurement of electrical resistance and temperature.

-  wireless technology
-  compact design
-  measures electrical resistance and temperature simultaneously
-  optimized frequency for fresh concrete
-  long battery life on a single charge
-  Android app for smartphone and tablet
-  easy data sharing



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