

The Most Advanced Wireless Rebar Corrosion Rate Measurement Device

iCOR® is a novel, compact, and comprehensive NDT tool for detailed corrosion evaluation of reinforced concrete structures WITHOUT the need for an electrical connection to rebar.

Overview

iCOR® utilizes wireless technology to transmit data to a tablet, where data can be stored, analyzed, and visualized. Moreover, the tablet app offers a powerful post-processing tool and an easy way to share the results with other team members. iCOR® can significantly save time, human resources, and cost, and increase reliability in the condition assessment of concrete structures.

Applications

- Detection of corrosion in the reinforcement
- Measurement of corrosion rate in concrete structures
- Measurement of in-situ electrical resistivity of concrete minimizing the effect of rebar
- Measurement of corrosion potential of rebar (ASTM C876)
- Assessment of concrete durability on site
- Rehabilitation and repair of concrete structures

Features

- **Fast:** measurements within seconds
- **Real-time:** contour mapping of corrosion rate, electrical resistivity and corrosion potential
- **Directional:** corrosion measurement in two perpendicular directions (i.e. horizontal or vertical rebar)
- **Accurate:** comparable results to laboratory techniques
- **Non-destructive:** for use on existing structures
- **Easy-to-use:** requires minimum training
- **Non-subjective:** algorithm-based interpretations
- **Efficient:** detect initial signs of corrosion
- **Cost effective:** multiple parameters in a single measurement for durability assessment



Patented Technology

iCOR® benefits from the patented CEpra technology that makes it possible to estimate the corrosion rate of rebar through a non-invasive approach. This means that the need for connecting the device to the rebar (which is the case for other commercial devices) is eliminated in iCOR®. This makes iCOR® the most convenient corrosion rate measurement device in the field as well as offering an innovative research tool for laboratory studies.



Giatec iCOR®



Other Commercial Devices

"This is my first experience performing corrosion detection and I am very happy with the iCOR. All the results obtained from the iCOR have shown consistent results compared with other non destructive testing methods. The application is very user-friendly providing me very clear and useful information on-site which allowed me to perform time effective measurements."



Milad Moghaddas
Project Coordinator/
Engineer, QuakeWrap Inc.

Technical Specifications

Testing Time	3 to 30 seconds
Corrosion Rate Range	0 to 500 μm / year
Corrosion Potential Range	-800 to +200 mV / CSE
Electrical Resistivity Range	0 to 10,000 $\Omega \cdot \text{m}$
Operating Temperature	0 ~ 45 °C (32 to 113 °F)
Operating Humidity	20 ~ 90% RH
Dimensions	184 x 116.5 mm (DxH)
Weight	1kg
Data Communication and Analysis	Android App



Real-time



Fast



Accurate



Easy-to-use