iCOR®

GIATEC

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.

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

iCOR® is a unique NDT device for the condition assessment of reinforced concrete structures that can be used for:

- 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
- 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 a specific direction (i.e. horizontal or vertical rebar)
- **Accurate:** comparable to laboratory techniques
- **Non-destructive:** used for 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

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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.

Real-time Fast Accurate Easy-to-use

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 Ω • m
Operating Temperature	0 ~ 45 °C (32 to 113 °F)
Operating Humidity	20 ~ 90% RH
Dimensions of iCOR®	184 x 116.5 mm (DxH)
Weight of iCOR®	1kg
Data Communication and Analysis	Android App

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