

Giatec iCOR™

a non-destructive testing tool for detailed corrosion evaluation of reinforced concrete structures without the need to have an electrical connection to the rebar.



Giatec iCOR™ is equipped with high precision sensors to measure:

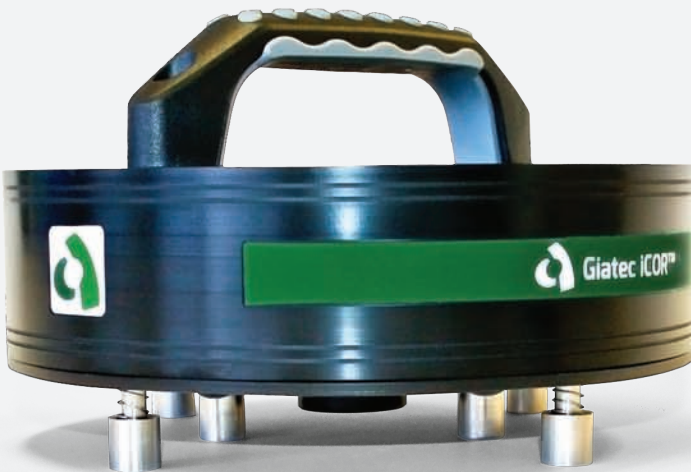
- Corrosion potential mapping of rebar
- Corrosion rate mapping of rebar
- In-situ real electrical resistivity of concrete
- Ambient temperature and relative humidity of rebar

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 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 real in-situ electrical resistivity of concrete (i.e. minimizes the effect of rebar)
- Determination of corrosion potential of rebar in concrete
- Assessment of concrete durability on site
- Rehabilitation and repair of concrete structures



Patented Technology

Giatec iCOR™ benefits from a patented 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 of 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



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

TECHNICAL SPECIFICATIONS

Testing Time	3 to 15 seconds
Corrosion Rate Range	0 ~ 300 μm / year
Corrosion Potential Range	+200 to -800 mV / CSE
Electrical Resistivity Range	0 ~ 10,000 $\Omega \cdot \text{m}$
Operating Temperature	0 ~ 45 °C (32 to 113 °F)
Operating Humidity	20 ~ 90% RH
Dimensions of iCOR™	250 x 70 mm
Weight of iCOR™	900 g