

GIATEC ICORTM CASE STUDIES

CONNECTION-LESS CORROSION MEASUREMENT DEVICE

OVERVIEW

Giatec iCORTM is a novel compact and comprehensive NDT tool for detailed corrosion evaluation of reinforced concrete structures WITHOUT the need to have an electrical connection to the rebar. It is equipped with high precision sensors to measure the (1) corrosion rate of rebar, (2) the in- situ electrical resistivity of concrete, (3) corrosion potential of rebar as well as (4) ambient temperature and relative humidity. iCORTM utilizes wireless technology to transmit data to a tablet, where data can be stored, analyzed and visualized. iCORTM has been successfully utilized by consulting firms for smart early detection of corrosion problem in reinforced concrete structures. Here are some example projects that iCORTM have been used for condition assessment.

ABUTMENT CONCRETE WALL

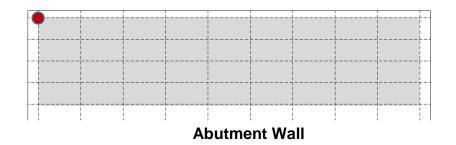
PHOTOS:

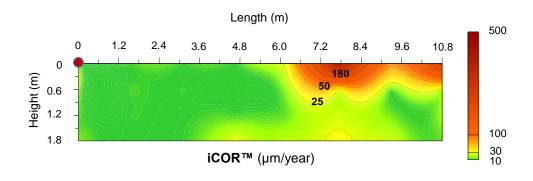


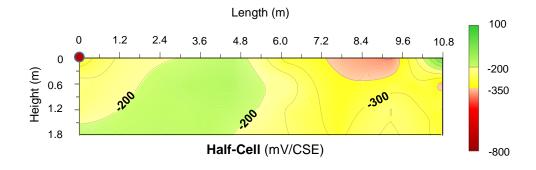


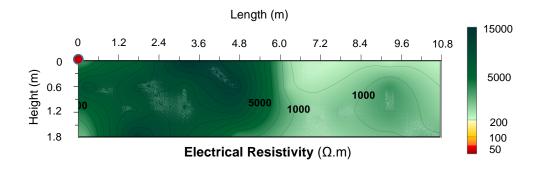


RESULTS









CONCRETE BRIDGE DECK

PHOTOS







RESULTS Bridge Deck 500 3.0 Height (m) 2.0 20 20 1.0 100 0 6.0 Length (m) 1.0 3.0 9.0 10.0 11.0 0 2.0 4.0 5.0 7.0 8.0 12.0 iCOR™ (µm/year) 100 Height (m) 1.0 -200 -350 -800 0 6.0 Length (m) 1.0 2.0 3.0 4.0 8.0 9.0 10.0 11.0 12.0 0 5.0 7.0 Half-Cell (mV/CSE) 15000 Height (m) 1.0 5000 600 600

0

0

1.0

2.0

3.0

4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 Length (m)

Electrical Resistivity (Ω.m)

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