CorroMap

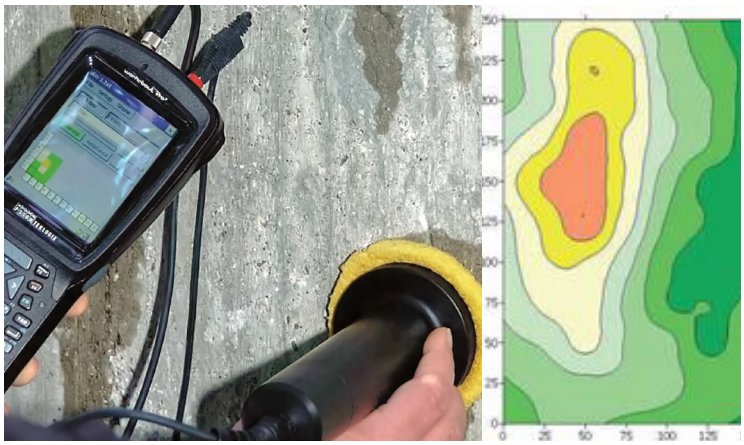
Handheld Corrosion Assessment & Mapping System for Reinforced Concrete

Rapid Corrosion Potential Mapping for Data-Driven Condition Assessment

STRUCTURAL HEALTH MONITORING

CorroMap is a lightweight, handheld system designed for rapid, non-destructive corrosion assessment of reinforced concrete structures. Using half-cell potential measurements, CorroMap generates a live, colour-coded map of measurement results, helping engineers visualize variations in corrosion potential and identify areas with a higher probability of corrosion activity.

The system measures electrochemical potential and concrete electrical resistance, with an optional upgrade for corrosion-rate measurements. Designed for efficient field use, CorroMap can perform up to 2,400 automated measurements and can be operated by one person using its integrated colour touchscreen.



Features & Benefits

- **Rapid, non-destructive corrosion assessment –** efficiently survey reinforced concrete to identify variations in corrosion potential and areas requiring further investigation.
- **Visualize corrosion risk on site** – display measurement results as a live colour-coded map, with each colour representing a defined measurement interval for potential and resistance.
- **Efficiently map large areas** – perform up to 2,400 automated measurements using auto-trigger and auto-increment functions, allowing extensive areas to be surveyed efficiently by one operator.
- **Measure complementary electrochemical properties** – measure half-cell potential and concrete electrical resistance to provide additional information for evaluating corrosion risk and concrete conditions.
- **Identify areas for targeted investigation** – corrosion potential mapping can identify areas with a higher probability of corrosion activity, helping engineers target follow-up testing and develop a more focused condition assessment.
- **Optional corrosion-rate measurement** – upgrade the system to perform galvanostatic pulse measurements for estimating the corrosion rate of reinforcing steel.
- **Designed for demanding field conditions** – the IP65-protected instrument is designed for reliable field operation in environments exposed to dust, rain, and snow.
- **Simple, one-person operation** – the lightweight handheld design and integrated touchscreen allow efficient field measurements with minimal equipment.
- **Export data for analysis** – measurement results can be transferred in Excel format for further processing, analysis, reporting, and presentation.

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How It Works

CorroMap uses the half-cell potential method to measure the electrochemical potential of reinforcing steel. Measurements are collected across a defined survey area and displayed as a live, colour-coded map to highlight areas with a higher probability of corrosion activity.

Concrete electrical resistance measurements provide additional information about conditions that may influence corrosion activity. Together, the results help engineers identify areas for targeted follow-up investigation.

With the optional corrosion-rate capability, CorroMap uses a galvanostatic pulse technique to estimate the corrosion rate of reinforcing steel. Results can be evaluated alongside other inspection and testing data to support a complete condition assessment.

Technical Properties

Parameter	Details
Measurement Methods	Half-cell potential and electrical resistance; optional corrosion-rate measurement using galvanostatic pulse technique.
Data storing	Measurement data is stored in CSV format for transfer and analysis in Microsoft Excel or compatible software.
Memory Storage	The handheld computer has a memory of 512 MB RAM/ 4 GB Flash
Potential Measurements	Measurement range: ± 2000 mV
Resolution	0,1 mV
Input Impedance	> 20MOhm
Resistance measurements	Measurement range: 200 Ohm 200 KOhm
Resolution	100 Ohm
Frequency	128 Hz

Applications

CorroMap is suited to reinforced concrete structures where rapid corrosion potential mapping can support condition assessment, targeted investigation, and rehabilitation planning.

Typical applications include:

- Bridge decks and components
- Parking structures
- Balconies
- Swimming pools
- Marine and coastal structures
- Tunnels
- Industrial facilities
- Other reinforced concrete structures exposed to corrosion

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Talk to an Expert

Vector Corrosion Technologies provides technical support and guidance for the CorroMap corrosion assessment system.

Contact your regional Vector representative to discuss your project, request sample specifications and drawings or arrange a technical presentation for your team.

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