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CANIN+ Half Potential Mapping and Resistivity



Interpretation of the collected readings is facilitated by the use of the CANIN ProVista software.



CANIN PROVISTA PC SOFTWARE

The Windows based software CANIN ProVista, developed by Proceq SA, makes it possible to download, present and edit data measured by the CANIN+ half-cell instrument in a fast and easy way using an IBM-compatible PC. The program generates a potential map, a relative frequency and a cumulative frequency diagram and provides a chipping graph. This statistical presentation is the basis for an efficient interpretation of the half-cell potentials by the corrosion engineer.

Single files can be opened and processed separately. By rotating or mirroring in intervals of 90° the single potential maps can be combined to form a complete graph representing the total investigated surface area.

RANGE OF APPLICATIONS

The CANIN+ instrument provides two methods for investigating and assessing the corrosion of steel in concrete.

- Measurement of corrosion potential
- Measurement of electrical resistivity of reinforced concrete components

COMPLIANCE WITH INDUSTRY STANDARDS

Data collection and processing of test results comply with major industry standards: ASTM C876-91, BS 1881 Part 201, SIA 2006, DGZfP B3, UNI 10174

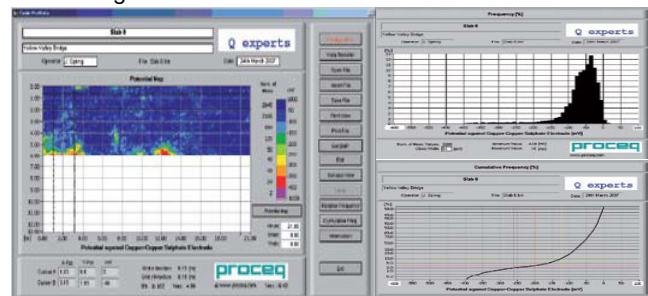
FEATURES

- Immediate presentation of test area and reading directly on the instrument display
- Optional wheel electrode for increased testing speed and productivity. Readings are collected at a predetermined spacings automatically and stored.
- Optional Four-point Wenner probe for concrete resistance measurements
- Total memory for more than 200'000 readings

CORROSION POTENTIAL APPLICATION

Firstly, accurate field potential measurements aid in detecting corrosion in rebars. Corrosion of steel in concrete is an electrochemical process. A potential field can be measured on the concrete surface by the use of an electrode, known as a half-cell, and a high-impedance voltmeter. The CANIN+ Corrosion Analyzing Instrument highlights corrosion activity before rust becomes visible. This early detection can be key in preventing an unanticipated structural failure.

CANIN+ is ideally suited for assessment of corrosion potentials on large areas of 8,000 m² or multiple thereof, depending on the individual selectable grid size. 235,000 values can be stored by the intelligent memory. Up to 240 measurement values are displayed at a time in easy-to read grey-scale and a menu-driven approach facilitates simple operation using just nine keys.



Potential Map, Relative and Cumulative frequency diagram

Based on the user defined threshold potentials that represent certain conditions of the structure, up to four characteristic potential intervals can be chosen. The corresponding partial areas are marked with different colours in the presentation as a "Chipping graph".



Chipping graph

TECHNICAL INFORMATION CANIN PROVISTA SOFTWARE

SYSTEM REQUIREMENTS: Windows 2000, Windows XP, Windows Vista

SCALE OF LENGTH / UNIT LENGTH: Selectable grid with metric or imperial units. (Note: XY-grid settings must be equal)

EDITING: Individual readings can be deleted or changed

INSERTING: Separately measured objects can be merged to a complete potential map. If required, objects can be rotated and mirrored.

ANNOTATIONS: Comments about specific points on the concrete structure can be placed directly in the potential map.

BITMAPS: All graphics can be exported as bmp-files into external software for the generation of reports.

Papworths Construction Testing Equipment- Australia's leading Concrete NDT Equipment Supplier



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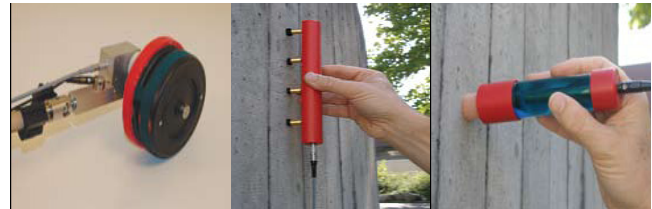
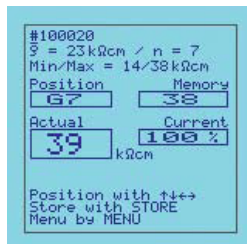
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CONCRETE RESISTIVITY APPLICATION

Secondly, the instrument can measure the resistivity of the concrete. A lower concrete resistivity indicates a greater chance of corrosion of the reinforcement and also a greater corrosion rate. The resistivity of concrete can vary extensively depending on the local conditions and environmental influences. The combination of resistivity and potential measurement improves the information about the corrosion condition of the rebars.

- The concrete resistivity is measured by the four-point Wenner probe.
- All information is indicated on a large clear display.
- The instrument can also store up to 5,800 resistivity values and the data can be transferred to a PC for further analysis.



Wheel Electrode

RESI Probe

Rod Electrode

ORDERING INFORMATION

Description

CANIN+ Configuration with Rod Electrode

Basic equipment (Indicating device CANIN+, carrying strap, protection sleeve for indicating device, transfer cable, USB-serial adapter, operating instructions, carrying case CANIN+)

Rod electrode accessories

Rod electrode with spare parts, electrode cable 1.5 m, cable coil 25 m, CANIN ProVista PC software on memory stick, bottle with copper sulfate 250 g

CANIN+ Configuration with Rod and Wheel Electrodes

Basic equipment + Rod electrode accessories +

Wheel Electrode accessories (one-wheel electrode system, tool kit to wheel electrode system, bottle with citric acid 250 g)

CANIN+ with Wenner Probe

Basic equipment +

Wenner Probe accessories (Wenner resistance probe with spare rubber foam pads, cable to Wenner probe, control plate to Wenner probe)

CANIN+ Combined Configuration with Rod and Wheel Electrodes and Wenner Probe

Basic equipment + Rod electrode accessories +

Wheel Electrode accessories + Wenner Probe accessories

TECHNICAL INFORMATION CANIN+

Potential Measurement

Measurement range: ± 999 mV

Resolution: 1 mV

Memory: non-volatile memory for up to 235'000 measurements stored in up to 71 object files

Software: CANIN ProVista software for downloading data and evaluation on PC

Battery Operation: Six LR 6 batteries, 1.5 V for up to 60 hours (or 30 hours with activated backlight)

Resistance Measurement

Measurement range: 0 to 99 kΩcm

Resolution: 1 kΩcm

Memory: non-volatile memory for up to 5'800 measurements stored in up to 24 object files

Data Transfer: by Windows Hyperterminal

Battery Operation: Six LR 6 batteries, 1.5 V for up to 40 hours (or 20 hours with activated backlight)

General

Impedance: 10 MΩ

Temperature range: 0° to 60° C

Display: 128 x 128 pixel graphic LCD with backlight

Data Output: RS 232 interface, USB with adapter

Case Dimensions: 580 x 480 x 210 mm

Weight: Net. 10.6 kg; Shipping 14kg

ABOUT PCTE

PCTE have over 30years experience in the measurement and testing of concrete. With experience in research, consulting and construction they are able to assist you in reviewing the issues and developing solutions. PCTE can provide more than just the equipment. They can provide leading technical support for your business.

OTHER EQUIPMENT

The full Proceq range of equipment is available for insitu non destructive concrete measurement, including Schmidt Hammers, Covermeters, Half Potentials, Resistivity, Ultrasonics and Permeability.

We also supply Intelli-Rock maturity, temp and humidity logging systems, corrosion rate monitoring equipment, Ground Penetrating Radar, and Impact Echo.

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