

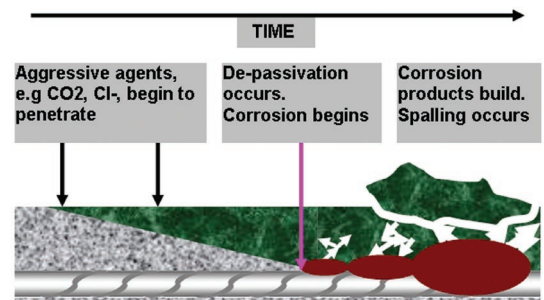
# application note



## Non-destructive Concrete Testing

# concrete concepts

**Corrosion: Early diagnosis of corrosion in seemingly healthy concrete reduces unwanted risks to structural safety of buildings.**



**T**he concrete cover can be evaluated by testing carbonation depth, chloride content, surface cohesion, resistivity and permeability. The reinforcement condition is evaluated by measuring cover depth, rebar thickness, and using the half-cell potential method.

## Application

**C**oncrete concepts uses the Canin<sup>+</sup> Corrosion Analyzing Instrument to collect potential field data on active corrosion in buildings such as multi-story car parks where damage occurs due to de-icing salts dripping from cars. This data is used together with concrete cover measurements using Profometer and chloride distribution measurements. Analysis of the data allows corrective maintenance to be localized.

Without the comprehensive potential field and concrete cover measurements, the building contractor would be obliged to replace all of the concrete in order to ensure the durability of the concrete structures. In practical examples in such car parks, the concrete replacement programme was reduced by up to 85%.

## Customer Quote

"The Canin<sup>+</sup> is a professional and helpful tool for the localization and measuring of active corrosion. The procedure is virtually non-destructive and by carrying out a grid measurement, it allows a comprehensive statement to be made on the status of the building."

*concrete concepts Ingenieurgesellschaft mbH, Munich  
- Proceq customer since 2006*

## Profile

### Customer

concrete concepts Ingenieurgesellschaft mbH  
Condition assessment expertise, maintenance and repair concepts and durability design.

### Managing Directors

Dipl.-Ing. Christian Brandes, Dr.-Ing. Sascha Lay,  
Dr.-Ing. Petra Rucker-Gramm

### Requirements

- Fast, accurate measurement of corrosion potentials together with grid location information.
- Accurate assessment of the rebar arrangement and concrete cover.

### Proceq Product

Canin<sup>+</sup> Corrosion Analyzing Instrument with wheel electrode and ProVista Software. Profometer 5<sup>+</sup> rebar detection system.

### Benefits to the Customer

- Rapid measurement with the wheel electrode allows the comprehensive assessment of a large site.
- Canin ProVista analyzing software offers the basis for an optimum interpretation and appraisal of the corrosion potential of the reinforcement.