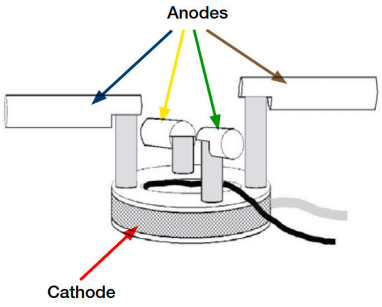
CorroWatch Multisensor

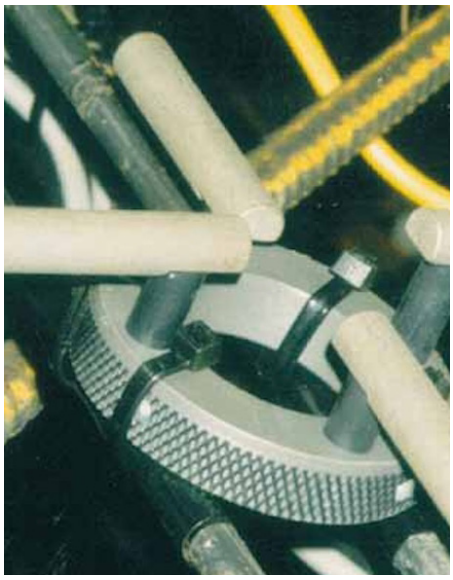
Corrosion Monitoring Probe for New Concrete Structures

Embedded Early-Warning Corrosion Monitoring for Proactive Asset Management

STRUCTURAL HEALTH MONITORING

CorroWatch is an embedded corrosion monitoring probe designed for installation in new reinforced concrete structures during construction. By positioning sensors at defined depths within the concrete cover at the time of pour, CorroWatch enables asset owners and engineers to get ahead of corrosion-induced deterioration, delivering objective condition data from within the concrete cover zone to support proactive, cost-justified maintenance and rehabilitation decisions throughout the structure's service life.





The probe consists of four black steel measuring electrodes (anodes) and one noble-metal cathode, installed at known distances from the reinforcement. Measurements are taken using the CorroZoa handheld meter or a compatible datalogger for ongoing or remote surveillance.

Features & Benefits

- **Reduce lifecycle cost and unplanned closures** – detect corrosion risk early to schedule targeted, cost-effective maintenance before deterioration worsens, intervening only where and when the data says it's needed.
- **Early warning at multiple depths** – identifies corrosion risk within the cover zone, indicating when chlorides or carbonation approach the steel before cracking, spalling, or other visible signs of deterioration occur.
- **Engineered for new construction** – the lowest-cost point in a structure's life to install monitoring capability; simple embedment during the original pour with anode height fully adjustable to any cover thickness, at no disruption to the construction schedule.
- **Monitor without site visits** – connect to a compatible datalogger or modem for continuous monitoring and remote surveillance, reducing the cost and frequency of manual inspections over the structure's service life.
- **Reliable readings over time** – the proven electrochemical measuring principle delivers consistent, trustworthy current readings throughout the monitoring period, so the data underpinning your maintenance decisions remains accurate and defensible long-term, with no ambiguity about sensor performance.
- **CP system compatible** – can be integrated directly with an impressed current cathodic protection system, enabling combined protection and monitoring within a single, coordinated installation.
- **Condition data for inaccessible elements** – delivers objective condition data from concealed or inaccessible structural elements, eliminating guesswork.

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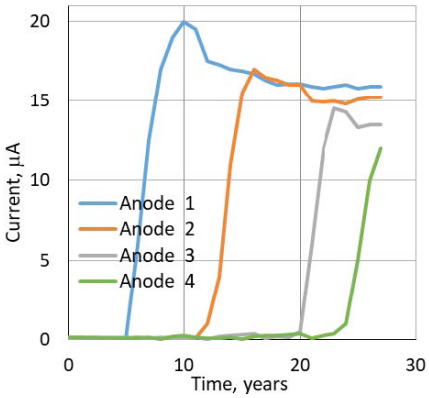
How It Works

CorroWatch works by placing four small sensors (anodes) at different depths within the concrete cover, alongside a reference sensor (cathode). As the protective concrete cover ages and corrosive agents such as chlorides and moisture migrate toward the reinforcing steel, they reach each sensor in sequence.

When a sensor detects that the corrosive front has reached its depth, the electrical signal between that sensor and the reference changes sharply. A clear, measurable trigger that corrosion risk has reached that point in the concrete.

Because the four sensors sit at different depths, CorroWatch provides more than a single alarm, it shows how quickly deterioration is progressing through the cover, giving engineers and owners a timeline for planning rather than just a warning.

Readings can be taken on-site with the handheld CorroZoa meter, or automatically through a connected datalogger for continuous remote monitoring.



CorroWatch measurements after long exposure in sea water

Technical Properties

Parameter	Specification
Nominal diameter (with anodes)	16.5 mm
Nominal height	64.5 mm
Cable type	Copper wire, 7-strand, XLPE insulation with PVC sheathing

Installation

CorroWatch sensors are installed within the concrete cover at predetermined depths and locations to monitor corrosion risk development within the structure.

Detailed installation instructions are available from Vector Corrosion Technologies

Related Products

- CorroZoa Corrosion Monitoring Meter
- CorroRisk Corrosion Monitoring Probe

Applications

CorroWatch is recommended for new concrete structures in aggressive corrosion environments and locations where long-term condition monitoring is required from the outset.

Typical applications include:

- Bridge decks exposed to de-icing salts
- Marine and coastal structures
- Bridge piers in seawater environments
- Underground parking structures
- Public swimming pools
- Tunnels and buried structures
- Critical infrastructure where long-term condition data is specified from construction
- Structure will have limited inspection access
- Long design life makes embedded monitoring more cost-effective than future reactive repairs

VECTOR CORROSION

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STRUCTURAL HEALTH MONITORING

Talk to an Expert

Vector Corrosion Technologies provides full specification support, installation guidance, and system design assistance for the CorroWatch probe.

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

Vector Corrosion Technologies

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