GalvaCorr®

A New Versatile Concept in Cathodic Protection

Developed and Patented by NASA

CORTEC CORPORATION

Environmentally Safe VpCI®/MCI® Technologies

ISO/IEC-17025
LABORATORY TESTING CERTIFIED

ISO 9001 CERTIFIED
QUALITY SYSTEM REGISTERED

ENVIRONMENTAL
ISO 14001 CERTIFIED
SYSTEM REGISTERED

A New Type of Galvanic Protection

Developed and Patented by NASA

A new reinforced concrete structure is designed to have a long service life – typically in excess of 50 years. Unfortunately, many structures fall short of this goal, requiring expensive repair and protection work in the future.

A major reason for the premature deterioration of our reinforced concrete infrastructure is ***corrosion of the reinforced steel.***

Galvanic protection of embedded steel rebar for existing structures. Suppresses corrosion in carbonated and chloride-contaminated concrete. Extends life of concrete structures.

Galvanic protection of embedded steel rebar for existing structures. Suppresses corrosion in carbonated and chloride contaminated concrete and extends life.

GalvaCorr® is a three component moisture cured metallic rich coating. The new coating provides cathodic protection and when connected to the steel rebar galvanically stops corrosion.

- Can be applied by spray, brush or roll coating.
- Recommended for bridges, decks, ramps and garages.
- Can be applied to uneven surfaces and to the underside of structures.

The use of a sacrificial metal to protect another metal goes back a century. This proven technology has been used in many forms. Now there is a new form available to protect the embedded steel rebars in concrete structures.

GalvaCorr® is a room temperature liquid coating that can be sprayed or hand applied to concrete structures. It is easily applied to vertical, horizontal and overhead surfaces. The coating can be applied to structures of many shapes.

GalvaCorr® can reach the rebar corrosion process electrically, inside the concrete to slow or stop this internal destruction. Without this galvanic protection, embedded steel/concrete structures may continue to deteriorate until failure.

GalvaCorr® galvanic protection is 30-50% less expensive than 3M's Zinc Hydrogel Anode System

Since GalvaCorr® is 90% metal, scratching the surface of the coating will reveal a metallic sheen.

Note rust bubbling out at the base of the rebar on the sample that is not connected to the coating for galvanic protection. These samples were in a humidity chamber for six months.

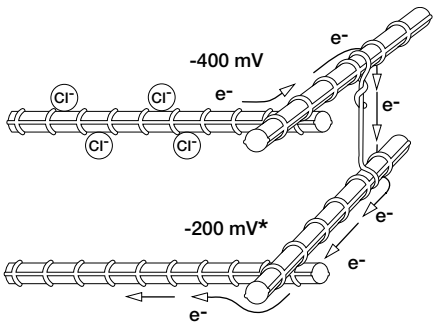
An Innovation that Fights Corrosion and Extends the Service Life of Reinforced Concrete Structures

Underside application by the St. Paul traffic department on the 30 year old bridge on Maryland Ave. The GalvaCorr® was hand applied with rollers. The project included sandblasting, excavating to connect the rebar and to assess the condition of the rebars, applying the coating wires and then the coating.

This is the finished coating and wiring system. A small junction box is visible above the ladder. This box is used to take the system readings. A St. Paul Department observation was: “There is nothing to vandalize or steal.”

Here, the almost invisible current collecting wires of the coating are highlighted. Part of the insulated current return wire to the rebars is visible over the pier arch.

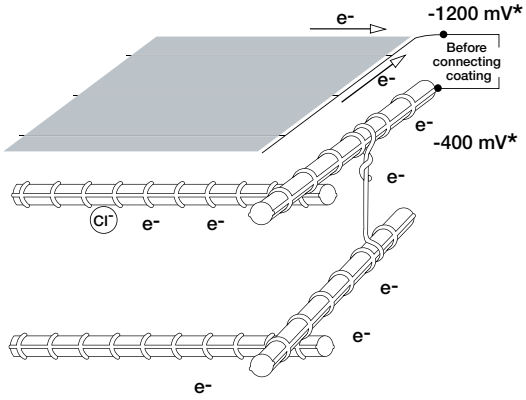
Cathodic Protection Diagram



Chloride concentration differences in concrete cause electro-chemical corrosion.

This corrosion converts the steel rebar into rust.

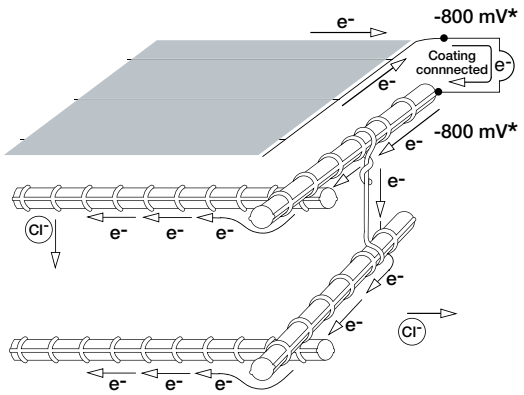
* Potentials if rebars were not connected.



The liquid applied galvanic coating provides a large anodic surface area. This large anodic area assures galvanic protection of the embedded steel rebar.

Connection wires are attached to the concrete surface. The coating is applied over the wires.

* To copper sulfate reference cell



When the GalvaCorr® galvanic coating is electrically connected to the rebar, a galvanic current begins. The higher negative potential on the rebar repels the negative chloride ions. The corrosion to the rebar is suppressed.

* To copper sulfate reference cell

PRODUCT	DESCRIPTION	COVERAGE	PACKAGING	APPLICATIONS
GalvaCorr®	GalvaCorr® is a galvanic coating for concrete that uses metallic particles to provide cathodic protection of the steel rebar. GalvaCorr® is electrically connected to the rebar and galvanically stops corrosion.	150 sq. ft./gal. (3.6 m²/L)	52 lb./ 3.9 gal. kit (23.6 kg./ 14.82 l kit)	Bridges, parking decks, ramps, garages, concrete piers, offshore platforms, piles, pillars, pipes, buildings, foundations and underside application to structures

Total Corrosion Control

Cortec® Corporation is dedicated to controlling corrosion at ALL STAGES of a product life cycle. Cortec® has developed a diverse range of corrosion protection products including cleaners, metalworking fluids, water- and oil-based coatings and corrosion inhibitors, rust removers, paint strippers, powders, packaging foams, paper, films and surface treatments and admixtures for concrete. Contact Cortec® for additional brochures and information.

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