

## Conpatch® NCI

### SURFACE APPLIED MIGRATING CORROSION INHIBITOR

#### DESCRIPTION

**Conpatch NCI** is a surface applied migratory corrosion inhibitor, designed to migrate even through dense concrete structures forming a protective layer on the surface of the reinforcement. **Conpatch NCI** can be used in reinforced concrete structures that show signs of reinforcement corrosion or need additional protection to inhibit future corrosion. It protects the steel by forming a protective layer and reduces the corrosion rate.

**Conpatch NCI** is applied to the surface and drawn into the concrete via capillary action. Additionally **Conpatch NCI** moves throughout the concrete pore structure following Fick's law, molecules move randomly in vapour phase through the cement matrix from areas of high concentration to areas of low concentration.

**Conpatch NCI** is adsorbed on to the reinforcement at depths of up to 8 cm and beyond forming a layer up to 100µm thick. Chlorides are shown to penetrate 60 mm. deep confirming the ability of **Conpatch NCI** to displace chlorides providing protection at the reinforcements surface despite the presence of chlorides.

The rate of migration is dependent on the density & permeability of the concrete and other factors, however, it is between 7-8 cm at 7 days.

Complies to EN1504 Part 9

- Principle 9 : Cathodic Control (PI).  
Method 9.1 - Limiting oxygen content (at the cathode) by saturation or surface coating.
- Principle 11 : Control of Anodic Areas (CA).  
Method 11.3 - Applying corrosion inhibitors on concrete.

#### USES & ADVANTAGES

Migratory corrosion inhibitor's are useful for repair and maintenance purposes and the treatment of undamaged concrete where corrosion induced damage is anticipated due to chloride or carbonation attack.

**Conpatch NCI** extends the service life of the structure both below and above ground structures. It can be used for all type of buildings, marine structures, car parks, bridges, dams, water tanks, cooling towers, etc.

#### Advantages include:-

- Protection of concrete steel reinforced structures.
- Non staining.
- Low viscosity ensures good in depth penetration through capillary pores.
- Both delays, the start of corrosion and reduces the corrosion rate.
- Easy to apply and economical.
- Extension of service life and long term protection.
- Safe and environment friendly.
- Protects both cathodic and anodic areas.

- No special curing time required traffic can resume immediately after application.
- Water based and non flammable.
- Can perform on other metals such as galvanized steel, aluminum, coated steel.
- Use in combination with Contite waterproofing by crystallization for total concrete protection (rebar & cement paste).

#### PROPERTIES

<b>Form:</b>	Liquid
<b>Appearance:</b>	Yellow to Amber colour
<b>Density:</b>	1.10 ± 0.02 Kg/Ltr
<b>pH:</b>	9 to 11
<b>Flash Point:</b>	Not applicable (water based)
<b>Drying time:</b>	30 - 40 mins
<b>Re coat time:</b>	40 - 60 mins

Schematic Representation of **Conpatch NCI** by Vapour diffusion system and penetration through capillary pores.

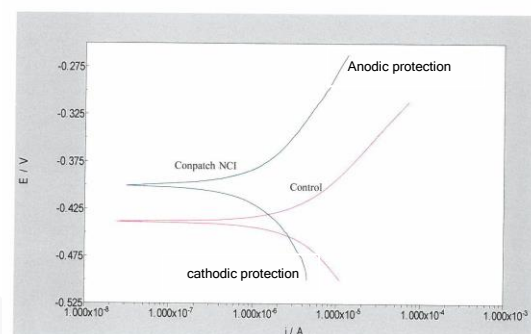
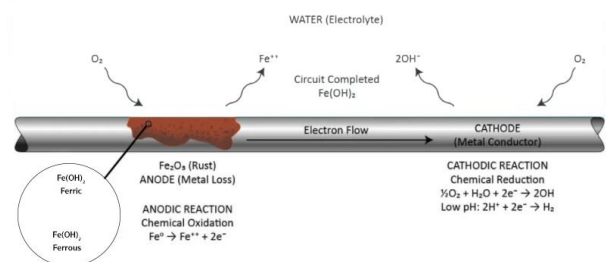
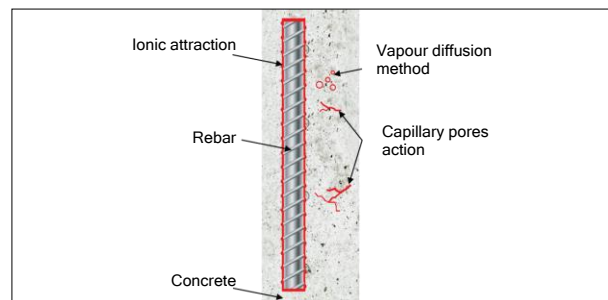


Fig.1 Polarization curve of the steel sample treated with the Conpatch NCI and the Control (not treated) in 5%NaCl solution.

**Conpatch® NCI****SURFACE APPLIED MIGRATING CORROSION INHIBITOR****SURFACE PREPARATION**

Substrate should be dry, sound, clean and free of all dirt, grease, oil, laitance, sealers, coatings, curing compounds, membranes, etc. Cleaning can be done by use of mechanical equipment or by using jet water blast.

**APPLICATION**

**Conpatch NCI** can be applied either by using a brush, roller or low pressure spray equipment. For better performance at least 2 coats are required. The recoat time between coats is around 40-60 minutes.

Application should be done +5 to +30° C.

**Conpatch NCI** can also be applied by using an injection method to ensure fast and deep penetration into thick structures and speeding up work.

**COVERAGE RATE**

Approximately 3.5 to 4 m<sup>2</sup> /ltr/coat, depending upon surface texture, porosity and absorption of concrete. Generally 2-4 coats are required.

**CURING**

**Conpatch NCI** does not require any special curing and if required can be opened for traffic after a few minutes of application.

**PACKAGING**

25 Ltr pails and 200 Ltr drums.

**LIMITATIONS**

Before and after application the surface should be protected from rain and frost. Application should be done above freezing point.

*NOTE : For complete and entire concrete corrosion protection system please contact Cormix Technical Department.*

**STORAGE CONDITIONS & SHELF LIFE**

Store in the shade do not allow to freeze.

Shelf life is 12 months in original sealed containers.

Stir before application.

**HEALTH & SAFETY**

**Eye contact:** Immediately flood the eye with plenty of water for at least 15 minutes, holding the eye open. Eyelids should be held away from the eyeball to ensure thorough rinsing. Obtain medical attention urgently.

**Skin contact:** Wash skin thoroughly with soap and water. Obtain medical attention if blistering occurs or redness persists. Contaminated clothing should be washed or dry-cleaned before re-use.

**Ingestion:** Do not induce vomiting. Wash out mouth with water. If vomiting occurs naturally, lean victim forward to reduce risk of aspiration.

Obtain medical attention urgently.

**Inhalation:** Remove from exposure. In cases of possible respiratory irritation or if feeling unwell due to prolonged exposure, obtain medical attention.

**TECHNICAL SERVICE**

The Cormix International Technical Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

**QUALITY ASSURANCE**

ISO 9001 : 2015 verified by TUV Nord.

ISO 14001 : 2015 verified by Lloyd's Register International.

**DISCLAIMER**

Performance data is achieved testing in accordance with International Standards. Testing by others may result in different results from those published as a result of external factors such as poor sampling, incorrect mixing, varying temperatures, curing, crushing procedures etc.

Cormix does not take responsibility nor need to defend others testing that does not achieve the published data.

The user must test the products suitability for the intended application and purpose. Cormix reserves the right to change the properties of the product.

Site conditions and differences in materials are such that no warranty or fitness for a particular purpose, nor liability can be inferred from the published data sheet, written recommendations or from other advice offered.

**CONTACT DETAILS****Cormix International Limited**

89 Romklao Rd., Sansab, Minburi, Bangkok 10510

Tel. (66 2) 917 3955-8

Fax. (66 2) 917 3959

<http://www.cormix.com>

E-mail : [info@cormix.com](mailto:info@cormix.com)