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FUSION BONDED EPOXY COATING (FBEC) REBAR
IS THE
INNER STRENGTH
OF
RCC STRUCTURES





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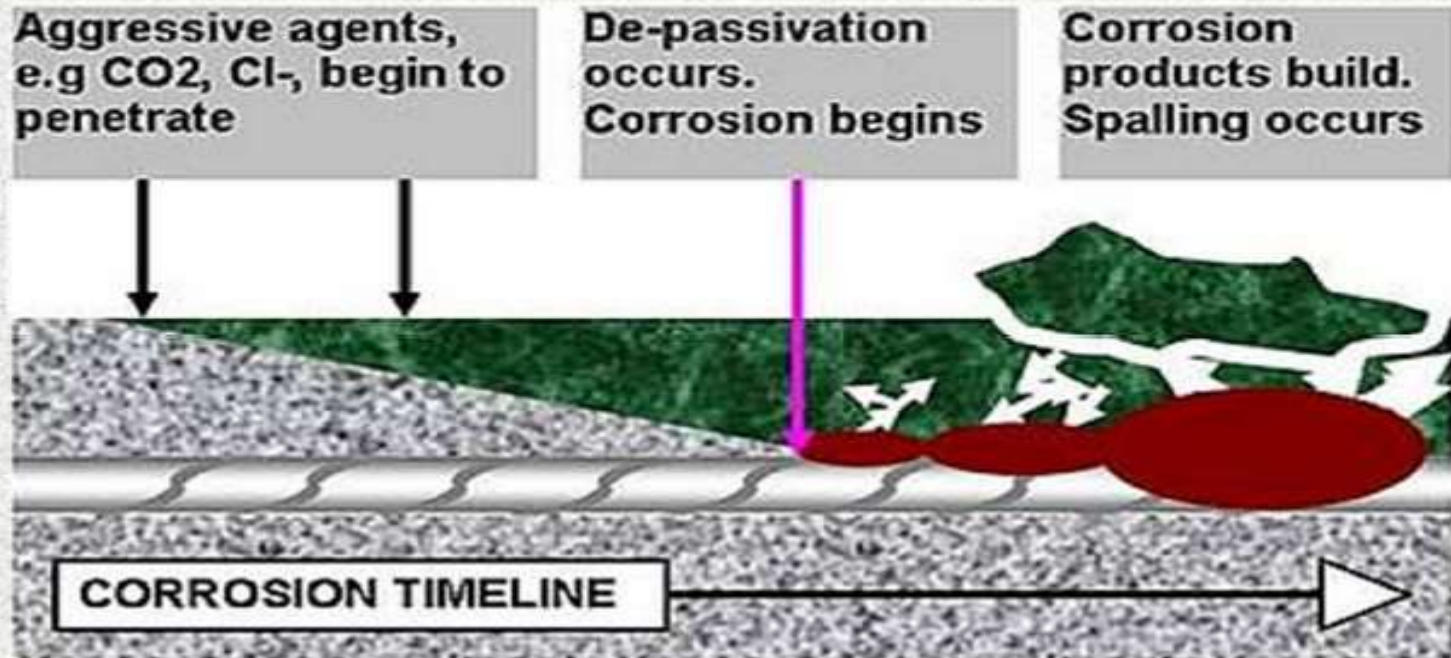


**GLOBALY OVER ONE MILLION RCC STRUCTURES HAVE USED
FBEC REBARS
FOR CORROSION FREE LONGEVITY**

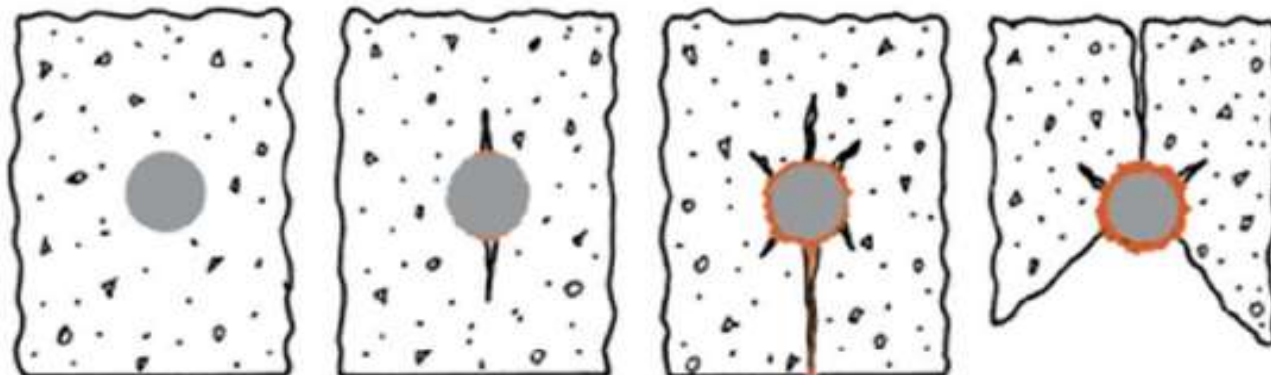
CAUSES OF REINFORCED CONCRETE CORROSION

- Acid Rain
- Carbonation
- Air Borne Chlorides
- Aggregate Contamination
- Concrete Additives
- Salt water Immersion and Splash Zone
- Salinity in Soil / Brackish Water

CORROSION ATTACK



CORROSION PROGRESSING TO SPALLING



Before Corrosion

Build-up of Corrosion Products

Further Corrosion, Surface Cracks, Stains

Eventual Spalling, Corroded Bar Exposed

The corrosion cycle of uncoated steel rebar begins with the rust expanding on the surface of the bar and causing cracking near the steel/concrete interface. As time marches on, the corrosion products build up and cause more extensive cracking until the concrete breaks away from the bar, eventually causing spalling.



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BRIDGES HEAVILY CORRODED AND COLLAPSED



SOME FACTS

- Many concrete bridges had steel corrosion or had been repaired due to steel corrosion.
- Most of these bridges were built during last 30 years.
- Few bridges collapsed due to uncoated TMT bars had corroded heavily and weaken the concrete structure.



SOME FACTS

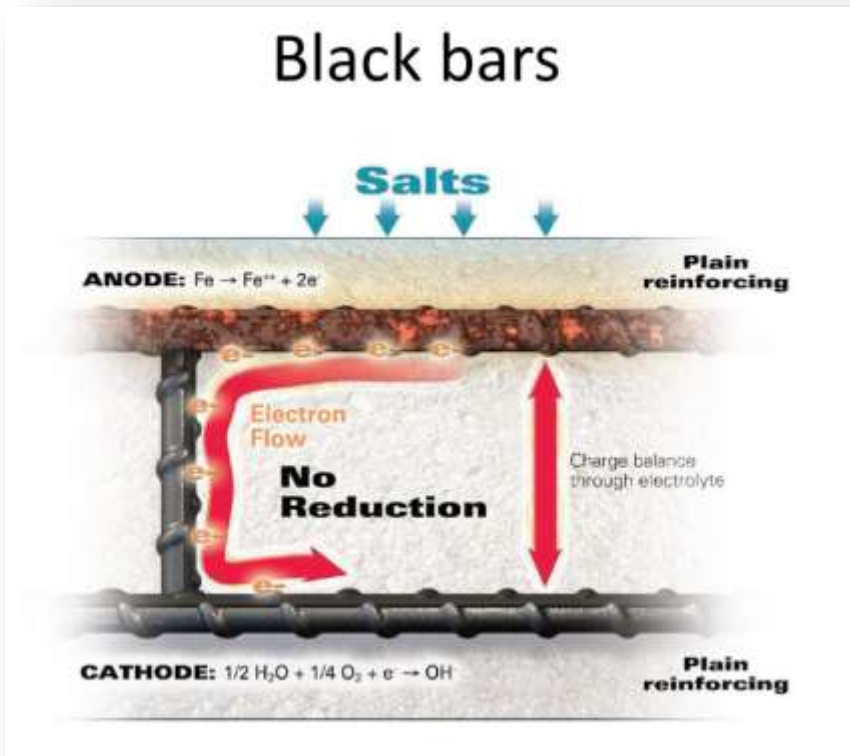
- India is loosing more than Rs. 2,00,000 Crores and US 276 Billion Dollars per annum on account of 'CORROSION'.
- Substantial portion of this can be saved if proper corrosion management system was adopted.

- Louis Vincent
President, NACE Intl.(USA)

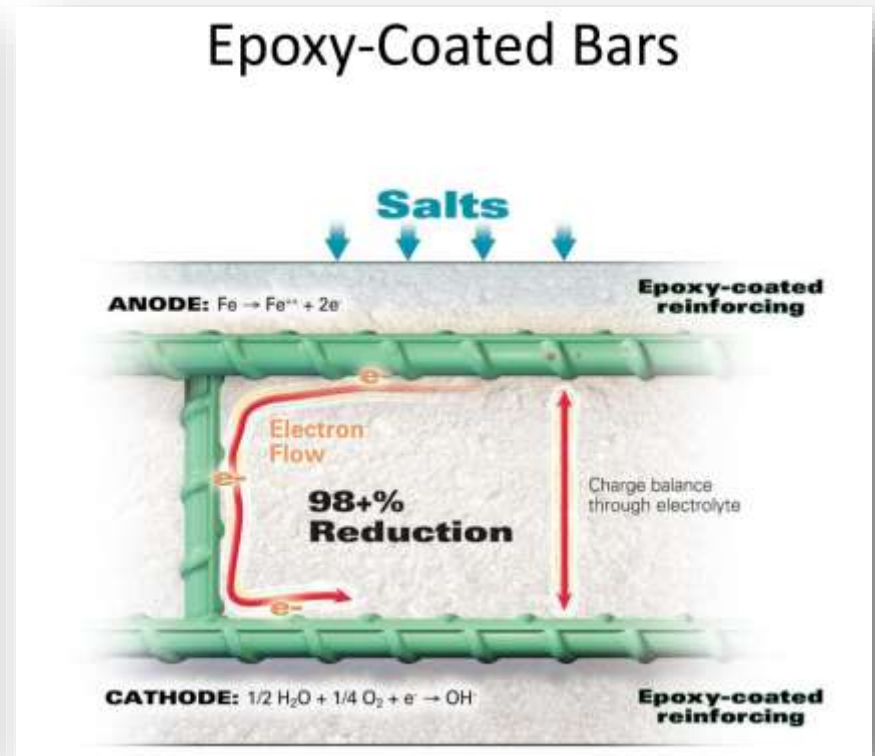


CORROSION PROTECTION MECHANISM

Black bars



Epoxy-Coated Bars



TYPES OF STRUCTURES

- Bridges
- Parking Decks
- Power Plants
- Buildings
- Wharfs and other marine
- Water treatment facilities
- Concrete Repairs





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FUSION BONDED EPOXY COATING (FBEC) REBARS REQUIRED?



FUSION BONDED EPOXY COATING (FBEC)

- FBEC is a TRIED & TESTED technology across the globe.
- It improves concrete structure durability and reduces long term maintenance costs.
- Epoxy-Coated Steel Reinforcing Bar protects even in cracked concrete.
- Life-cycle analysis shows that Epoxy-Coated Steel Reinforcing Bar provides the lowest cost.
- Unlike corrosion protection systems used within the concrete mixture, Epoxy-Coated Steel Reinforcing Bar is readily identified at the job site.
- Over 30 countries have approved FBEC in their National Specifications eg. ASTM, AASHTO, ISO, DIN, JIS, NACE, ACI, etc.

FUSION BONDED EPOXY COATING (FBEC)

- In USA alone, FBEC Rebars used in more than 65,000 bridges.
- In India, more than 1000 bridges, flyovers buildings and jetties have used FBEC Rebars.
- Globally, over one million RCC Structures have used FBEC Rebars for corrosion free longevity.
- ASTM A775/A775M/BS ISO 14654/IS 13620 specify requirements for FBEC Rebars.
- FBEC is routinely specified for Infra-Structures desiring 75-100 years of service life.

FBE COATING REBAR - PROCESS



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Surface Preparation



Pre- Heating

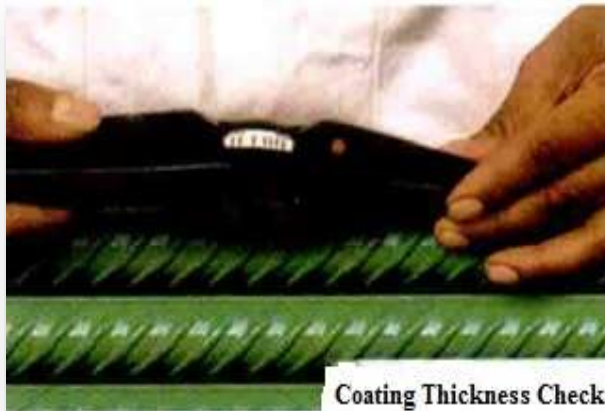


FBE Application

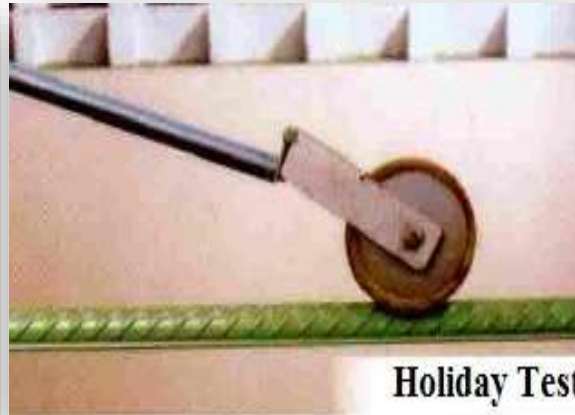


Curing

FBEC QUALITY TESTING



Coating Thickness Check



Holiday Test



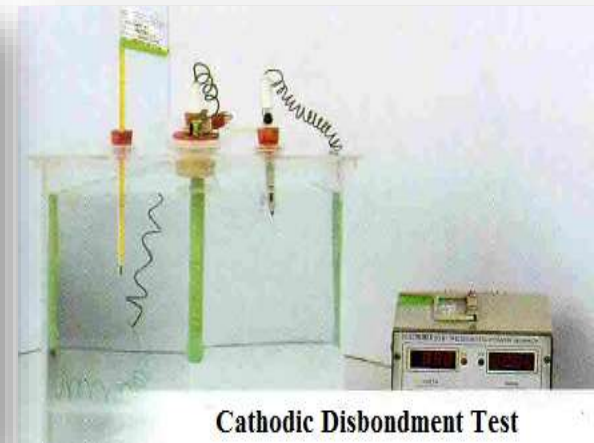
Bend Test



Chemical Resistance Test



Salt Spray Test



Cathodic Disbondment Test

FBEC QUALITY TESTING



Chloride Permeability Test



Abrasion Resistance Test



Knoop Hardness Test



Resistance to Applied Voltage Test



Impact Test



Bond Strength / Pull Test



FBE Coating significantly reduce corrosion rate compared to uncoated reinforcement and some other corrosion prevention coatings / technologies.

The superior corrosion protection can extend the life of FBE coated reinforcing bars, resulting in significantly lower life cycle costs over time.

FBE Coating increases the service life of a structure to 75 -100 years in combination with other good practices.

It only needs little maintenance that leads to substantial savings in labour costs.

It is flexible to allow straight bars to be bent during fabrication.





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FBE COATING REBARS USED IN...



Bridge of Honor, Ohio



1-35 Minneapolis



Biloxi Bay Bridge



Woodrow Wilson Bridge

FBE COATING REBARS USED IN...

Parking Garage and Buildings

Trump International Hotel and Tower



Aqua, Chicago



FBE COATING REBARS USED IN...

Pavements



FBE COATING REBARS USED IN...

Water Treatment





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Thank You


For more information and Inquiries...
please contact us

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