INCONMAT AUSTRALIA
INNOVATIVE CONSTRUCTION MATERIALS

A quick preview of what this email contains.

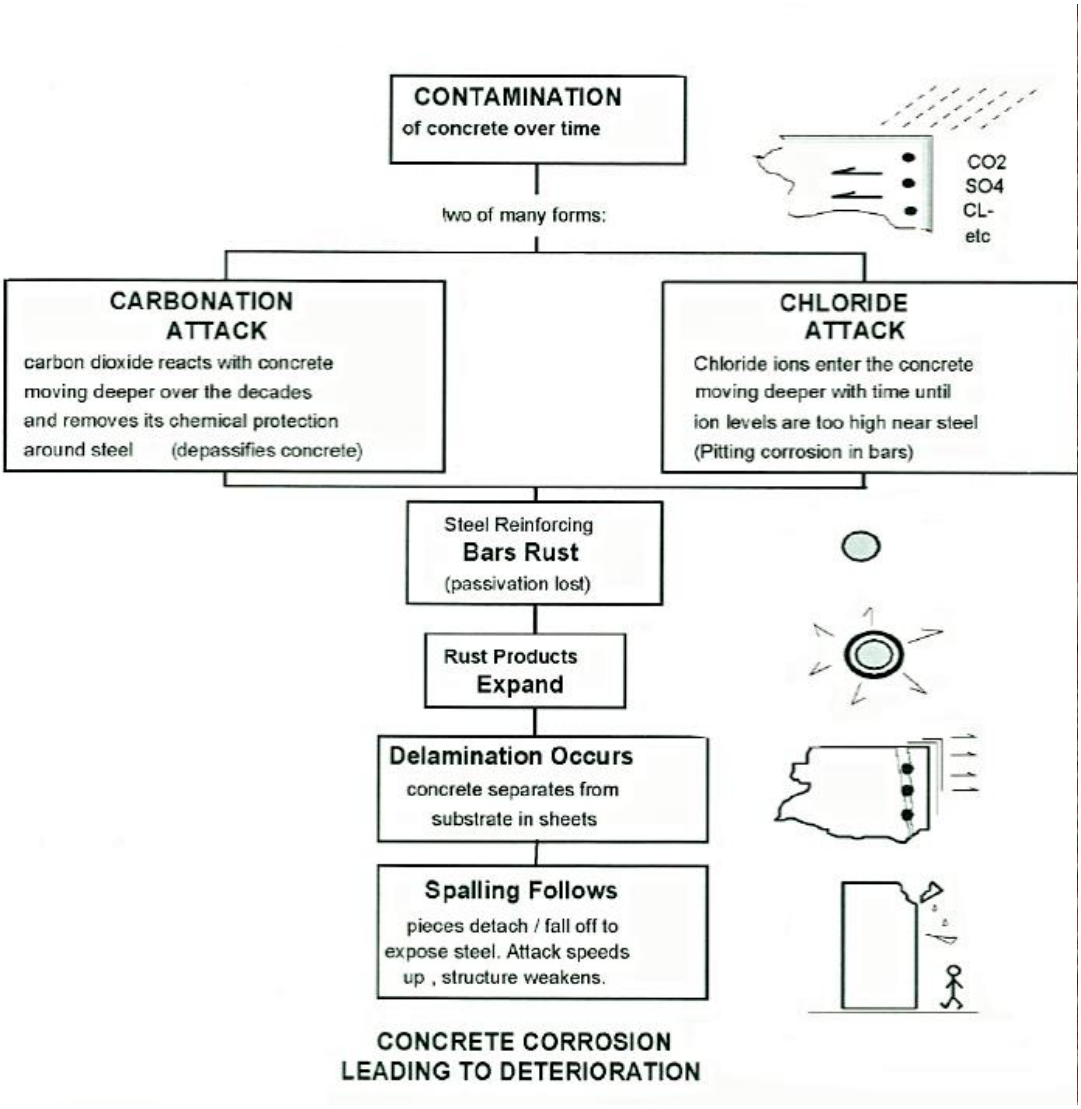
CONCRETE CANCER - A SERIOUS EPIDEMIC

Reinforced concrete (RC) is arguably the major construction material of our time. Concrete structures are strengthened by layers of steel bars placed close to the surfaces. Whilst concrete has a history of durability, in the modern environment it is under increasing attack.

Aging concrete often becomes contaminated, leading to the deterioration in the form of corrosion of the steel reinforcing bars known as concrete cancer.

Concrete Cancer is currently one of the most prevalent problems for the owners of steel reinforced concrete structures. It's an issue which is costing millions in repairs and rebuilds across the globe..

WHAT IS CONCRETE CANCER? It is a serious problem that occurs within concrete, caused by water and contaminates entering the capillaries and cracks in concrete, causing the steel reinforcing inside to rust (there is also carbonation attack). As the steel rusts, it expands, causing the concrete around the steel to be displaced. As the concrete becomes more displaced, more water and contaminants gets into the steel, causing further rusting and the problem gets worse. The expansion of the steel causes the concrete to delaminate, and results in spalling and compromises structural integrity. Spalling is where the concrete initially cracks, and then starts to break away. While spalled concrete is asthetically unappealing, it can also be dangerous as concrete pieces may fall off and in most cases cause damage and/or injury to people.



The financial and time costs of Concrete Cancer are so significant that it's become a trending topic in the media of recent times. Here are some recent stories on the problem:

The Project

The Brisbane Times

Domain

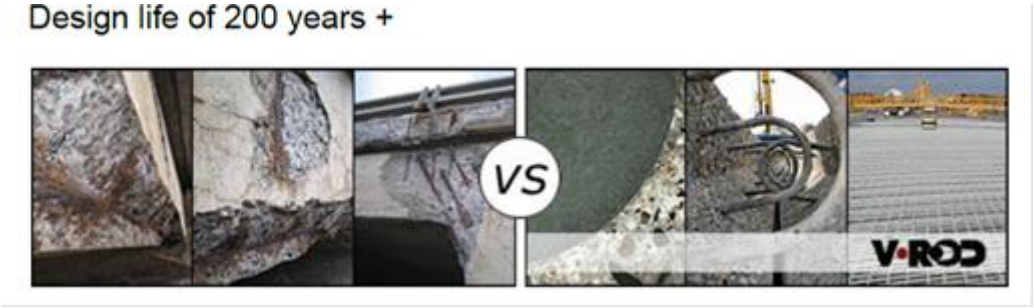
FMG Engineering

A Future With Confidence

HOW CAN WE PROTECT AGAINST CONCRETE CANCER? Use the right poducts (V-Rod) in the specification and construction of structures in place of steel to eliminate corrosion forever. V-Rod is a glass fibre reinforced polymer which will never rust or corrode. Even when water and contaminates seep in to the concrete through pores and cracks, V-Rod will not react. In fact V-rod will extend the life of assets whilst eliminating costly repairs. Some of the added benefits are:

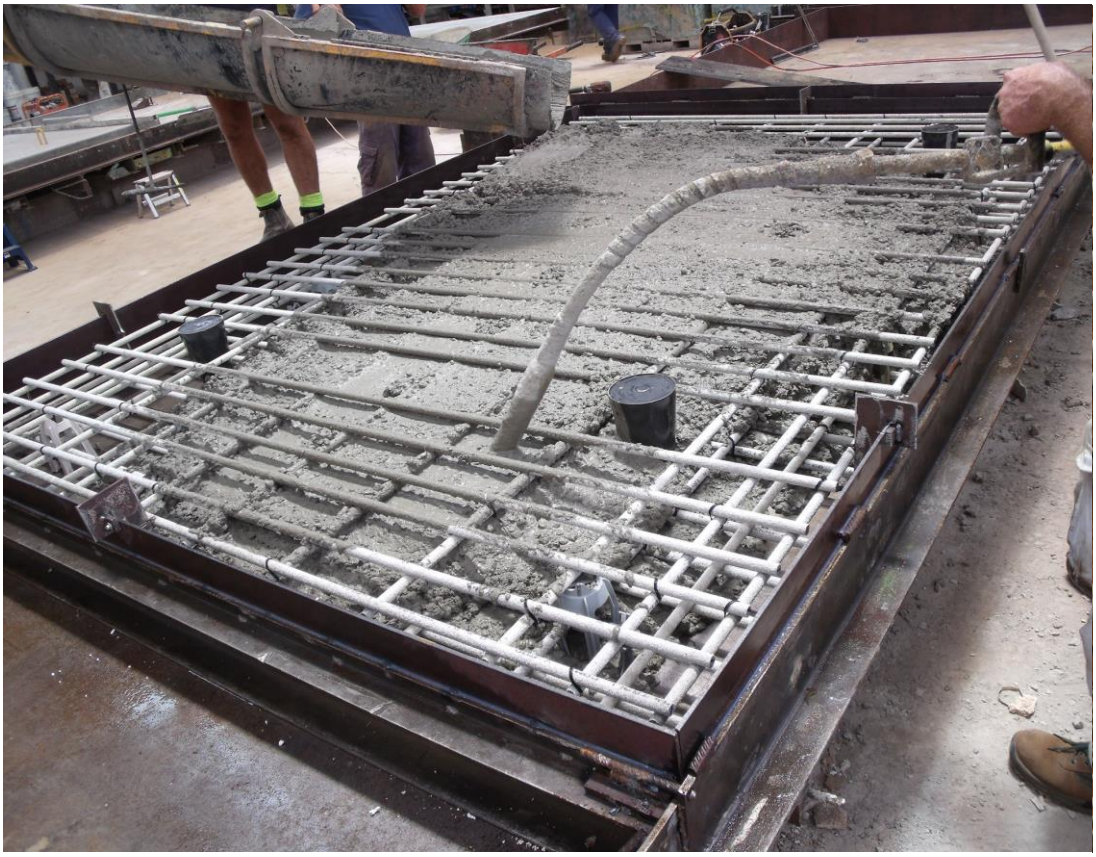
- 1/4 the weight of steel
- 1/2 the carbon input to that of steel
- 2 times the tensile strength
- Will never discolour your concrete
- No electromagnetic effects
- Easy to build with.
- Reduced need for highly specified concrete

V-Rod can also be used in the repair of existing concrete cancer by replacing rusted rebar with V-Rod where necessary to prevent rusting and corrosion in the future.

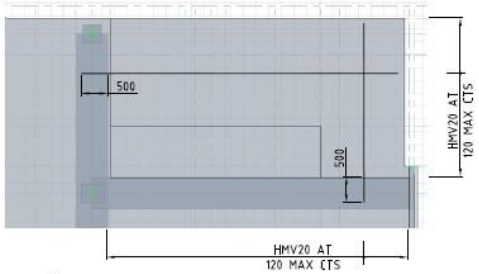


Find Out More About V-Rod

V·ROD



TYPICAL BALCONY REINFORCEMENT
AT
138-139 SOUTH TERRACE, ADELAIDE

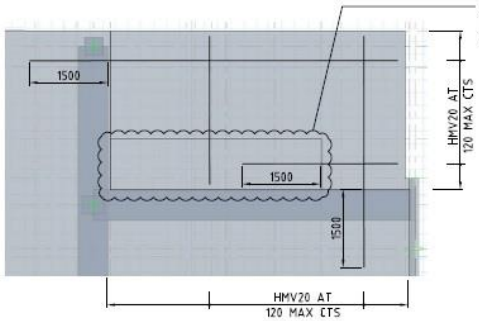


NORTH BALCONY - BOTTOM REINFORCEMENT
SCALE = 1:50 AT A3

NOTES:
1. IT IS ASSUMED THAT THE DEFLECTION DATA FOR SLABS IS BASED ON SLAB EFFECTIVE STIFFNESS:
   $I_e = 4.43 \times 10^8$ mm^4
2. MAXIMUM LONG TERM DEFLECTION OF BAND BEAM RUNNING EAST TO WEST = 10.5mm

CONTACT LCJ ENGINEERS FOR POSSIBLE REDESIGN IF ANY ASSUMPTIONS ARE INCORRECT.

IT IS ASSUMED THE TOP OF THE INTERNAL SLAB WILL BE CONVENTIONALLY REINFORCED.



NORTH BALCONY - TOP REINFORCEMENT
SCALE = 1:50 AT A3

PRELIMINARY

LCJ ENGINEERS

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BALCONY REINFORCEMENT
138-139 SOUTH TERRACE
ADELAIDE
TYPICAL BALCONY REINF.
NORTH BALCONY

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