# Reinforced Concrete, Corrosion and Galvanic Anode Cathodic Protection – A Review of Best Practice and Strategies for Life Extension of Marine Structures using Galvanic Anode Cathodic Protection

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The maintenance and life extension of ageing built infrastructure located in marine environments is a challenge now faced by countries worldwide. Since its earliest modern day commercial applications in the USA commencing in the late 1950's, cathodic protection of reinforced concrete has become an accepted method of managing and mitigating corrosion induced deterioration of reinforced concrete around the world with impressed current cathodic protection systems having been installed on bridge, marine and other structures throughout the UK, Europe, North and South America, Australia and New Zealand, Japan, Hong Kong and many other countries since the 1990's.

In more recent times the commericalisation of discrete galvanic anode systems has taken off and the use of galvanic anode cathodic protection to increase the life of localised concrete patch repairs to marine structures has become more common place. This paper reviews current best practice associated with the use of embedded discrete galvanic anodes including discussion on the applicability of current international and national cathodic protection codes and standards, design practice and presents some of the challenges associated with performance criteria and performance monitoring of such systems.