

Corrosion Protection for Industrial Buildings and Structures in Thailand

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The Land development Projects in the East coastal in Thailand or “Eastern Sea board Development Program (ESB)” was established in 1982. It caused that the areas of Chonburi, Rayong and Chachoengsao provinces had the major industrial estate, a lot of job creation and increasing Thai GDP. After the Industrial estates settled more than 30 years ago, some of buildings and structures either using steel-reinforced concretes and steel structures were deteriorated by various factors such as material degraded, quality of construction, and extreme environmental condition. Poor welding, rust in steel platform, and bolt and nut corrosion could be usually seen in everywhere around the production plant. Moreover, concrete structures in the following condition could be damaged by chemical attacks directly such as the chemical composites from Sulfate, Chloride, and Carbon causing cracking and spalling in concrete structures as well as corrosion in steel reinforcement. The repairing method and maintenance of building structures are necessary to do after finished construction and operating states.

CPAC Lifetime Solution can present the method statement based on engineering principle and the right material selection to Industrial-building structures in areas of upstream and downstream production-factory, warehouse, cooling tower, chemical tank farm, and jetty. The use of marine concrete or using the low ratio of water and cement and increasing covering can be reduced chloride diffusion process in capillary pore of concrete. In addition, the use of corrosion inhibitor mixed together in the mortar portion can be slow down the steel-corrosion process in concrete. It can be used the cathodic protection system such as the impressed current and the sacrificial anode to protect steel structures from corrosion phenomenon. Furthermore, the special coating as moisture curing technology can be applied in repairing works for alternative way.