

Durability of Reinforced Concrete Structure on Very High Aggressive Environment: A Case Study

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Abstract : This paper presents the evaluation and study of a real reinforced concrete structure of a fertilizer storage building, constructed on a Vale's Port at Brazil, which has been recently under refurbishment. Data that will be shared and commented aim to show how wrong choices in project concepts allied to a very high aggressive environment lead to a fast track degradation, incurring on a hazardous condition associated with huge and expensive treatment for repair and guarantee of minimum performance conditions and service life. It will be also shown and discussed all the covered steps since pathological manifestations first signs were observed until the complete revitalization and reparation planning would be drawn. The conclusions of the work easily explicit the importance of professional technical qualification, the importance of minimum requirements for design and structural reforms, and mainly, the importance of good inspection and diagnostic engineering continuous work.

Keywords : durability, reinforced concrete repair, structural inspection, diagnostic engineering

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